



**REQUEST FOR PROPOSALS
PROFESSIONAL SERVICES**



RFP Number: **1922S**

DAM PRESERVATION DESIGN SERVICES

Submission Due Date/Time: **Thursday, May 30, 2019 no later than 2:00 P.M. Local Time**

Three (3) year Term with Two (2) possible one-year extensions

Agreement Type: State

One (1) Agreement may be awarded from this solicitation.

The resulting agreement may be State funded

The anticipated method of payment is cost plus fixed fee.

29 Del.C. §6981

PROJECT INFORMATION

This Request for Proposal (RFP) issued by the Delaware Department of Transportation is for the purpose of acquiring Proposals from interested firms to provide design of dam improvement and maintenance projects as well as construction support services.

PROFESSIONAL SERVICES REQUIRED

Services include but are not limited to the following: Engineering Design Services

PROJECT DESCRIPTION

The Delaware Department of Transportation is seeking a professional engineering firm to assist with design services related to dam improvement or maintenance projects. Tasks associated with this work include, but are not limited to, the following:

- Perform structural, foundation, and geotechnical design for dams and the associated structures in accordance with DelDOT's *Bridge Design Manual* and the State of Delaware Dam Safety Regulations.
- Perform hydrologic and hydraulic analyses for dams in accordance with DelDOT's *Bridge Design Manual*, the State of Delaware Dam Safety Regulations, and guidance in Appendix A of this RFP. This H&H analysis may include spillway design storm analysis, dam breach modeling including preparation of inundation maps, 3D computational fluid dynamics (CFD) model of the primary spillway and/or floodplain analysis.
- Prepare plans, specifications, and cost estimates for dam improvement and repair projects. Develop all plans and details for dam improvement and maintenance projects in accordance with DelDOT's *CADD Standards Manual* and guidance found on DelDOT's Design Resource Center website.

- Perform deed research and prepare right-of-way plans and documentation as part of the project development process for dam improvement and maintenance projects.
- Perform roadway geometric design for dam improvement projects in accordance with DelDOT’s *Road Design Manual* and the AASHTO *Policy on Geometric Design of Highways and Streets*.
- Develop Traffic Management Plans (TMPs) in accordance with the Delaware MUTCD and other DelDOT requirements.
- Coordinate with DelDOT support sections, such as Environmental Studies and Traffic, and appropriate stakeholders, to properly develop dam improvement and maintenance projects.
- Prepare proper documentation of design decisions made throughout the project development process for dam improvement and maintenance projects in accordance with applicable DelDOT manuals and guidance.
- Perform public outreach for dam improvement projects during the project development phase.
- Perform design level inspections, including underwater inspections, for dams and associated structures that are to undergo an improvement project.
- Perform field surveys to develop existing base mapping.
- Coordinate with construction personnel and contractors to resolve issues during construction of dam improvement or maintenance projects.
- Review working drawings for dam improvement or maintenance projects.
- Fulfill the role of “Supervising Engineer” as defined in State of Delaware Dam Safety Regulations. Prepare a Construction Quality Control Plan, periodic construction progress reports, as-built plans, a Supervising Engineer’s Certificate of Completion and other items as required.

QUESTIONS

Questions are to be submitted to DOT.Profservices@state.de.us. In order to ensure a timely response, questions must be submitted according to the Procurement Schedule. The Department’s response to questions, along with this RFP and related information, are posted on the State of Delaware Bid Solicitation Directory Website: <http://www.bids.delaware.gov/>.

PROCUREMENT SCHEDULE

Action Item	Date	Time
Deadline for Questions to ensure response:	Ten (10) business days prior to the proposal due date	2:00 P.M. Local Time
Final Response to Questions posted by:	Five (5) business days prior to the proposal due date	2:00 P.M. Local Time
Proposals Due no later than:*	Thursday, May 30, 2019	2:00 P.M. Local Time

NOTE: Only asterisk (*) marked date changes will be communicated (via posted Addendums).

PROPOSAL REQUIREMENTS

Interested firms must submit the material required herein or they may not be considered for the project:

1. Proposals must be received prior to the Submission due date and time indicated above.

Facsimile and E-mail responses to this RFP are not acceptable. No response hand-delivered or otherwise will be accepted after the above date and time. It is the responsibility of the submitter to ensure the Proposal is received on time. DelDOT's time is considered the official time for determining the cut-off for accepting submissions. To be considered for this agreement, firms must submit the Proposal as set forth herein. Any variation, including additions, may negatively impact the scoring.

Proposals are to be delivered to:

Contract Administration – RFP 1922S
Delaware Department of Transportation
800 Bay Road
Dover, DE 19901

Should the office be closed at the time responses are due (such as an unexpected event or inclement weather) the submission due date shall be the following business day, at the time originally scheduled.

2. **The Prime Consultant must be Registered**, or submit application for registration with DelDOT at or before the time of submission in order to be considered. For registration information, click [here](#).
3. **Submit one (1) original and five (5) hard copies** of the Proposal. Receipt of insufficient copies or non-compliance with providing the requested information in the desired format, may negatively impact the scoring.
4. **Submit two (2) pdf format electronic copies** (e.g. CD, flash drive) of the Proposal; one original and one a redacted copy. The original must be a .pdf file of the original signed proposal as submitted and should be clearly marked “Original”. The redacted copy must be a .pdf file of the original signed proposal with any proprietary or confidential information redacted, and this copy should be clearly marked as “Redacted”. Electronic copies are to be submitted with the printed Proposal. The electronic redacted copy is required even if the submission contains no proprietary or confidential information.

*To determine what information may be considered proprietary or confidential and may be redacted from their Proposal, firms should review Delaware’s Freedom of Information Regulations [here](http://regulations.delaware.gov/AdminCode/title8/1400.shtml#TopOfPage); <http://regulations.delaware.gov/AdminCode/title8/1400.shtml#TopOfPage>. Under Delaware FOIA law, 29 *Del. C.*, §10002(l)(2), “Trade secrets and commercial or financial information...which is of a privileged or confidential nature” are “records that shall not be deemed public” and are therefore exempt from disclosure under FOIA.*

5. **Architect-Engineer Qualifications; GSA SF330:**

<http://www.gsa.gov/portal/forms/download/116486>

Follow instructions for the SF330, and add the following Individual Agency Instructions:

- A. Part I Section C 11, Proposed Team;

Indicate if DBE firm and approximate percentage of contract cost they will perform.

- B. Part I Section E, Resumes of Key Personnel Proposed for this Contract;
Resume information is limited to eight (8) individuals regardless of affiliation.
- C. Part I Section F, Example Projects;
Example Projects provided are limited to ten (10).
- D. Part I Section H 30, Additional Information;
 - 1) The Prime consultant must indicate the current workload with the Department by listing the following in a table format:
Agreement No.; Agreement Title; Consultant PM; Prime or Sub; Total Dollars paid to date; current number of Tasks issued; and date of contract expiration.
 - 2) List any DeIDOT Agreement number your firm has been selected for and not included above.
 - 3) Firms may include a "Rating Criteria Support Information" Section limited to four (4) pages on two (2) sheets of paper within Section H that covers any information that directly relates to your ability to meet the specific rating criteria cited within the RFP document. The Department recommends formatting this section using Times New Roman, 12 pt. font.

Note: Letters of Interest should not be included.

- 6. **Joint venture** submissions will not be considered.
- 7. **DeIDOT reserves the right to reject** any and all submissions. Submissions become property of the Department and shall be retained electronically for a minimum period of three (3) years from the date of receipt. DeIDOT reserves the right to any and all ideas included in this response without incurring any obligations to the responding firms or committing to procurement of the proposed services.
- 8. **Required Certification Forms.** All firms responding to the RFP must complete and return the submission forms located in ‘Appendix B’ of this document.

No promotional materials or brochures are to be included as part of the submission.

RATING CRITERIA

#	Criteria Description:	Weight
1	Project understanding, approach, services required	30 %
2	Firm’s experience pertaining to dam repair and rehabilitation projects	30 %
3	Firm’s resources and capability to accomplish proposed work on schedule	20 %
4	Key Staff and Project Team qualifications	20 %
TOTAL :		100%

OVERVIEW OF SELECTION PROCESS

- This is a project specific agreement where the services as described in this RFP will be provided over the life of the project.
- This is a single phase solicitation process with the availability for discussions with three (3) of the most highly qualified firms. Based upon the listed criteria and evaluation of each firm’s submitted proposal, the Selection Committee may decide if a small sample task and/or discussions will be held with the most

highly qualified consultants. If discussions are held, they will serve to clarify the technical approach, qualifications, and capabilities provided in response to the RFP, after which the committee will determine the ranking of the candidate firms.

- Selection Committee members will individually score each firm's submitted proposal which determines individual ranking. The Department's ranking is the combined ranking of all Committee members. Firms, in order of ranking, will have the opportunity to negotiate an agreement with the Department. If the Department cannot reach agreement with the highest ranked firm(s), the Department terminates negotiations and begins negotiations with the next highest ranked firm, and so on until an agreement is reached. The Department notifies via email the awarded firm(s) of the opportunity to enter into an agreement with the Department. This notification also includes information on the next steps for the agreement process.
- After the ranking process has been completed, applicable price information will be requested from the successful candidate firm(s), such as; salary rates for various classifications of personnel; and an indirect cost derivation for the most current accounting period.
- Payroll burden and overhead will be computed on direct salary costs only (not including overtime) at the consultant's audited rate, as per Federal Acquisition Regulations Part 31, and Department policies. Computer and CADD costs are not allowable as a direct cost to this project. Rate determination and applicability is subject to audit by the Department. Additionally, candidates should be prepared for the Department to work with your current accounting firm to provide information and backup documentation. Full and immediate cooperation is required to avoid delays in execution of an agreement. Failure to cooperate may result in breaking off of negotiations and moving to the next ranked firm.
- Selection Committee membership appointments are confidential. The Department's Professional Services Procurement Manual may be viewed [here](#).

MISCELLANEOUS

The Department is not liable for any cost incurred by the consultant in the preparation or presentation of the Proposal.

Any individual, business, organization, corporation, consortium, partnership, joint venture, or any other entity including subconsultants currently debarred or suspended is ineligible to participate as a candidate for this process. Any entity ineligible to conduct business in the State of Delaware for any reason is ineligible to respond to the RFP.

The Department of Transportation will affirmatively insure individuals and businesses will not be discriminated against on the grounds of race, creed, color, sex, or national origin in consideration for an award. Minority business enterprises will be afforded full opportunity to submit bids/proposals in response to this invitation.

Department of Transportation

State of Delaware

By: Jennifer Cohan

Secretary

Dover, DE

Appendix A - HYDROLOGIC AND HYDRAULIC ANALYSIS GUIDELINES

Hydrologic and hydraulic analyses for each state owned dam was completed under Agreement 1684. However, similar analyses may be required to be updated for each dam under this agreement. These analyses should be prepared in accordance with the most current applicable state and federal requirements, as well as the guidance that follows.

The hydrologic and hydraulic analyses shall be conducted utilizing a Department approved hydrologic/hydraulic computer model. The modeling effort must conform to the intended use of the chosen computer model.

The consultant will develop a hydrologic model for the contributing watershed to the dam. The discharges generated from these watershed models will be routed through existing outlet structures to evaluate non-breach discharges and the associated water surface elevations within the impoundment. The hydrologic model will also include an analysis for each watershed that contributes flow within the inundation zone and for any watershed that contributes flow to the downstream channel that may affect upstream water surface elevations.

Data Collection and Field Reconnaissance

Data necessary to perform hydrologic and hydraulic analyses for this project may need to be collected. The best available existing topographic base mapping and field survey data may be used as the basis for all hydrologic and hydraulic analyses. Bathymetric surveys may be required to develop accurate estimates of the lake storage volume below normal pool.

In addition to the recently completed analyses, other sources for data may include as-built construction plans for the dam, available topographic or digital terrain data for the watershed and downstream inundation zone, available DNREC design data for the dam, DelDOT roadway and bridge plans for hydraulic structures within the inundation zone, and FEMA floodplain data.

Spillway Design Flood Determination and Spillway Capacity Analysis

Hydrologic and hydraulic analysis may be required to determine the Spillway Design Flood (SDF) and assess spillway capacity for selected dams in the State of Delaware. Hydrologic and hydraulic models may be used for watershed analysis, Spillway Design Flood determination, dam breach analysis, and flood routing. The Spillway Design Flood for each dam shall be in accordance with Sections 8.2.1 and 8.2.2 of the Delaware Dam Safety Regulations. Information regarding these regulations can be found at the following link: <https://de.gov/damsafety>. The hazard classification of each dam shall be verified with the DNREC Dam Safety Program in accordance with section 5.0 of the Delaware Dam Safety Regulations.

Breach Analysis

Based on survey and field data, breach model parameter values for appropriate dam failure scenarios will be developed in order to generate breach discharges and create hydrographs for downstream routing. A piping failure shall be modeled to represent a sunny-day dam failure. An overtopping failure shall be modeled if the dam overtops during the spillway design flood.

Dam Break Analysis and Inundation Zone Mapping

Dam break analysis and inundation zone mapping may be required from each dam downstream to a point where there are no longer significant impacts to life or property caused by the dam failure. Water-surface elevations associated with various dam breach and no dam breach scenarios shall be computed using appropriate hydrologic and hydraulic modeling techniques. For each dam the following flooding scenarios may be analyzed and the associated inundation zones mapped: 1) Sunny Day dam breach 2) Spillway Design Flood with dam breach and 3) Spillway Design Flood without dam breach. For dams where an Incremental Flooding Assessment (IFA) is performed, dam break analysis and inundation zone mapping may be required for various percentages of the Probable Maximum Flood (PMF). The results of the dam break analyses and inundation zone mapping will be used by DeIDOT and the DNREC Dam Safety Program to verify the hazard classification and Spillway Design Flood of each dam. A dam failure inundation map for each dam shall then be prepared in accordance with DNREC's Inundation Mapping Guidelines (Appendix B of this RFP).

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Appendix B - DNREC'S INUNDATION MAPPING GUIDELINES

The purpose of a dam failure inundation map in an Emergency Action Plan (EAP) is to show the extent and timing of expected flooding from a dam failure. The maps should show downstream infrastructure, developments, recreation areas, and other significant features within the inundation zone, so that emergency managers and responders can coordinate evacuation and rescue operations. The maps should contain sufficient information for the agencies to warn and evacuate all people who may be at risk from a dam failure.

Inundation zones should be depicted for one flooding condition only (i.e., sunny day failure or storm event failure, depending on the level of analysis), unless there is a significant difference between the number of people, or extent of infrastructure impacted, during the different dam failure conditions being analyzed. In the case of multiple events being analyzed, the agencies that will retain a copy of the EAP should agree on which dam failure events will be shown on the inundation maps.

Inundation maps should be prepared using a Geographic Information System (GIS), with the following base map information, which is available on the Delaware DataMil web site (<http://datamil.delaware.gov/geonetwork/srv/en/main.home>):

- Delaware 2007 orthophotography
- 2' contours for the appropriate county from the 2007 statewide LiDAR data

On top of the base mapping, the following features should be clearly shown and labeled:

- location of the dam
- inundation zone(s)
- other downstream dams
- streets
- railroads
- bridges
- critical infrastructure such as schools, hospitals, nursing homes, etc.
- campgrounds and other recreational facilities

Printed inundation maps in the EAP should be on 11" x17" sheets, at a scale of 1" = 200', unless a different sheet size and scale is agreed to by all agencies that will retain a copy of the EAP. This will result in multiple sheets for each inundation map, so a clearly labeled index map should be included as the first sheet in the map set. Each sheet should have match lines or a key so that a map user can follow the sequence of map sheets.

On each map, the area representing the inundation zone should be shaded to distinguish it from the background image, using a color that will not mask important features on the map. When the inundation zone enters the area of a downstream lake or pond, it should be depicted outside of the normal perimeter of the water body, unless the analysis shows that the dam failure would result in no increase in the elevation of the water body. A note should be placed on the map indicating the magnitude of the water surface increase in the water body due to the dam break flood wave. When the inundation zone overtops a downstream roadway at a bridge or culvert, the inundation zone should be depicted as being continuous across the roadway, clearly indicating that the roadway would be flooded. When the inundation zone passes through a downstream roadway at a bridge or culvert, but does not overtop the roadway, the inundation zone should be discontinuous on either side of the roadway, to clearly indicate that the roadway would not be overtopped.

Inundation zones should extend downstream of the dam to a point where there are no longer significant impacts to life or property caused by the dam failure. When the inundation zone from a storm event dam failure is mapped,

and there is also a mapped 100-year floodplain boundary for the water course (freshwater or tidal), the dam failure inundation zone should be mapped downstream to the point where the dam failure water surface elevation is equal to and intersects the 100-year flood water surface elevation. The 100-year floodplain boundary should be continued downstream beyond the point of intersection, to a point where the 100-year flood no longer results in significant impacts to life or property.

When the sunny day dam failure is mapped, the dam failure inundation zone should extend downstream to a point where there are no longer significant impacts to life and property from the sunny day dam failure. At this location, the elevation of the sunny day dam failure inundation may be above or below the elevation of the 100-year flood (if the 100-year flood has also been mapped for the water course). Where the elevation of the 100-year flood is higher than the elevation of the sunny day dam failure flood, the 100-year flood boundary lines may be included on the inundation map for reference (with no shading between the boundary lines), unless inclusion of the floodplain boundary lines makes the inundation map too confusing for users. The 100-year floodplain boundary may have little or no relevance to map users during an actual sunny day dam failure event.

Each roadway crossing that is flooded within the mapped inundation area should be labeled with the travel time (in hours and minutes) of the leading edge and the peak of the dam break flood wave, and the depth of flooding over the top of the roadway. If there is no significant time difference between the leading edge of the flood and the peak of the flood, then only the time for the leading edge of the flood should be used. Roadways that cross the mapped inundation zone but are not flooded should be labeled with a note indicating the roadway is not overtopped during the flood.

Critical infrastructure facilities within the mapped inundation zone should be labeled with the name and address of the facility, the depth of the expected flooding, and the time of the leading edge and the peak of the flood at the facility. Critical infrastructure facilities located outside of the mapped inundation zone that may have access to the facility disrupted during the dam break flood should be labeled with the name and address of the facility and a note describing how access to the facility may be affected.

Commercial, industrial and institutional facilities within the mapped inundation area should be labeled with the name and address of the facility. Residential structures within the mapped inundation area should be labeled with the street address of the property. For maps with a large number of structures within the inundation zone, to the point that labeling on the map is not practical, structures should be numbered on the map in a logical order, and a separate list prepared with the corresponding property information.

The first sheet of each map set should contain a note describing the limitations of the map, such as “Because the methods, procedures, and assumptions used to develop the flooded areas are not exact, the limits of flooding and flood wave travel times shown are approximate and should be used only as a guideline for establishing evacuation zones. The extent of the area that would be inundated during a dam failure event will depend on actual failure or flooding conditions, and may differ from the area shown on these maps.”

Because the dam failure inundation maps contained in the EAP will intentionally not include detailed engineering information, a separate set of maps on larger sheets (such as 24” x 36”) may be prepared containing relevant engineering data, such as location of cross sections used in the dam failure analysis, water surface elevations and peak discharges at cross section locations, etc. These maps can be included in the EAP as an appendix if requested by the agencies that will retain a copy of the EAP.



Appendix C - REQUIRED FORMS

The following completed forms are required to be returned with each proposal:

- Certification of Eligibility
- Certificate Of Non-Collusion

CERTIFICATION OF ELIGIBILITY

Delaware Department of Transportation

Request for Proposal 1922S – DAM PRESERVATION DESIGN SERVICES

We have read Request for Proposal number 1922S and fully understand the intent of the RFP as stated, certify that we have adequate personnel and knowledge to fulfill the requirements thereof, and agree to furnish such services in accordance with the contract documents as indicated should we be awarded the contract.

_____ hereby certifies that it is not included on the United States Comptroller General’s Consolidated List of Persons or Firms Currently Debarred for Violations of Various Public Contracts Incorporating Labor Standard Provisions.

_____ Signature of the Bidder or Offeror’s Authorized Official

_____ Name and Title of the Bidder or Offeror’s Authorized Official

_____ Date

Sworn and subscribed before me this _____ day of _____, 20__

Notary Public

My commission expires: _____ / _____ / 20__
Month Day Year

CERTIFICATE OF NON-COLLUSION

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid, each party thereto certifies as to its own organization, under penalty of perjury, that to the best of knowledge and belief:

- 1) The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement for the purpose of restricting to such prices, with any other bidder or with any competitor;
- 2) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the Bidder and will not knowingly be disclosed by the Bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and
- 3) No attempt has been made or will be made by the Bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

_____ Signature of the Bidder or Offeror's Authorized Official

_____ Name and Title of the Bidder or Offeror's Authorized Official

_____ Date

Sworn and subscribed before me this _____ day of _____, 20__

Notary Public

My commission expires: _____ / _____ / 20____
Month Day Year