



## MEMORANDUM

**TO:** Tom Green County Commissioners Court  
**COPIES:** Johnny Grimaldo  
**FROM:** Tom Brown, Adam Luke *AL*  
**DATE:** July 12, 2011  
**SUBJECT:** Update on the Pugh Park Boat Ramp Project

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### Executive Summary: Status of the Project

- Surveying of the project site has been completed by SKG Engineering.
- 90% Design plans are complete and available for review and comment.
- Two key items need to be decided:
  - What kind of slope stabilization and erosion control method is desired?
  - What kind of floating dock system is desired?
- Once these items are decided and 100% design plans completed, the application for the construction permit from the U.S. Army Corps of Engineers may be submitted.

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### Summary of Design Plans

Sheet 1: Cover Sheet

Sheet 2: General Construction Notes

These are generic construction notes regarding site preparation, safety, etc.

Sheet 3: Surveyed Site 1

This is the survey by SKG Engineering showing the location of the proposed boat ramp to be installed in an existing surface water drainage path to the South Concho River.

Sheet 4: Surveyed Site 2

This is the SKG Engineering survey of the existing and dilapidated boat ramp to be converted into a kayak launching station.

Sheet 5: Existing Topo, Proposed Boat Ramp, Proposed Grading & Profile A-A

Here is the design of the proposed boat ramp. The ramp is 64 feet long, 30 feet wide (two lanes), has a slope of 14%, and extends such that there is 4 feet of water at the end of the ramp. Gravel will be placed around the ramp to prevent scour and erosion. One live tree will need to be removed prior to construction, as well as the dead tree in the water (See attached photo). The new ramp will be constructed of pre-cast concrete panels (see Sheet 8).

Sheet 6: Existing Topo, Proposed Kayak Launch & Profile of Proposed Kayak Launch

This is NEI's proposed kayak launch to be constructed at the existing boat ramp. The concept is for vehicles to drive to the top of the slope to the river, unload kayaks and



canoes, and have the option to guide the boat to the water on a set of parallel rails, 18-inches apart and 3 feet off the ground. Four bollards will be installed to prevent vehicles from hitting the rails. The rails will be anchored into the ground with concrete footings.

#### Sheet 7: Typical Bank Profiles

These are typical profiles of the riverbank along the length of Pugh Park. In places, the bank is steep and has areas of severe erosion, exposed tree roots, and lack of grassy vegetation. See below for a discussion of possible bank stabilization methods.

#### Sheet 8: Details

This drawing is a detail of the proposed pre-cast boat ramp panels. The panels are 4 feet wide by 15 feet long. They have interlocking tongue and groove connectors, and galvanized metal lifting inserts. The surface of the panels is grooved and angled such that water will quickly flow off the panels when boats are being pulled out of the water, and to improve tire traction.

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### **Bank Stabilization Methods**

The original proposal for the project called for a 400-foot long reinforced concrete bulkhead to address the erosion issues along the bank of the river. Although effective, this option will be expensive, difficult to construct, and require lowering of the water level to complete effectively.

Other bank stabilization options include geo-textiles, articulated revetments, or concrete mats. See the attached brochures for product details and photos of several of these options.

**NEI recommends a geo-textile system. County workers would lay out mats of geo-textile fabric and a plastic ring-grid-bar matrix, which reduces erosion, provides slope stability, and encourages natural revegetation. Anchor bolts secure the geo-textile mat to the natural soil bank surface.**

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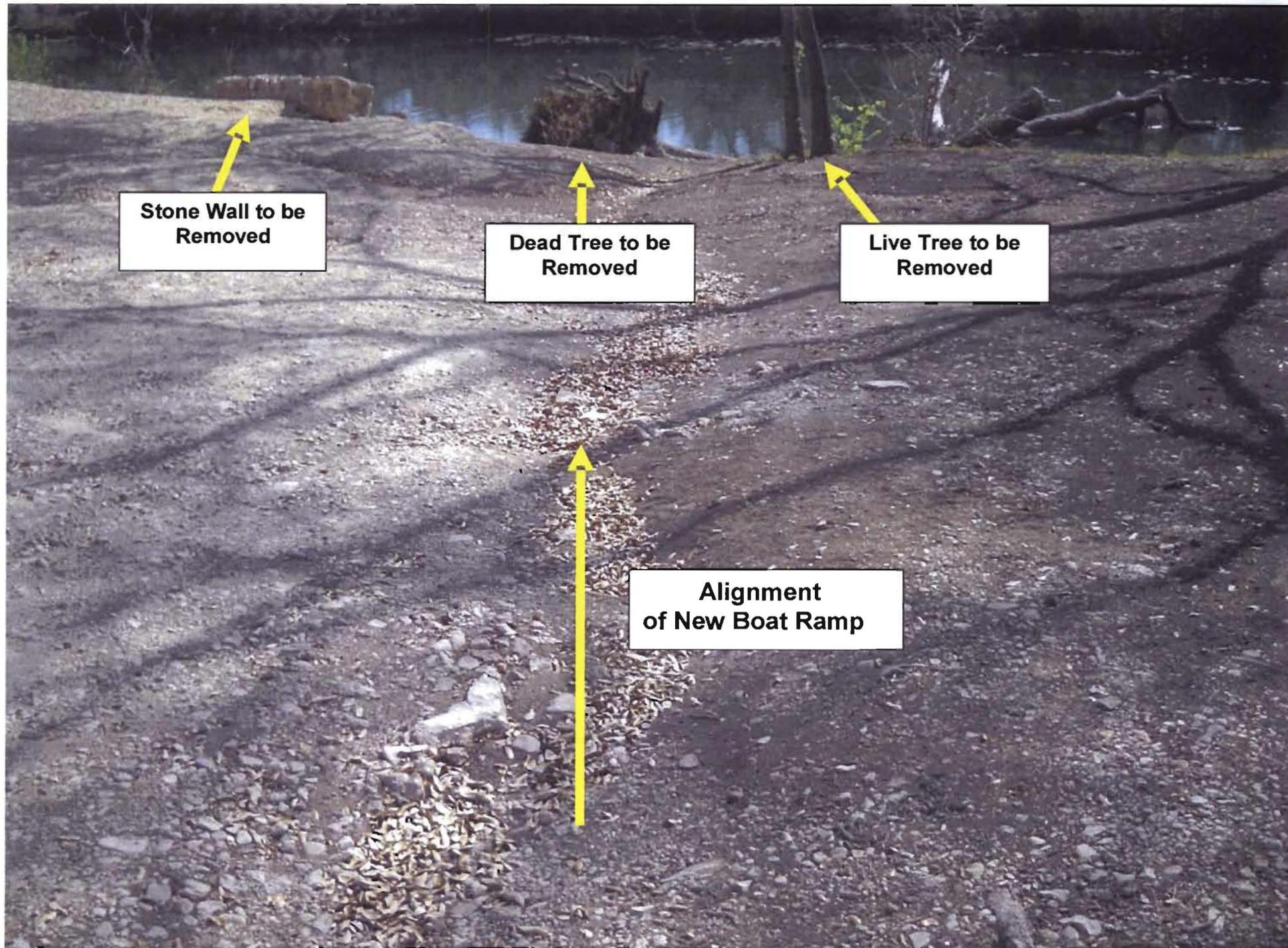
### **Floating Dock Options**

What kind of floating dock would the County like to have adjacent to the new boat ramp?

There are many options: traditional wood, modular aluminum, foam filled metal frames, interlocking plastic. Product information of various floating dock types is attached.

Without a vertical, concrete bulkhead, the use of floating docks will likely require an aluminum gangway for access from the shoreline.

County input on dock selection is desired to ensure that the selected option will meet the community's needs.



**Stone Wall to be  
Removed**

**Dead Tree to be  
Removed**

**Live Tree to be  
Removed**

**Alignment  
of New Boat Ramp**