

**Fox River Navigation System Authority**  
**Rapide Croche Boat Transfer Station**  
**Addendum No. 2**

General:

- A. FRNSA has extended the bid date for the Rapide Croche Boat Transfer project to: **Wednesday, April 12<sup>th</sup> at 1:00 pm**
  - a. Delivery location is the same: FRNSA office, 1008 Augustine Street, Kaukauna, WI 54130
  - b. Dates for interviews, board meeting and contract completion remain the same.
  
- B. FRNSA is open to possible variations from the current design as long as SHPO concerns of maintaining a majority of the existing lock structure and mainland site layout are taken into account, as well as accommodating the required boat cleaning process. FRNSA would like to remain with the bridge crane for moving the boats. As stated in Addendum #1, if you would like to schedule a design review meeting, please contact Robert Stark at FRNSA to schedule.
  - a. If a modified design is proposed, FRNSA would like to review the changes as the design develops so any concerns or other comments can be made, and to agree to or decline the suggested modifications from the current design prior to finalizing bids.
  - b. Contractors shall provide a bid for the current design, as well as show the cost savings for the modified design they propose.

Questions from contractors:

1. We would like to tour the site once again and include our vendors/bidders. Whom shall we contact to arrange a site visit?
  - a. *Please contact Robert Stark at FRNSA.*
  
2. Is there an existing topographic survey of the mainland and island available?
  - a. *We are not aware of any complete surveys of the existing site. A survey is required as part of the bid. See Appendix A, Section 2.1.*
  
3. Is there any sounding data available for the upstream and downstream channels?
  - a. *There is no recent sounding data available. The last record of soundings was completed in 2006 and is located starting on page 42 of <http://foxlocks.org/wp-content/uploads/2016/02/R200605083-final-rpt-color.pdf>*
  
4. In our research since the walk through it has been brought to our attention that SHPO has not reviewed or provided preliminary approval of the conceptual drawings included in the RFP. The RFP clearly states that approval of the work needs to be obtained from SHPO and that an historic study may be required. As the RFP provides structure layouts and discusses the use of split face block for the structures, that will be the basis for the bid. What will happen if SHPO doesn't approve the layouts or construction type? This could significantly impact the price and project schedule.
  - a. *SHPO has reviewed and preliminarily approved the current conceptual drawings. Any comments they had were incorporated into the current design, as stated in Addendum #1. Their primary concern is to maintain the majority of the lock structure and look / layout of the existing mainland site.*
  
5. In the RFP 4.5 it states that the Contractor shall maintain and provide project management and expense records. This is a lump sum project. What is the intent of this request?
  - a. *We do not require these items for our review. Please disregard.*
  
6. Appendix A Section 8 states that the current water heating and treatment system was based on preliminary engineering and is attached as reference only. Is it accepted that this design will

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control the invasive species and therefore is sufficient for the intended operation? In other words, no further R&D is required there?

- a. *The temperature of the water is the key design requirement, taking into account any heat loss due to the ambient temperature, boat temperature from river water, etc. Design work will need to be done to determine if the units in the preliminary report are adequate.*
- b. *Also see performance measures and other comments in #8 below.*

7. Equipment notes:

- a. *An ADT unit will be required along with the DAF unit for the Pre-Wash area.*
- b. *ALL equipment will need to be provided with emergency shut-offs in the event of a petroleum spill. A single point shut-off for all equipment is preferred.*

8. Are there performance measures that should be met regarding the hot water bath? Examples include but are not limited to:

- a. What is the allowable recovery time once the boat is set into the bath?
  - i. *FRNSA would like the overall boat transfer, including cleaning to be:*
    - 1. *The majority of the boats travelling the system are less than 30-foot long. FRNSA would like to keep their transfer & cleaning to less than 30 minutes.*
    - 2. *For the larger boats (>30 feet), we would like to keep their transfer & cleaning to less than 1 hour.*
    - 3. *The boats must have minimum 10-minute soak time in the sustained water temperature listed in 8b (below).*
    - 4. *The heating system shall be designed to allow for expansion to heat the water to 140 degrees F for potential future AIS species.*
  - ii. *FRNSA will require that all boats give notification prior to transfer so the hot water chamber can be increased to account for heat loss from the boat hull temperature. Notification requirements shall be listed on their website.*
    - 1. *See table below for sustained temperatures and times required to eliminate the AIS from the boats.*
    - 2. *All boats (≤30 ft.) traveling from downstream to upstream will be required to call ahead from the downstream De Pere lock. We anticipate a boat traveling from the De Pere lock to take more than 1 hour to arrive at the transfer station allowing that time to increase the water temperature to account for loss if required.*
    - 3. *Larger boats (>30 ft.) traveling from downstream to upstream will be required to give 24-hour notice prior to arrival at transfer station to provide additional water heating and preparation time.*

b. *Required hot water temperature and soak time to eliminate AIS:*

	<b>Sustained Temperature</b>	<b>Soak Time</b>
<i>Hot Water Chamber</i>	<i>Min. 112 degrees F</i>	<i>10 minutes</i>

i. *For boat interior chambers:*

- 1. *Bilges: do not remove plug (part of procedures)*
- 2. *General:*
  - a. *Use water from Recirculation Chamber for filling*
  - b. *Minimum 4 gpm pump with valve to control flow required for filling boat chambers*
  - c. *Water exiting pump shall be 112 degrees F*

**Fox River Navigation System Authority**  
**Rapide Croche Boat Transfer Station**  
**Addendum No. 2**

- c. What is the initial heat up time required?
  - i. *Seasonal start-up time is not critical. Time required for start-up shall be included in the procedural manual.*
  
- d. Instruments to be used for temperature records? Number and type
  - i. *(2) temperature gauges shall be permanently installed at the hot water chamber with real-time readouts at the chamber as well as at the operations building control panel.*
  - ii. *(1) temperature gauge to be permanently installed at the small equipment hot water chamber with real-time readouts at the chamber as well as at the operations building control panel.*
  - iii. *(5) portable temperature probes or thermal reading sensors with real-time readouts are required for use in the boat chambers while at the hot water bath.*
    - 1. *Include cost for another full set of probes (10 total).*
    - 2. *See Intermediate Thermal Treatment Test Report in Appendix C, starting on sheet 26 for type of probes used for testing.*
  - iv. *Sensors in tanks and portable sensors shall be capable of wireless communication to a light and sound notification, and clock/timer. We would like this system to indicate when the bath chambers or boat interior chambers have reached temperature, and start a 10-minute timer for soak time.*
  
- e. Retractable cover – how much heat loss is acceptable?
  - i. *Balance heating efficiency and durability of cover with cost.*
  - ii. *Cover shall be able to be opened in the amount of time it would take for a boat to undergo the pre-wash process, and only required to be open enough to lower boat into chamber. It does not need to be fully opened when a boat is in the bath.*
  - iii. *Cover shall be able to support the weight of a person as a safety measure.*
  
- f. Can the operating window be defined regarding seasons and daily operations to allow for recovery time? Boats/day?
  - i. *Operating season is typically May 5<sup>th</sup> to October 5<sup>th</sup>*
  - ii. *Anticipate daily operating hours will be 12 pm – 8 pm*
  - iii. *Total boats thru the system per year 1300 – 1400. Anticipated daily thru-put on average is 8-10 boats, with 2-3 boats arriving at a time.*
  
- g. Do the cleansing tanks (hot water chambers) need to be drained for the off-season?
  - i. *Cleansing tanks shall be drained to levels (or fully) that prevent damage to piping, equipment, or the chamber structure during the off-season. Antifreeze through the piping system is recommended. The winterization process shall be part of the procedures.*
  
- 9. What is the extent of automation required at the pre-wash station?
  - a. *The intent of the pre-wash “car wash”-type system is to spray the sides of the boats above the water line in the splash zone, since this area will not be submerged. The heights of the boats vary, so the sprayers also need to vary whether it be in height or some of the spray nozzles turned off for shorter boats.*
  - b. *Spray shall be 1,800 psi at nozzles at a 12”-14” distance from boat surface, so it meets the 1,500-psi pressure noted in Appendix A.*
  
- 10. How much area is required to be aerated at the upstream/downstream pools?
  - a. *Each upstream/downstream aeration unit shall be sized to cover a minimum of 1 acre.*

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**Rapide Croche Boat Transfer Station**  
**Addendum No. 2**

11. Will compressed air be required onsite?
  - a. *Yes, for the ADT unit and for winterizing the system.*
  
12. Can the bypass culvert pipe functionality/purpose be better defined as to the extent it is to be used?
  - a. *The intention is to maintain 30 cfs waterflow from the upstream pool to flush the downstream channel, to reduce/eliminate any algae growth and stagnant water, in addition to the aeration units.*
  - b. *Critical pipe invert: Downstream invert shall be at El. 604.7 ft., which is 2 feet above the 100-year flood level. Upstream invert shall be set to meet the 30 cfs waterflow requirement.*
  
13. Explain the need for and operation of the surface skimmer mechanism – Requirements?
  - a. *A surface skimmer across the hot water chambers is not be required. Floating sediment will enter the recirculation chamber and be filtered there. Manual skimming of the hot water chambers will be completed as required by the operator(s).*
  
14. Explain the need for and operation of the chemical treatment system. Requirements?
  - a. *None of the chemicals listed are intended to aid in the treatment of AIS species.*
  - b. *Sodium Hypochlorite is intended to be added into the Hot Water Chamber solely for the purpose of limiting bacteria growth within the chamber during off-hours.*
    - i. *Due to the decomposition of sodium hypochlorite in hot water, we are considering alternatives and will provide any acceptable alternatives in a future Addendum.*
  - c. *The polymer and coagulant are intended to prepare the raw influent water coming from the Recirculation chamber for entry into the DAF unit. These were recommended by the equipment vendor and shall be determined by the contractor and their selected vendor.*
  
15. Provide anticipated suspended solid levels to be filtered out of the hot water bath system.
  - a. *The anticipated suspended solids should be minimal due to the pre-wash. Heavily coated boats will be turned away and not cleaned in this system.*
  - b. *We spoke with Washburn Marina, a member of the Wisconsin Clean Marina Association. They clean boats from 20 ft to 120 ft with a pressure wash system. They are not able to quantify the solids being cleaned from the boats, but did state that the majority of the solids were bottom paint and organics.*
  
16. Provide anticipated petroleum levels to be filtered out of the hot water system.
  - a. *Oil/petroleum in both the pre-wash and hot water system should be rare. We spoke with Washburn Marina commented that, at most, they only see a tiny amount from the overflow due to movement of the boat, and even that is rare.*
  
17. Canoe and kayak AIS treatment (clarification):
  - a. *As stated in the RFP Appendix A, canoes and kayaks must be fully submerged in the small hot water chamber.*
    - i. *An evacuation pump (4 gpm) shall be provided to empty the canoe/kayak of water prior to lifting with a jib crane.*
    - ii. *Jib crane and hoist for base bid shall be minimum 500-lb. capacity (including spreader beam) full cantilevered jib crane with a 12-ft. boom, 180-degree rotation based on current column & chamber layout, and assuming only residual water in canoe/kayak after pumping. Spreader bar and (2) sets of straps will also need to be included for this process.*