May 12, 2023

Curt Campbell, P.E.
Westward Environmental, Inc.
4 Shooting Club Road
Boerne, Texas 78006
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RE: Kingsland II Zone C Dredging Plan
Application # 2023-4999
Address: From County Road 309, head south on Ranch Road 2900 about 610 feet
Highland Lakes Dredge and Fill Ordinance Comments – Initial Submittal

Dear Mr. Campbell:

We have reviewed the plans for the above referenced permit application. We have the following comments regarding the plans, report, and application.

1. Section 5.3(f), HLDO states that “Dredging may not remove native soils from below the original lakebed.”
   a. Please provide a bathymetric survey to define the dredging material quantity and to ensure that dredging operations do not progress below the original lakebed.
   b. The submitted engineering report notes that the “dredge will be monitored to ensure that the underlying natural lakebed is not disturbed.” The natural lakebed must be defined to demonstrate compliance with Section 5.3(f). Please provide documentation and information demonstrating the definition of the natural lakebed and historic river channel.
   c. Please prepare a monitoring program, for our review and approval. The monitoring program must demonstrate that dredging activity does not occur below the original lakebed.
   d. Included in that plan, please demonstrate the process you will take to ensure that the lakebed is uniform after the dredging operation is complete.

2. Section 5.3(g), HLDO states that “Dredging shall not result in increasing storage within the lake beyond the volume LCRA is authorized to store under its water rights.” Please provide documentation and information demonstrating how you will monitor to ensure that the proposed dredging operations and activities will not increase storage within the lake beyond the volume LCRA is authorized to store under its water rights.

3. Section 6.2(2), HLDO states “Tier III permits may be issued for a term of up to three years”. Please provide a more specific and supported timeline for the proposed dredging operations. Please provide supporting documentation for the application note that states “Operations are expected to continue past the permit period….” as the permit period is up to 3-years. Explain how you arrive at the stated conclusion.
4. Please provide a construction phasing plan/schedule for the establishment of the sand/processing plant and the dredging operation.

5. Section 3, Definitions, HLDO, Normal Business Hours are defined as any weekday beginning 30 minutes after sunrise and ending 30 minutes before sunset but excluding any Holiday or any Friday or Monday preceding or following a Holiday that falls on a Saturday or Sunday. However, the engineering report dredging plan on PDF page 17 states that work will take place Monday through Thursday. Then, the report notes on PDF page 13 that “normal operations will run from 8 to 5 on week workdays and are expected to be rare on weekends”. Please revise the proposed dredging operation plan to comply with the non-weekend and Holiday provisions.

6. Engineering report sheet 20, please provide specifications and documentation defining the width of the proposed boat ramp and accompanying rock rip rap. Please provide a plan to ensure stabilization and non-erosive areas along the side of the ramp. A maintenance ramp is also shown. Please provide details similar to the boat ramp cross section.

7. The dredging operations plan does not provide a specific form of operations. To minimize impacts on navigation, access and to help contain turbidity, please provide a plan for a phased dredging operation approach. Examples of information we are looking for – how far will the dredge progress in one day (linear feet)? How will the dredge work, in a linear motion, back and forth, or circular? The plan for a phased dredging operation should describe how dredging will be conducted in phases within the authorized dredge and fill activity area that would be within Zone C.

8. Please provide a plan for clearing and grubbing the island area before dredging. Due to recent drought and prolonged emergence of the island, woody growth is observed on the island. We understand the proposed dredge has capabilities for removing aquatic vegetation but do not know if this includes woody growth.

9. Please provide a detailed description of the boundaries of dredging operation within Zone C and what depth is planned for each boundary and/or phase. After reviewing TWDB bathymetry for the area in Zone C, please explain the need to dredge near the northeast shore. That area is much deeper and would presumably not contain the sand deposit sought.

10. How will the dredging process work with submerged trees, trash, debris? What are your equipment’s provisions for dealing with debris (removal or filtering of certain sizes, ability to pass others etc.), and what are your plans or procedures to deal with debris the equipment cannot handle if encountered unexpectedly?

11. Section 5.3(k), HLDO states “…require demonstration that the proposed activity will not cause any other negative impacts…..” How will dredging trash and debris be stored and safely removed/disposed of? Please provide a plan for trash and debris removal.
12. Section 5.3(e) Additional Turbidity Management and 5.3(h) Contaminant Release. The below bullets are related to the dredge pipeline. Please provide details that will satisfy these questions:
   a. What will the dredge pipeline be composed of to prevent punctures and sediment discharges into the lake? Steel or High-Density Polyethylene (HDPE)?
   b. If the dredge line is punctured or broken, how will this be identified by the working crew and how quickly will they respond to stop dredging and repair the line?
   c. How will they manage turbidity around broken dredge lines?
   d. What is the anticipated service life of the dredge pipeline?
   e. Please include the monitoring, maintenance and replacement plans for the pipeline.
   f. Please provide details that define pipeline joint seals and the inspection program to prevent turbid water discharge.

13. Section 5.1(e), HLDO describes how the Shoreline Stabilization system must be designed and constructed. Please provide a shoreline stabilization plan that can demonstrate:
   a. Operations/movement of dredge lines, etc. do not discharge sediment/soil to the lake.
   b. No negative impact on the shoreline or erode existing shorelines.
   c. There will be no undermining of adjacent retaining walls.

14. Section 5.3(e), HLDO states “Install and maintain silt curtains…unless other methods are otherwise shown to achieve the turbidity limits….” The engineering report notes that turbidity will be monitored, and turbidity curtains will be implemented if turbidity reaches unacceptable levels. Based upon this report, there is no other method described to achieve turbidity limits, therefore the decision to utilize turbidity curtains may not be based on reaching unacceptable levels. Turbidity curtains will be required throughout the project duration. Turbidity curtains shall be Type II per the HLDO Technical Manual 4.4(b)(i)(2) and comply with the installation, materials, operation, and maintenance requirements found in HLDO Technical Manual 4.4(b)(i)(3-6). Please update the plans and engineering report with specifications and details to demonstrate that turbidity curtain management plan will comply with the HLDO. This includes defining the estimated service life and curtain replacement procedures.

15. Section 4.4(b)(i)(4)(d), HLDO Technical Manual refers to avoiding angles greater than 45° parallel on turbidity curtains. In the Dredge Engineering Report, the downstream end of curtain should be rounded more to reduce perpendicularity of curtain to stream/lake flow. In addition, please follow the guidance per Figure 3 of ERDC TN-DOER-E21.

16. Section 5.2(b), HLDO requires turbidity monitoring daily and the monitoring must include a background sample each day that is obtained up-wind and up-current from the dredging operation. Turbidity results must be kept onsite and sent to the LCRA project manager daily. Based on the past two years of water quality monitoring through the Clean Rivers Program, average lake turbidity near this location is about 3.4 NTUs.
17. Please detail how turbidity curtains will be used around the barge. Are the curtains moving during the process? Will the curtains be picketed between anchored buoys? Attached to the barge skirt? How close will lake traffic come to the barge and/or turbidity curtain?

18. Section 5.3(h)(ii), The Contaminant Response Plan indicates certain sequence of events and responses. Please provide the name and contact information for the person(s) to be contacted should there be a release of contaminants resulting from operations. Please also provide the plan and criteria that will be followed to store and manage fuel, fluids, and other chemicals. Under Section VIII of the submitted dredging report, item (a), please change “lakes” to “leaks.” Please provide examples of training plan or plans so employees can detect sheens and bank discoloration. Please describe the situation that could cause a discoloration of the lake banks as noted in the submitted engineering report.

19. Section 5.3(h)(i), Contaminant Response Plan, requires an applicant to provide for screening of at least two sediment samples for each lake where proposed Dredging will occur plus one additional sample for every 25,000 cubic yards of Dredged Material proposed for removal from each lake. Please provide a detailed plan that monitors dredging in 25,000 cubic yard units, obtains a sediment sample and performs a sediment screening analysis prior to the next 25,000 cubic yards to be dredged (submitted to LCRA), and coordinated with the dredging phasing plan. Dredging of the next 25,000 cubic yard dredging unit cannot begin until LCRA has approved the sediment screening analysis. Other comments on the sampling conducted are:

   a. For the two samples provided, please prepare a map and coordinates indicating the location in the dredge area sampled, and a description of the method (e.g., Ponar grab) and horizon sampled (e.g., depth of sample). Given that the proposed dredging will be at least six feet deep, and that Vibracore sampling can readily reach depths of 20-30 ft in sand, some method of vertical sampling greater than one to two feet of depth is expected from future sediment sampling to characterize the material, not just for contaminants, but to confirm recoverable sand.

   b. Analysis of the two provided sediment samples was not conducted per HLDO 5.3(h) which requires that EPA Methods E8081, 7471, and 6020 must be used. Please perform analyses as noted above and per the required test procedures as defined in HLDO 5.3(h) and submit results to LCRA.

   c. Three results exceeded freshwater ecological benchmarks because the method detection limit and reporting limit were significantly above the benchmarks for Toxaphene (manyfold), Chlordane and Heptachlor (54%-107%). Please consult with your lab to determine causes or mitigating reasons for not being able to meet detection limits required for these benchmarks and provide those results. Sand does not typically have a high affinity for pesticides; however, a grain size analysis was not performed to confirm that most of this material is sand.
20. Section 5.3(i), Spill Prevention Plan.
   a. Please describe how the Spill Prevention Plan functions with the Contaminant Response Plan (CRP) to manage operations. The provisions for contaminant release in the CRP you provided describes using Best Management Practices (BMP) to control a spill but does not actually list what those are (e.g., sorbent sock, containment boom etc.). Please list what you specifically intend to use. Is a spill prevention plan a component of other regulatory agencies’ permits? If so, please note and reference requirements. Please include in the employee training component of the Spill Prevention Plan, any training planned for the BMPs proposed for spill response use.
   b. Please provide a spill prevention plan for the floating barge and equipment being used on the water.

21. Section 5.2(c), Emergency Operations Plan. Please provide a detailed Emergency Operations Plan:
   a. Which includes an evacuation for all equipment in lakebed and within the floodplain. Provide steps and measures on how weather and river conditions will be monitored and who will be responsible, including weekends and holidays. This includes submitting contact information and sites used to monitor river and lake conditions, LCRA hydro/flood operations, etc. Included in the plan needs to be a training plan for staff.
   b. That includes information for the dredge operations due to potential power loss. The proposed Versi-dredge is self-propelled and does not use any sort of spuds or anchors to hold fast should power be lost. Please describe how the operator will steer the Versi-dredge to a safe spot. Please also provide the response time for any tender boats to provide support. Please include a communication plan (radio to onshore staff, etc.).

22. Section 5.1(f), Invasive Species Prevention Procedures. Please provide responsible party names and contact information. Please provide citations for all items in Section II. Section III(g), please elaborate on “dispose of organisms properly.” Please define the disposal area, how managed, etc. Section IV(b), please provide citation. Section IV(c), please provide specific “longer period of contact time.” Table 1, an * is noted after the “1% Virkon Aquatic”. Please clarify.

23. Please provide documentation demonstrating that Ms. Spinner has the authority to sign the application.

24. Please provide documentation of ownership and/or lease rights to land and area to be utilized for dredging activities and operations. Please provide an Alta land survey of the area which includes the boundaries of the property(ies), the location of improvements on the subject property, including any and all structures, fences, utility lines, roads, etc., along with the location of any/all easements. The 2020 email from the General Land Office that you provided is not sufficient documentation demonstrating the requisite property control for the proposed dredging operations and of approved access.
25. Section 5.1(a), Property Ownership or Control. Documentation demonstrating property control for the proposed dredging activities and operations must also include listed property owners of submerged property within the area to be dredged. Please provide an Alta land survey of the area which includes the boundaries of the property(ies), the location of improvements on the subject property, including any and all structures, fences, utility lines, roads, etc., along with the location of any/all easements. Provide documentation to confirm whether lakeside property owners’ land extends into the lake. If so, how far? You must provide documented proof that you are authorized and approved, by owners of property within the dredging area, to conduct dredging operations and activities on their property. If some owners grant access and others do not, how will the dredging operation function on one property and stop at another property? How will this be determined and verified during operations?

26. Please provide the specific model of the proposed packaged sand processing plant. Also, please provide information on the methods/criteria used that define how the proposed settling ponds are sized to recover sand and fine materials before any discharge that may be authorized by any local, state, or federal regulation. Will chemical treatments be used to enhance settling in the sediment ponds? If so, please detail how flocculating chemicals will be removed (e.g., settlement, filtering or other) before discharge to Lake LBJ.

27. Please provide processing plant flow rates and return flow capacities to ensure that processing can occur at the same rate as the incoming dredge material so dredge water does not back up into the lake.

28. Section 5.3(j), Discharges. What is the processing plant design to monitor and lower the turbidity in any waters that may be discharged to Lake LBJ? Monitoring performed by the Clean Rivers Program indicates over the past two years that average turbidity is about 3.4 NTUs near the site. Please provide a sedimentation pond monitoring and management plan to ensure water quality discharges are in compliance with the above. This includes an operations plan to define maintenance dredging of these temporary sediment ponds and how the work is performed while lake sand and gravel dredging takes place.

29. The sand processing plant operations must comply with applicable water quality requirements under TPDES Sector J 1446 Industrial Sand Mining and 30 TAC Chapter 311. Please provide written authorization from TCEQ for the proposed operations.

30. Section 5.1(f), Invasive Species. Has compliance been determined/authorized by Texas Parks and Wildlife for a Sand and Marl Permit, Invasive Species Permit? If so, please provide.

31. Section 6.1(f)(i), Notice of Draft Permit. Have other TCEQ construction stormwater and industrial permits/authorizations been obtained? Please provide all permits and authorizations.

32. Section 6.1(f)(i), Notice of Draft Permit. Has authorization/approval been obtained from the U.S. Army Corps of Engineers (USACE)? Please provide documentation from the USACE.
33. Please provide a flood management plan to verify that floodplain levels are not increased on Lake LBJ. Has a floodplain study/application been submitted to the counties? Will a FEMA Conditional Letter of Map Revision be required to be submitted to Llano and Burnet counties and/or FEMA?

34. The proposed plan notes the sale of sand and gravel extracted from the lakebed. Please provide a plan defining how silt and other materials will be properly disposed of outside the 100-year floodplain.

35. Section 6.1(f)(i), Notice of Draft Permit. Please provide the status and or permits/approvals from Burnet and Llano counties.

36. Section 6.1(f)(i), Notice of Draft Permit. Has a cultural/historical resources study been completed to verify compliance with Texas Historical Commission (THC) requirements for dredging on state lands? Please provide authorization from the THC.

37. Section 6.1(f)(i), Notice of Draft Permit. Based upon LCRA Water Contracting staff, the Water Contract process is not complete. Please provide a status of those efforts.

38. Please provide a project demobilization plan for the equipment, work areas, shoreline, boat ramp and sand and gravel plant processing facility. Please include environmental and public safety plans for this effort.

**Water Surface Management**

**Public Safety Plan 5.3(d)**

39. The 3/2/2023 response included a dredge plan that was updated with the locations and types of restricted area buoys and lateral channel markers. However, there was no written Public Safety Plan (PSP) submitted. The plan shall describe that restricted area buoys and lateral markers will be deployed as shown and specified on the plans starting at X time each week, for what purpose (e.g., restrict the dredging area or mark the channel for passage) and if it will be moved out of the way Friday-Sunday-Holidays each week, or left in place and why. The Dredge Site Plan shows the scope of the area affecting public use and access when dredging occurs, but it also needs to show these changes when the dredging is not occurring. Will the dredge line be secured to the lakebed?

40. The plan does not include the types and locations of safety and/or warning signs to be installed and managed on the lake. The plan does not include information about the lighting on the barge, how the barge will be anchored in place and where the barge will be moored when not in use. Although it describes moving the dredge equipment and turbidity curtains out of the way to the southeastern part of the dredge area, please further define the plan to demonstrate if the entire length of pipeline will be moved to the side or if it will be partially disconnected for gathering, how it will be marked and secured for the weekend if it is left in the water, and the approximate limits of where it will be stored, so we understand what if any obstruction remains in the lake over the weekends. Please note how the lines will be secured to prevent mobilization during a flood event.
41. In some areas, the map, and the written description conflict with each other. Please ensure that the revised plan is consistent throughout.

42. Please provide more information about what type of material the pipeline will be constructed of to better understand the potential hazard it may pose to public safety and use and access to the lake. Also, include any additional safety measures that will be in place to help ensure public safety. Additional measures can include, but are not limited to, types of training of personnel, support watercraft on site, designated areas, and procedures to ensure safety of personnel and/or eliminate confusion in the event of an emergency, minimize damage to equipment, and prevent unintentional releases of hazardous materials, such as fuel and hydraulic fluid.

43. Please provide more information on the dimensions of the dock and how far it will extend from the shoreline. We also need more information as to the specific use of the maintenance dock to determine if a permit is needed under the Highland Lakes Marina Ordinance. For example, will it be used solely for loading and unloading of equipment? Will it be used to transfer personnel? Will it be used to moor the barge when not in use? Is there any other intended use of the dock?

44. A permit will be needed for the buoys placed on the water surface of Lake LBJ. Some types of buoy permits will require that public notice be given. We can evaluate this further when reviewing your revised plans.

If you have any questions about these comments, please respond via email at tom.hegemier@lcra.org or by phone at 512 578 2112.

Additional information addressing these comments or revised application materials must be provided within 30 calendar days from the date of this letter. An extension of time to provide information may be requested, however, the cumulative amount of time to provide additional information may not exceed six months from the date that the application for permit was filed.

Sincerely,

Monica P. Masters

Monica Masters, PE
Vice President, Water Resources