



IDAHO TRANSPORTATION DEPARTMENT – DIVISION OF HIGHWAYS

STUDY OF IDAHO DEGRADATION TEST AND OTHER TEST METHODS FOR ASSESSING AGGREGATE QUALITY

REQUEST FOR PROPOSAL

GENERAL INFORMATION, SUBMISSION OF PROPOSAL, EVALUATIONS, AND AWARD

SECTION 1 - GENERAL INFORMATION

1.1 Purpose

The Idaho Department of Transportation (ITD) is seeking the services of a qualified researcher/testing company to review the implementation history of the Idaho Degradation Test ([IT-15](#)); update and replace missing test data for Idaho aggregates; determine the repeatability of the test on both processed and unprocessed aggregates; compare results with other durability tests such as the Micro-Deval, Los Angeles Abrasion, Fine and Course Durability, and/or Plasticity Index; and examine the clay mineralogy before and after degradation. Researchers will be expected to provide recommendations on needed updates/revisions to the Idaho Degradation Test procedure, verify specification or propose a new limit on degradation; and determine if additional testing should be required when evaluating aggregate quality.

1.2 Background

In the late 1950's, Leif Erickson presented a paper to address the degradation of aggregates and recent road failures in Northern Idaho. He attributed this to an increase in material passing the #200 sieve and in the formation of plastic fines. The aggregate used in these projects came from sources that had favorable results with traditional durability testing (LAWare, Soundness, Micro-Deval). Idaho needed a test to predict degradation that caused these road failures. The Idaho Degradation Test (IT-15) is a modified version of a degradation test from Washington State DOT (1959). This test is one of several tests used to qualify or disqualify aggregate sources and products. With time, the original research data and the criteria that established the Idaho Degradation Specification has been lost. This lack of data prevents ITD from full understanding the significance of the test results.

The test itself has poorly defined procedures causing variability in results between individuals and labs. This test was developed and implemented when ITD performed the source testing and consistency may not have been an issue. At this time, it is unknown if variations are inherent in the test procedure or attributable to differences in how the test is being performed by the individual testing firms. This test needs validation to gain a better understanding of the test method and its results as it relates to aggregate quality. This research will be the first step to quantify the differences within the test, establish clear direction in how to process the aggregates for testing and compare results to other nationally recognized test procedures on the exact same material.

As our current aggregate sources become depleted and a need for developing new sources arises, ITD needs to ensure that the specification is established on sound and current data. ITD seeks to prevent low quality aggregate on the roadways while allowing for an appropriately conservative specification.

This research will gather all existing documentation into one place. New data will be generated and categorized to create a dataset that can be expanded in the future. ITD will have updated data to support the Idaho Degradation Specification or potentially propose new or modified specifications. Further, the research could lead to the addition of other degradation tests used to establish the suitability of aggregates. To reduce the risk associated with poor aggregate quality, ITD needs to remain vigilant by utilizing the most appropriate test procedures to evaluate aggregate quality on unprocessed and crushed aggregates.

1.3 Funding

The use of SPR funds must comply with 23 CFR 420.121(j).

SECTION 2 – SCOPE OF WORK AND DELIVERABLES

2.1 Goal

The goal of this study is to update Idaho Degradation Test background data, verify specification or propose a new limit on degradation, and make recommendations if additional testing should be required when evaluating aggregate quality.

2.2 Tasks

A list of tasks is detailed below. In addition to the tasks that follow, consultant and ITD PM are expected to maintain regular contact as needed. Consistent communication is required to make certain that tasks can be effectively accomplished in accordance with the project timeline, and to ensure that issues or setbacks can be promptly addressed if they arise.

Task 1: Project Kick Off Meeting

Host and conduct a meeting at start of project with ITD Project Manager (PM), Technical Advisory Committee (TAC), and Research Program staff to discuss:

- a) Project tasks and deliverables
- b) Project schedules and timelines
- c) Data and information needs
- d) Data management plan
- e) Staff responsibilities and assignments (as applicable)
- f) Proposed schedule for project meetings
- g) Communication plan and expectations

Task 2: Literature Review

- a) Perform a review of applicable literature and provide a written summary that includes implementation history of the Idaho Degradation Test. The Idaho Standard Method for the Idaho Degradation Test (IT-15) can be found at the following URL: https://apps.itd.idaho.gov/apps/manuals/qam/qa_lab_operations.pdf
- b) Establish Test Methodology by contacting test firms and ITD personnel to establish current state of practice for this test including sample preparation and SOP.
- c) Present the literature review and current test procedure to the project team. When completed this will comprise a chapter in the final report.

Task 3: Tests and Material Source Selection

Work with PM to identify ten (10) to fifteen (15) material sources that would best assess the accuracy and reliability of the Idaho Degradation Test, choose other durability/quality tests and develop a testing plan.

Task 4: Testing

Obtain samples from sources in each district and run three (3) sets of each test on both uncrushed aggregates and crushed aggregates.

Task 5: Clay Identification

Identify the clay mineralogy of the before and after Idaho Degradation samples when the material exceeds or nearly exceeds the established Idaho Degradation Specification.

Task 5: Data Analysis

Analyze data to assess the accuracy and reliability of the Idaho Degradation Test and compare all results.

The results of this analysis will be presented in an in-person or virtual meeting with the project team and Research Program staff. The project team will provide feedback to ensure analysis is comprehensive and adequate, and the researchers will incorporate any feedback for subsequent analysis, if necessary.

Task 6: Recommendations for Implementation:

Use analysis from Tasks 2- 5 above, and project team feedback to develop recommendations for ITD to implement outcomes of this research. This should include a revised and well documented Idaho Degradation Test method and any supplemental testing needed to assess aggregate quality.

Task 7: Provide Training to ITD Staff

Following recommendations in Task 5, conduct a training for ITD staff on the processes and procedures of the updated test method, including additional tests if they are required.

Task 8: Prepare and Present Final Report

The consultant will prepare and present a written report that must be reviewed by a qualified peer reviewer. The final report will be developed and written by the consultant team with input and guidance from the ITD PM. The final report will cover all aspects of the project and will summarize information and data found in reports and products created during the preceding project tasks. The information summarized in the report will be presented to the project team after the consultant has provided an initial draft of the final report, allowing at least two weeks for review of the draft. The final report document will incorporate feedback and address any concerns identified by ITD during initial review of the draft report. The final report must also follow [ITD Style Manual for Research Reports](#) and formatting requirements as described in deliverables listed below. The Style Manual and Research Report Template can be downloaded from the [ITD Research Program website](#) by selecting the “Resources for Researchers” section from the menu.

2.3 Deliverables

The following deliverables are required for this project:

Deliverable 1: The Contractor must initiate a project kick-off meeting, via video or teleconference, with ITD’s PM within ten (10) business days after contract award date and provide meeting minutes within seven (7) days following the kick-off meeting.

Deliverable 2: The Contractor must host and conduct quarterly project status meetings with ITD’s PM via video or teleconference. These meetings are designed to cover the progress of all working papers or technical documents being written. Meeting minutes must be taken and supplied to the ITD PM within seven (7) days after the meeting.

Deliverable 3 The Contractor must provide ITD’s PM with monthly project summary reports, using the ITD Form 0771: <https://apps.itd.idaho.gov/Apps/FormFinder2DMZ/>.

Deliverable 4 The Contractor must meet with ITD PM before drafting and presenting the final report, to discuss project findings, conclusions, and recommendations. Meeting minutes must be taken and supplied to the ITD PM within seven (7) days after the meeting.

Deliverable 5: The Contractor must provide working papers and technical documents documenting the research performed, methods used, and the resulting findings for Tasks 2-7 outlined in Section 2.2 above.

Deliverable 6: The Contractor will provide training to ITD staff on updated Idaho Degradation Test procedures, including the addition of other tests that may be required to supplement the evaluation of aggregate quality.

Deliverable 7: The Contractor must provide a final report that includes a summary of test data and an updated Idaho Degradation Test Procedure (IT-15).

Report shall be developed using ITD's Research Report Template and must be consistent with ITD's Research Program Report Process and Style Guide available in the Resources for Research section found at: <https://itd.idaho.gov//alt-programs/?target=research-program&target=research-program>. The Contractor must host and conduct a presentation, via video or teleconference, with ITD's Project Manager (PM) to discuss the final findings and recommendations.

- a) Draft final report – A written report is required for each ITD-supported research project. The draft report must be prepared using ITD's Research Report template. The style guide and template are available in the "Resources for Researchers" section of the Research program website.
- b) Final report – The final report should be professionally done and comparable in quality to a published journal article or dissertation. The report must be written to be understandable to both the technical staff involved in the project (e.g., engineers, planners) and other likely readers (e.g., department management, board members, legislators).

SECTION 3 – SUBMISSION RESPONSE

3.1 Submission Contact

Proposals must be submitted electronically to the following:

Name: Ned Parrish, Research Program Manager

Email: research@itd.idaho.gov

3.2 Submission Response Deadline

Contractor response must be submitted no later than **January 24, 2023 by 5:00 PM (MST)**. Submissions must be submitted to the Submission Contact listed above in order for your submission to be evaluated.

3.3 Inquiries

Questions regarding this request must be submitted to the Submission Contact listed above. Questions must be submitted no later than **December 23, 2022 by 5:00 PM (MST)**.

Responses to all questions will be compiled into one (1) list once the questions submission date has expired. Questions and responses will be posted on the Research Program webpage along with other solicitation information within ten business days of the deadline for submitting questions.

3.4 Response Content

Response must be submitted as a PDF, not to exceed ten (10) pages (excluding resumes for proposed team members) and must be organized to include the following:

- 1 Cover Page - must include the following information:
 - a) Project Title (Study of Idaho Degradation Test and Other Test Methods for Assessing Aggregate Quality)
 - b) "Submitted by" section including name, institution, address, phone, fax #, and e-mail address
 - c) "Submitted to" section indicating the proposal is being submitted to the Idaho Transportation Department, Research Program

d) Proposal Date

- 2 Business Information - Provide a profile of your business, university department or research center, including business history, description of current service area, and customer base. Provide current contact information for a minimum of three (3) references from customers who have received the same or similar service for previous projects relating to similar work.
- 3 Problem Statement - Concisely express your understanding of the problem(s) presented in this solicitation. Do not just restate language in the research request, but instead articulate your own understanding of, and insight into, the problem(s).
- 4 Research Approach/Work Plan - Describe the work that will be performed to complete the tasks and deliverables. Include each of the tasks listed in **Section 2 – Scope of Work and Deliverables** and describe in detail how each task will be performed. Identify any additional tasks you feel are needed and explain any deviations from the tasks required by ITD. Identify any obstacles you see to achieving the objectives and how you would propose overcoming them.

The research plan should be complete and logically organized. It should clearly articulate the researcher’s approach to the problem and how the work done will contribute to accomplishment of the project tasks and deliverables. The response should include discussion of applicable principles and theories, the type and range of data needed, the data analysis methods to be employed, and how possible recommendations will be identified and develop
- 5 Research History - Explain types of research performed, and provide samples if allowed and not confidential, with same or similar to the scope of this project. This may include previous publications as attachments or links to web-hosted documents.
- 6 Project Management and Communications Approach - Describe project management strategy including steps that will be used to 1) monitor project schedule and budget, and 2) ensure that regular communication occurs with ITD’s PM throughout the project. Include your company’s escalation process, with points of contact, in the event ITD will need to escalate concerns during the contract.
- 7 Schedule - Identify the estimated start and completion dates for the project, as well as the completion dates for each task and deliverable. Each proposal should include a Gantt chart depicting the schedule for completing each task and deliverable. The schedule must indicate the number of months allocated to each task and deliverable.

Be sure to build sufficient time into your time schedule to complete the work outlined in your proposal. It is very important to ITD’s Research Program that projects be completed on time.

Example of a schedule below:

Task	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
1 Literature Review												
2 Field Survey												
3 Lab Study												
4 Develop Database												
5 Develop Recommendations												
6 Prepare Draft Final Report												
7 Peer Review of Draft Report												
8 Editorial Review of Draft Report												
9 Make Peer Review/Editorial Changes and Submit to ITD												
10 ITD Initial Review of Report Draft												
11 Revise Draft and Resubmit for Final Review												
12 Make Any Final Changes and Submit Final Report												

- 8 Staffing - Include the following information:
 - a) Identify all members of the proposed research team and describe their role in the project.

- b) Explain how team members' past academic, professional, and research experience relate to the work they will perform.
- c) Provide information about other commitments the principal investigator(s) and research team will have during the project. This information must be sufficiently detailed to allow assessment of the researchers' experience, projects completed, and ability to complete the work within the required time schedule.
- d) Identify the individuals who will perform quality control work on the project, including:
 - i. An independent peer reviewer with sufficient expertise to assess the adequacy of the work performed and the conclusions reached by the project team, and
 - ii. A report editor responsible for ensuring project reports are clearly and concisely written and are prepared in accordance with ITD Research Program guidelines.
- e) Provide a detailed breakdown of each team member's involvement in each task and deliverable.

Example of a detailed breakdown below:

Name Of Person	Role in Study	Hourly Rate	Task (Hours)												Total
			1	2	3	4	5	6	7	8	9	10	11	12	
Researcher A	Principal Investigator	\$ 75.00	10	40		40	40	40			20	20	10	10	230
Researcher B	Co-Principal Investigator	\$ 60.00	10		40	40	40	40			20	20	10	10	230
Subcontractor A	Statistical Analysis	\$ 35.00	25	200		100	40	100			40	20	10	10	545
Subcontractor B	Role description	\$ 50.00	25		200	100	40	100			40	20	10	10	545
Peer Reviewer	Technical Review	\$ 50.00								40					40
Report Editor	Report Editing	\$ 25.00									40				40
Etc.	Role description	\$ 25.00	10						10						30
Total Hours			80	240	240	280	160	290	40	40	120	80	40	50	1660

- 9 Required ITD Involvement - Describe any assistance required from ITD, such as:
 - a) Data collection
 - b) Access to ITD records or databases
- 10 Budget - Provide a quote of the costs for the work outlined in your proposal using the format provided in the table below. **The total cost for the project must not exceed \$80,000.** This range is ITD's estimate of the level of funding necessary to complete the work. Contractor should set the scope and depth of the study accordingly.

Example of a quote:

	Hourly Rate	Benefit Percentage	Task Number												Total
			1	2	3	4	5	6	7	8	9	10	11	12	
Salaries and Benefits															
	Researcher A														
	Researcher B														
	Researcher C														
	Editor														
	Etc.														
	Total Salaries and Benefits:														
Other Costs															
	Flights														
	Parking														
	Rental Car														
	Rental Car Gas														
	Meals														
	Lodging														
	Lodging Tax														
	Subcontractor Expenses														
	Peer Review Costs														
	Materials and Supplies														
	Other Direct Expenses														
	Total Other Costs:														
	Total Direct Costs:														
Percent															
Overhead:	Applied to direct labor at:														
Fixed Fee:	Applied to overhead and director labor at:														
Total Budget:															

SECTION 4 – PROPOSAL REVIEW AND SELECTION

4.1 Response Evaluation

Proposals will be evaluated by ITD technical review team comprising staff knowledgeable in the background and content of the project topic. Selection will be made in consideration of general criteria based on the vendor’s response to the Scope of Work and as follows:

- a) The expertise, and technical capabilities of team members to perform the proposed work, resources including any specialized services available to perform the work within the specified project timeline, and record of past performance, including references, quality of work, and contract administration
- b) The research approach and methodology detailed in the proposal to meet the project tasks and deliverables
- c) Proposed project management and communications approach
- d) Thorough budget and cost estimate that is within project budget constraint

Evaluation criteria will be weighted as shown below:

Evaluation Criteria	Weight
Experience and Qualifications	35%
Proposed Research Approach	35%
Project Management and Communications Strategy	10%
Budget and Cost Estimate	20%
Total	100%

The scores from the technical evaluation will be summed and the proposals will be ranked according to their total scores. Technical reviewers are required to refrain from discussing proposals with other review team members prior to determination of final score. The contract will be awarded to the responsive and responsible proposer with the highest score.

Proposal review is expected to take approximately two weeks following the date of the submission deadline. The technical review team expects that proposers will be notified of selection for this project no later than **February 14, 2023**.

ITD reserves the right to reject any and all proposals submitted. It may negotiate with the proposer to address specific weaknesses in the proposal submitted.

SECTION 5 – AWARD

5.1 ITD Contract Award Agreements

The result of this request will be awarded as a Professional Service Agreement (PSA) if a private consultant is selected or as a Memorandum of Agreement (MOA) if the contract is awarded to a public university.

5.2 Term

The resulting Contract shall commence on the date of the final signature provided by the Submission Contact listed above. The anticipated term of this contract will be for **twelve (12) to eighteen (18) months** unless extended by mutual agreement between the parties or terminated earlier, in writing, in accordance with the PSA or MOA.

SECTION 6 – TERMS AND CONDITIONS

6.1 State of Idaho Standard Contract Terms and Conditions

For terms and conditions including insurance requirements, please see [State of Idaho Standard Contract Terms and Conditions](#). Any requested modifications to the Standard Contract Terms and Conditions should be identified in the proposal.

6.2 Insurance

Within 5 days of notification of award (or such other time as designated by the Purchasing Activity), the apparent successful Bidder or Offeror will provide certificates of insurance required herein and will maintain the insurance during the life of the Contract. There are no provisions for exceptions to this requirement. Failure to provide the certificates of insurance within the five (5) business day period may be cause for your Bid or Proposal to be declared non-responsive or for your Contract to be cancelled.

(Attachment 1 – Insurance Requirements)

6.3 Administrative Fees

Administrative fee detailed in [State of Idaho Standard Contract Terms and Conditions](#) does not apply under the resulting contract agreement.

Attachment 1 – Insurance Requirements

Within 5 days of notification of award (or such other time as designated by the Purchasing Activity), the apparent successful Bidder or Offeror will provide certificates of insurance required herein and will maintain the insurance during the life of the Contract. There are no provisions for exceptions to this requirement. Failure to provide the certificates of insurance within the 5 business day period may be cause for your Bid or Proposal to be declared non-responsive or for your Contract to be cancelled.

Contractor shall carry liability and property damage insurance that will protect it and the State of Idaho from claims for damages for bodily injury, including accidental death, as well as for claims for property damages, which may arise from operations under the Contract whether such operations be by themselves or by anyone directly or indirectly employed by either of them

Contractor shall not commence work under the Contract until it obtains all insurance required under this provision and furnishes a certificate or other form showing proof of current coverage to the State. All insurance policies and certificates must be signed copies. After work commences, the Contractor will keep in force all required insurance until the Contract is terminated.

1. Commercial General and Umbrella Liability Insurance. Contractor shall maintain Commercial General Liability (CGL) and, if necessary, Commercial Umbrella insurance with a limit of not less than \$1,000,000 each occurrence. If such CGL insurance contains a general aggregate limit, it shall apply separately to the Contract.
2. CGL insurance shall be written on ISO occurrence form CG 00 01 (or a substitute form providing equivalent coverage) and shall cover liability arising from premises, operations, independent contractors, products-completed operations, personal and advertising injury, and liability assumed under an insured contract (including the tort liability of another assumed in a business contract).
3. Commercial Automobile and Commercial Umbrella Liability Insurance. Contractor shall maintain Commercial Automobile Liability and, if necessary, Commercial Umbrella Liability insurance with a limit of not less than \$1,000,000 each accident. Such insurance shall cover liability arising out of any auto (including owned, hired, and non-owned autos).
4. Bidder or Offeror may request a waiver from providing Commercial Automobile and Commercial Umbrella Liability Insurance in its Bid or Proposal if the Bidder or Offeror will not use any owned, hired or non-owned vehicles to conduct business under the Contract, if it is awarded the Contract, and the State of Idaho will consider the request. If the Bidder or Offeror submits a request to waive the provision of Commercial Automobile and Commercial Umbrella Liability Insurance after the due date and time for receipt of Bids or Proposals, the State of Idaho may not consider the request.
5. Workers Compensation Insurance and Employer's Liability. Contractor shall maintain workers compensation and employer's liability. The employer's liability shall have limits not less than \$500,000 each accident for bodily insurance by accident or \$500,000 each employee for bodily injury by disease.
6. Contractor must provide either a certificate of workers compensation insurance issued by a surety licensed to write workers compensation insurance in the State of Idaho, as evidence that the Contractor has in effect a current Idaho workers compensation insurance policy, or an extraterritorial certificate approved by the Idaho Industrial Commission from a state that has a current reciprocity agreement with the Idaho Industrial Commission.
7. State of Idaho as Additional Insured: The liability insurance coverage required for performance of the Contract shall include the State of Idaho, the (agency) and its divisions, officers and employees as additional insured, but only with respect to the Contractor's activities to be performed under the Contract.

8. The Contractor must provide proof of the State of Idaho, the (agency) and its divisions, officers and employees being additional insured by providing endorsements to the liability insurance policies showing the State of Idaho, the (agency) and its divisions, officers and employees as additional insured. The endorsements must also show the policy numbers and the policy effective dates.
9. If a liability insurance policy provides for automatically endorsing additional insured when required by contract, then, in that case, the Contractor must provide proof of the State of Idaho, the (agency) and its divisions, officers and employees being additional insured by providing copies of the policy pages that clearly identify the blanket endorsement.
10. Notice of Cancellation or Change: Contractor shall ensure that should any of the above described policies be cancelled before the expiration date thereof, or if there is a material change, potential exhaustion of aggregate limits or intent not to renew insurance coverage(s), that written notice will be delivered to the Division of Purchasing (if the Contract was issued by the Division) or to the Purchasing Activity (contracting state agency) in accordance with the policy provisions.
11. Contractor shall further ensure that all policies of insurance are endorsed to read that any failure to comply with the reporting provisions of this insurance, except for the potential exhaustion of aggregate limits, shall not affect the coverage(s) provided to the State of Idaho, and its divisions, officers and employees.
12. Acceptable Insurers and Deductibles: Insurance coverage required under the Contract shall be obtained from insurers rated A-VII or better in the latest Bests Rating Guide and in good standing and authorized to transact business in Idaho. The Contractor shall be financially responsible for all deductibles, self-insured retention's and/or self-insurance included hereunder. The coverage provided by such policy will be primary to any coverage of the State on or related to the Contract and shall provide that the insurance afforded applies separately to each insured against whom a claim is made, except with respect to the limitation of liability.
13. Waiver of Subrogation: All policies shall contain waivers of subrogation. The Contractor waives all rights against the State and its officers, employees, and agents for recovery of damages to the extent these damages are covered by the required policies. Policies may contain deductibles but such deductibles will not be deducted from any damages due to the State.