

## FY 21 MDOT SHA Research Needs

### Response to Administrative & Technical Questions

*Updated 10/27/20*

#### Administrative Questions:

**Question A1:** *Is there a budget limit for proposals?*

**Answer:** No. However, cost will be factor in the proposal selection process. Most projects selected for funding are \$75K - \$150K. If a research need requires a long study period and/or a large scope-of-work, it may be justifiable to include a budget above this range.

**Question A2:** *Will MDOT SHA select only one proposal for each research topic or multiple?*

**Answer:** In genera only one proposal will be selected for each research topic. However, in cases where it is deemed to be advantageous to MDOT SHA to pursue more than one proposed research plan, multiple selections may occur. That will not be determined until the proposal review phase and will also depend on funding availability.

**Question A3:** *Can a researcher submit multiple proposals for one research topic?*

**Answer:** No. Researchers may submit a proposal for more than one research topic but should not submit multiple proposals for the same topic.

**Question A4:** *Can proposals include a Co-PI?*

**Answer:** Yes. While MDOT SHA only accepts proposal with one principal investigator, a Co-PI is acceptable if 1.) their percentage of time is significantly less than the PI; 2.) their contribution to the project is meaningful and clear in the proposal; and 3.) the PI agrees to maintain project oversight and accepts responsibility for all work being delivered.

**Question A5:** *Is a team composed of two universities and a consultant admissible? Does the PI need to carry out at least 50% of the work?*

**Answer:** Yes, this is allowable. Should the proposal be selected, MDOT SHA would issue the notice-to-proceed to the PI. The 2<sup>nd</sup> university and consultant would both be subs to the PI and therefore, limited to no more than 50% of the direct costs on the proposed budget.

**Question A6:** *How long is the study period for MDOT SHA research projects?*

**Answer:** Unless otherwise specified in the RFP, the study period for the research is flexible and should be based on the scope-of-work proposed. However, a 12-18 month time frame is generally desirable.

**Question A7:** *Are there restrictions for font size and page margins?*

**Answer:** No, there is no restriction on font size or page margins. MDOT SHA accepts proposals that communicate a straightforward and professional image.

**Question A8:** *Does the proposal need to be routed through the university's research administration office?*

**Answer:** When responding to an RFP, a proposal is not required to be routed through the research administration office. After being selected, the final proposal would have to be routed through the research administration office. PIs should always check with their individual universities for their specific policy.

**Question A9:** *Is an appendix allowed and will it count towards the page count?*

**Answer:** Yes to both. An appendix can be included and it will count towards the ten page limit.

**Question A10:** *Would a full-time faculty who is not on a tenure-track qualify as a PI?*

**Answer:** Yes, a research professor not on tenure-track qualifies, assuming he/she has the right expertise.

**Question A11:** *What is the appropriate indirect cost rate?*

**Answer:** The indirect cost rate is determined by the agreement between MDOT SHA and state universities. For example, the indirect cost rate is 26% for the University of Maryland, College Park, and Morgan State University. Please check with your university's office of sponsored research if additional information is needed.

**Question A12:** *Is there a limit for labor expenses in the budget?*

**Answer:** Please see Question A1 for answer on the total budget. MDOT SHA does not have a limit on labor expenses.

**Question A13:** *When budgeting for a subcontractor, can we include salary in it? Is there a limit on percentage?*

**Answer:** Yes, you can include a subcontractor and salary. Their role should be clearly identified in the proposal. Should a subcontractor be included, the PI must complete at least 50% of the work (i.e. direct costs) You can find more information on Page 7 of the [Guidelines for Proposals](#).

## Technical Questions:

**General Question#1** *For research that requires field work, if a research team has candidate sites in mind, is there a viable mechanism to confirm suitability and/or access to these sites for our research plan with an MDOT representative?*

**Answer** MDOT SHA recommends including the suggested candidate sites in the proposal and adding a statement that the locations are subject to change pending input and approval from MDOT SHA. Once proposals are selected there will be an opportunity to discuss and finalize the scope-of-work (including details like field sites) with technical staff.

### **RFP #01: Use of Alternative Water Sources for Salt Brine**

**Question 1:** *To perform a cost-benefit analysis for establishing greywater infrastructure vs. public water consumption for salt brine, we need some data, such as "MDOT SHA's previous data regarding the volume and cost of the salt brine and consumption of potable waste.," Will MDOT SHA share that data with us?*

**Answer:** With the exception of light winters, MDOT SHA uses more than 3 million gallons of salt brine each winter season. We are expanding the use of salt brine, so usage is expected to rise significantly in the coming years. All the water used to make the brine is potable. We do not have costs for the price of potable water. A national rate per gallon of potable water should suffice for this project.

**Question 2:** *Some information about the MDOT current sources of greywater, blackwater, rainwater and stormwater (volume, quality, and location), mode of distributions and distribution plants, storage centers, water treatment facilities, current infrastructure are needed. We would appreciate it if you could let us know if this information will be available to us.*

**Answer:** As mentioned in #1, MDOT SHA does not presently use any other source of water for making brine other than potable water, through public source or well.

**Question 3:** *Does MDOT SHA have a region of interest for implementation of this project? For instance, Baltimore city, Baltimore county or the state of Maryland?*

MDOT SHA does not have an area of the state in mind at this time, but we could identify an area, if necessary. We are most interested in a "pilot" project at this time for use in determining merit of statewide expansion.

**Question 4:** *Can you provide information on the number and location of MDOT SHA sites where brine is being, or anticipated being, produced?*

**Answer:** Salisbury, Chestertown, Easton, Gaithersburg, Marlboro, Laurel, Golden Ring, Owings Mills, Glen Burnie, LaPlata, Prince Frederick, LaVale, Keyser's Ridge, Hagerstown, Westminster.

**Question 5:** *Should all MDOT SHA brine producing sites be included part of the research project?*

**Answer:** That is not necessary at this time. Ideally we will have an implementation plan for the use of greywater at additional sites based on what was learned at the “pilot” location.

**Question 6:** *Can you provide information on anticipated growth in MDOT SHA brine production and use?*

**Answer:** It is likely that brine use will more than double in the near future – 6,000,000 gallons each winter.

**Question 7:** *Should the project team consider benefits offered by alternative water sources beyond financial, such as environmental and social benefits?*

**Answer:** Yes

**Question 8:** *Can you provide any guidance on expected cost and duration for this project?*

**Answer:** Please see the responses to Administration Questions A1 and A6 on page 1.

## **RFP #02: Design and Demonstration of an Arterial-Friendly Local Ramp Metering Control System**

No questions received.

## **RFP #03: Evaluation of Smart Pedestrian Crosswalk Technologies**

**Question 1:** *Will MDOT SHA be able to supply crash data of pedestrians in Maryland for the past five years now or, will it be provided after the award?*

**Answer:** The Office of Traffic and Safety should be able to supply the five-year pedestrian crash data after the award upon request. In the meantime, a 2020 presentation on pedestrian fatal crashes between 2016 and 2018 can be provided for more information. Please email [research@mdot.maryland.gov](mailto:research@mdot.maryland.gov) if you would like a copy.

## **RFP #04: Literature Search and Synthesis of Regional Guidance the Supplement Code 378 Design and Construction Regulatory Requirements**

**Question 1:** *Why is MDE interested in issuing a revised supplemental guidance? What is the reasoning behind the development of this guidance document?*

**Answer:** MDE seeks to clarify and expand upon the existing guidance. The current NRCS-MD Code No. 378 for Small Ponds has proven to be outdated and not consistent with current MDE requirements. For example, the excavated pond projection criteria is no longer used by MDE (see page Pond MD-378-2). In practice, this results in ponds designed with a strict reading of Code No. 378 for Small Ponds to require significant

re-design to obtain construction approval from MDE. Key elements also currently missing include design guidance for embankments that have not been designed or constructed according to the MD Code 378 and require some kind of repair, upgrade or remediation. This will include not only SWM ponds but even some roadway embankments according to Tech Memo #2.

**Question 2:** *What is MDE including in the upcoming revised supplemental guidance document?*

**Answer:** The MDE Dam Safety Division has already published several policy documents that clarify topics related to pond and dam design that are missing or deficient in Code No. 378 for Small Ponds. The current list of published policy documents includes Policy Memo No. 1: Maintenance and Repair Trees and Woody Vegetation, Policy Memo No. 2: Roadway and Railroad Embankments and Culvert Crossings, Policy Memo No. 3: Impoundments Adjacent to Steep Slopes, Policy Memo No. 4: Hazard Classification: Small Impoundments, Policy Memo No. 6: Dam Decommissioning, Policy Memo No. 7: Impoundment Filling Plans, Policy Memo No. 9: Water Storage and Collection Tanks, Policy Memo No. 10: Utilities in Dam Embankments, and Policy Memo No. 11: Activities Not Requiring Dam Safety Permit. Policy Memo No. 5 regarding embankment best construction practices is known to be under development by MDE. Major topics yet to be covered involve special design criteria for ponds that tie into roadways and storm drains, as well as an update of Code No. 378 for Small Ponds to ensure consistency with these MDE Dam Safety policy memos. Examples of projects that need further guidance include SWM retrofit/remediation, principal spillway replacement, and roadway culvert replacement or augmentation.

**Question 3:** *Regarding the question about “How well do they perform?” what is the criteria for performance?*

**Answer:** Regarding stormwater pond embankment performance, the question “how well do they perform,” relates to the overall stability and resilience of these embankments. Embankments that perform well would require only routine mowing and maintenance and would not exhibit signs of seepage, overtopping, or erosion for the design storm events. Embankments that perform poorly would require frequent repair of seepage, overtopping damage, and/or erosion, some of which may be severe enough to result in failure of the embankment and release of the impounded water. Overall, MDOT SHA seeks answers to several questions regarding performance. What is the rate and mode of failure? How often must they be repaired or reconstructed? Why must they be repaired or reconstructed? Is it a matter of seepage? Soil erosion? Slope failure/sloughing? Tree removal?

**Question 4:** *Are these stormwater ponds?*

**Answer:** For MDOT SHA, ponds constructed according to Code No. 378 for Small Ponds are stormwater management ponds. While Code 378 typically applies to stormwater ponds, there are certainly atypical cases in which other SWM facility types are involved, such as sand filters and bioretention facilities, for example. Another item MDOT SHA eventually wants to explore is at what point the embankment is wide enough it can be exempt from the Code and dam safety criteria?

**Question 5:** *Does “Maryland’s published supplement” in Deliverables #3 refer to Supplemental Pond Spec’s (Non 378 Ponds) (Appendix B.1.1) in the Maryland Stormwater Design Manual? Is B.1.2 also another supplement?*

**Answer:** Generally, the scope of this problem is directed at embankments large enough to be classified as Code No. 378 Small Ponds. Appendix B.1.1. is directed towards stormwater embankments small enough to be exempt from Code No. 378 for Small Ponds requirements. The supplements mentioned refer to the policy memorandum already published by the MDE Dam Safety Division, as well as a yet to be published replacement or revision to Code No. 378 for Small Ponds.

**Question 6:** *Budget and duration?*

**Answer:** Please see the responses to Administration Questions A1 and A6 on page 1. Please also note that because this project is a literature search and synthesis, MDOT SHA does not expect it to take more than 8-12 months.