

Date Bids Due 1/13/2016		Time of Bid Opening 1:00 PM	Bid Opening Location 800 Lincoln Way, Ames, IA	
Proposal Number 15740	Description Native Grass & Wildflower Seed Mixing & Storage			
Contract to Begin 2/1/2016	Date of Completion 12/30/2016	Proposal Guaranty Amount \$0.00		Liquidated Damages \$0.00
Purchasing Agent Rhonda Ruark	E-Mail Address rhonda.ruark@dot.iowa.gov	Phone 515-239-1285	Fax 515-239-1538	
Company Name			Federal Tax ID	
Street Address		City	State	Zip Code
Supplier Contact (type or print)	E-Mail Address	Phone	Fax	
Supplier agrees to sell items/services at the same prices under the same terms and conditions to any other state agency, Regent or Political Subdivision upon request. Please check Yes or No. <input type="checkbox"/> YES <input type="checkbox"/> NO			Are you a Iowa Targeted Small Business? <input type="checkbox"/> YES <input type="checkbox"/> NO	

GENERAL INFORMATION/PROPOSAL STATEMENT

The entire contents of this Proposal, Addendums to the Proposal, Specifications, Supplemental Terms and Conditions, Standard Terms and Conditions, and Schedule of Prices shall become part of the contract or purchase order. **Faxed or e-mail bids will be accepted.**

We certify that all materials, equipment and/or services proposed meet or exceed the specifications and will be supplied in accordance with the entire contents of this proposal including delivery schedules.

Standard Terms and Conditions for Quotations

Acceptance/Rejection: The State of Iowa reserves the right to accept or reject any or all bids and to waive irregularities or technicalities, provided such waiver does not substantially change the offer or provide a competitive advantage to any vendor, in the judgment of the Iowa DOT. The Iowa DOT also reserves the right to accept that bid which is deemed to be in the best interests of the state. Any unauthorized changes, additions, or conditional bids including any ties to another bid or proposal or any reservations about accepting an award or entering into a contract, may result in rejection of the bid.

Method of Award: Award shall be made to the lowest responsible, responsive bidder unless otherwise specified. By virtue of statutory authority preference will be given to products and provisions grown and coal produced within the State of Iowa.

Contracts: Successful contractor(s) may be sent either a formal Contract or a purchase order. The contractor may not assign the contract to another party without written authorization from the Office of Procurement and Distribution.

Pricing and Discount: Unit prices shown on the documents shall be quoted as the price per unit (e.g., gal., case, each, etc.) as stated on the request. If there is a discrepancy between the unit bid prices, extension, or total amount of bid, the unit prices shall prevail. Unless otherwise indicated, prices shall be firm for the duration of the contract or purchase. Discounts for early payment are allowed, but not considered in award of the contract.

Signed: _____ **Date:** _____



IOWA DOT
Iowa Department of Transportation
Standard Terms and Conditions
For
Bid Proposals/Contracts
-INFORMAL-

Informal - means a limited solicitation type of procurement where a sufficient number of quotation or bids from qualified sources are obtained and the aggregate amount of the purchase is less than \$50,000.

The entire contents of this bid proposal shall become a part of a contract or purchase order. In case of a discrepancy between the contents of the bid documents, the following items listed by descending order shall prevail:

- Addendums to the bid proposal
 - Bid Proposal-
 - Schedule of Prices
 - Specifications
 - Plans and Drawings
 - Supplemental Terms and Conditions
 - Standard Terms and Conditions
- (Example -if there is a statement in the specifications that contradicts a statement in the Standard Terms and Conditions, the statement in the specifications shall apply)

Preparation of Bid Response: All bid responses must address all aspects of the proposal including clearly answering all questions within the proposal. Bid responses must be typed or completed in ink and submitted on the forms supplied by the Iowa DOT.

Bid responses must be signed and received prior to the bid opening date and time as indicated on the Bid Response cover page or bid opportunity. The signed, submitted quotation or bidder's proposal shall become the official bid response to be considered for award.

Bid responses may be sent by email, fax, weblink, or delivered by a courier that ensures timely delivery.

A. Bid Proposal

1. **Bid Opening:** Bid openings are made public and conducted at the Iowa DOT, Ames complex unless otherwise specified. Bid Responses received after the time of the bid opening will be returned to the bidder and considered non-compliant.
2. **Communications:** Questions concerning this proposal should be directed to the purchasing agent listed on the bid proposal. Inquiries can be written, phoned, or faxed. In all cases, written communication will take precedence over verbal communication.
3. **Pricing and Discount:** Unit prices shown on the bid/response shall be quoted as the price per unit (e.g., gal., case, each, etc.) as stated in the bid proposal. If there is a discrepancy between the unit bid prices, extension, or total amount of bid, the unit prices shall prevail. Unless otherwise indicated, prices shall be firm for the duration of the contract or purchase. Discounts for early payment are allowed, but not considered in award of the contract.
4. **Acceptance/Rejection:** The Iowa DOT reserves the right to accept or reject any or all bids and to waive irregularities or technicalities, provided such waiver does not substantially change the offer or provide a competitive advantage to any supplier(s). The Iowa DOT also reserves the right to accept that bid which is deemed to be in the best interests of the state. Any unauthorized changes, additions, or conditional bids including any ties to another bid or proposal or any reservations about accepting an award or entering into a contract, may result in rejection of the bid. Bids must remain available for award for thirty (30) days from date of bid opening.
5. **Bid Results & Disclosure:** A bid tabulation will be sent to all responsive bidders and may be posted on the Iowa DOT website at www.iowadot.gov/purchasing under the *Bid Award link* referencing the proposal number with an award recommendation indicated. At the conclusion of the selection process, the contents of all received bid responses will be placed in the public domain and be open to inspection by interested parties, according to state law. Trade secrets or proprietary information that are recognized as such and are protected by law may be withheld if clearly identified as such in the proposal.

6. **Quality:** All material shall be new and of first quality. Items which are used, demonstrators, refurbished, obsolete, seconds, or which have been discontinued are unacceptable without prior written approval by the Iowa DOT.
7. **Recycled Content:** The Iowa Code encourages purchase of products and materials with recycled content, including but not limited to paper products, oils, plastic products, compost materials, aggregate, solvents, and rubber products. Recycled items or alternatives must be noted in the bid response, if known.
8. **Shipping Terms:** Deliveries shall be F.O.B. Destination unless otherwise specified. All deliveries shall be accompanied by a packing slip indicating the Supplier, quantities shipped, and the purchase order number(s). All delivery charges shall be included in the bid price and paid by the Supplier. No collect C.O.D. deliveries shall be accepted. When entering into a contract, the Supplier shall notify the freight company that all freight and delivery charges are to be prepaid by the Supplier. Goods delivered to the Iowa DOT Distribution Center at 800 Lincoln Way, Ames, IA shall be received between the hours of 7:00 a.m. and 3:00 p.m. on any day except Saturday, Sunday, or a holiday. For deliveries to other Iowa DOT locations, the Supplier may contact the destination location for available times to deliver as not all Iowa DOT locations have the same business hours. The Iowa DOT will not be liable for any freight claims or unpaid freight bills arising from contract or purchase order issues.

B. Award

The binding agreement (award) may be issued in the form a purchase order or contract or both depending on the requirements and complexity of the agreement.

1. **Method of Award:** Award shall be made to the lowest responsible, responsive bidder whose bid meets the requirements of the solicitation and is the most advantageous to the Iowa DOT unless otherwise specified. An Iowa bidder will be given preference over an out-of-state bidder when bid responses are equal in all aspects and are tied in price. By virtue of statutory authority preference will be given to products and provisions grown and coal produced within the State of Iowa.
2. **Award Protests:** Protests of award recommendations are to be addressed to the Director of Purchasing, and shall be made in accordance with paragraph 761--20.4(6)"e" of the Iowa Administrative Code.
3. **Contracts:** Successful contractor(s) may be sent either a formal Contract, Notification of Award or purchase order as confirmation of acceptance and award. Any of these binding agreements shall be for the term stated in the bid proposal or on a purchase order and may be renewed for additional period(s) under the same terms and conditions upon mutual agreement as defined. The successful bidder may not assign a contract to another party without written authorization from the Iowa DOT Purchasing Section. A service contract, including all optional renewals, shall not exceed a term of six years unless a state agency obtains a waiver of this provision pursuant to rule 11-118-11(3).
4. **Payment Terms:** The Iowa DOT typically pays properly submitted vendor invoices within thirty (30) days of receipt, providing goods and/or services have been successfully delivered, installed or inspected (if required), and accepted. Invoices presented for payment must be only for quantities received by the Iowa DOT and must reference the purchase order number or contract to be submitted for processing.
5. **Default:** Failure of the Supplier to adhere to specified delivery schedules or to promptly replace rejected materials shall render the Supplier liable for all costs in excess of the bid price when alternate procurement is necessary. This shall not be the exclusive remedy and the Iowa DOT reserves the right to pursue other remedies available to it by law or under the terms of the binding agreement.
6. **Default:** Failure of a Contractor other than a Supplier to meet any specified project completion deadline shall render the Contractor liable for all costs incurred by the Iowa DOT that were: a) necessary to meet said deadline; or b) necessary to complete said project after said deadline. This shall not be the exclusive remedy and the Iowa DOT reserves the right to pursue other remedies available to it by law or under the terms of the agreement.

C. General

1. **Administrative Rules:** For Additional details on the rules governing the actions of the Iowa DOT Purchasing Section, refer to 761 IAC, Chapter 20, Iowa Administrative Code, entitled "Procurement of Equipment, Materials, Supplies and Services".
2. **Affirmative Action:** The Contractor (and also subcontractor, vendor or supplier) is prohibited from engaging in discriminatory employment practices forbidden by federal and state law, executive orders and rules of the Iowa Department of Management, pertaining to equal employment opportunity and affirmative action. Contractor may be required to have a copy of their affirmative action program on file, containing goal and time specifications. Contractors doing business with Iowa in excess of \$5,000 annually and employing 50 or more full time employees may be required to file with the Iowa Department of Management a copy of their affirmative action plan. Failure to fulfill these non-discrimination requirements may cause the contract to be canceled and the contractor declared ineligible for future state contracts or subject to other sanctions as provided by law or rule.
3. **Applicable Law:** The contract shall be governed under the laws of the State of Iowa. The contractor shall at all times comply with and observe all federal and state laws, local laws, ordinances, and regulations which are in effect during the period of a contract and which in any manner affect the work or its conduct. Any legal action relating to a contract shall only be commenced in the Story County, Iowa, District Court or the United States District Court for the Southern District of Iowa.
4. **Conflict of Interest:** No state or county official or employee, elective or appointive shall be directly or indirectly interested in any contract issued by the Iowa DOT, see Code of Iowa 314.2.
5. **Debarment and Vendor Suspension:** By submitting a proposal, the contractor is certifying that it and its principals and/or subcontractors are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by the State of Iowa or any Federal department or agency.
6. **Equal Opportunity:** Firms submitting bids must be an "Equal Opportunity Employer" as defined in the Civil Rights Act of 1964 and in Iowa Executive Order Number Thirty-four.
7. **Infringement:** Goods shall be delivered free of the rightful claim of any third party by way of infringement. Contractor shall indemnify and save harmless the State of Iowa and the Iowa DOT against all claims for infringement of, and/or royalties claimed under, patents or copyrights on materials and equipment furnished under this bid.
8. **Records Audit:** The contractor agrees that the Auditor of the State of Iowa or any authorized representative of the state, and where federal funds are involved, the Comptroller General of the U.S. Government, shall have access to and the right to examine, audit, excerpt, and transcribe any directly pertinent books, documents, papers, and records of the contractor relating to orders, invoices, or payments of a contract or purchase order.
9. **Targeted Small Businesses:** The Iowa DOT seeks to provide opportunities for women and/or minority small business enterprises. To apply for certification as an Iowa Targeted Small Business, contact the Iowa Department of Inspection and Appeals (515-281-5796). Contractors shall take documented steps to encourage participation from Targeted Small Businesses for the purpose of subcontracting and supplying of goods or services or both.
10. **Taxes:** Prices quoted shall not include state or federal taxes from which the state is exempt. Exemption certificates will be furnished upon request.
11. **Termination:**
 - **Termination Due to Lack of Funds or Change in Law**

The Iowa DOT shall have the right to terminate this Contract without penalty by giving thirty (30) days written notice to the vendor as a result of any of the following:
 - Adequate funds are not appropriated or granted to allow the Iowa DOT to operate as required and to fulfill its obligations under contract.
 - Funds are de-appropriated or not allocated or if funds needed by the Iowa DOT, at the Iowa DOT's sole discretion, are insufficient for any reason.
 - The Iowa DOT's authorization to operate is withdrawn or there is a material alteration in the programs administered by the Iowa DOT.
 - The Iowa DOT's duties are substantially modified.

Following a 30 day written notice, the Iowa DOT may terminate a binding agreement in whole or in part without the payment of any penalty or incurring any further obligation to the Supplier. Following termination upon notice, the Supplier shall be entitled to compensation upon submission of invoices and proper proof of claim for goods and services under contract up to and including the date of termination.



Schedule Of Prices

Number	15740
Date Required	01/13/2016 1:00 PM

Title Native Grass & Wildflower Seed Mixing & Storage

Vendor

Delivery Location

PA Name Rhonda J Ruark

Shipping Terms FOB Destination/Freight Prepaid

Phone 515-239-1285

E-Mail rhonda.ruark@dot.iowa.gov

Description

SPECIFICATIONS

Inspect seed upon arrival to ensure the seed is labeled in accordance with laws relating to agriculture seeds and the fuels and regulations of Iowa Department of Agriculture. The exception being the information on the tag or label shall be mechanically printed. Each unit of seed furnished shall have a label or tag containing the name and address of the person or company who labeled said seed, kind and variety, percent purity, percent germination, percent hard seed, if present, and date tested.

Inspect the seed for damage due to rough handling and any exposure to moisture or rodents and the DOT minimum requirements for purity and germination as listed in Section 4169. Notify the DOT within 24 hours of receiving the seed should any evidence of contamination, or other reasons which would indicate the quality of seed is questionable.

Furnish with each shipment a certified seed mixture report and certification sheet. Each mixture report shall identify the county, project number, contractor or subcontractor and type of seed mixture.

Each certification sheet shall be signed by a designated responsible company representative.

Forward one copy of the above described documents to the project engineer at the time of delivery to the project. In addition, send one copy to the District Materials Engineer in the district in which the project is being administered. Information will be provided to successful bidder.

Store the seed upon arrival in a facility where the temperature plus humidity should not exceed 100 with ideal conditions being 50° Fahrenheit and 50% relative humidity.

Seed mixtures for each project will be forwarded to the contractor once the seed mixing contract is awarded.

Product Availability Days: _____

All items must be bid.

Price Good Until: _____

Item	Qty	Unit	Description	Part #	Unit Price	Total Price
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Item	Qty	Unit	Description	Part #	Unit Price	Total Price
1	1	JOB	Seed Mixing and Storage Per pound of pure live seed, including delivery of seed within 48 hours notification to location: Intersection of Hwy 20 & Hwy 71 in Sac County Approximately 20,896 PLS lbs. Estimated delivery time should be between May 1 to May 15, 2016.			
Comments:						
2	1	JOB	Seed Mixing and Storage Per pound of pure live seed, including delivery of seed within 48 hours notification to location: DOT Maintenance Garage on L Avenue in Tama, IA Approximately 4,076 PLS lbs. Estimated delivery time should be between May 20 to June 3, 2016.			
Comments:						
3	1	JOB	Seed Mixing and Storage Per pound of pure live seed, including delivery of seed within 48 hours notification to location: Intersection of Hwy 20 & Hwy 196 in Sac County Approximately 6,658 PLS lbs. Estimated delivery time should be between November 1 to November 30, 2016.			
Comments:						
4	1	JOB	Seed Mixing and Storage Per pound of pure live seed, including delivery of seed within 48 hours notification to location: Intersection of I-29 & Hwy 275 in Pottawattamie County Approximately 1,087 PLS lbs. Estimated delivery time should be between May 1 to May 30, 2016.			
Comments:						
5	1	JOB	Seed Mixing and Storage Per pound of pure live seed, including delivery of seed within 48 hours notification to location: Hwy 92 & County Road R-63 in Warren County Approximately 2,174 PLS lbs. Estimated delivery time should be between November 1 to November 30, 2016.			
Comments:						

Item	Qty	Unit	Description	Part #	Unit Price	Total Price
6	1	JOB	Seed Mixing and Storage Per pound of pure live seed, including delivery of seed within 48 hours notification to location: Interstate I-35 & County Road P-53 in Dallas County Approximately 438 PLS lbs. Estimated delivery time should be between April 1 to May 30, 2016.			
Comments:						
7	1	JOB	Seed Mixing and Storage Per pound of pure live seed, including delivery of seed within 48 hours notification to location: Hwy 3 & Hwy 188 in Butler County Approximately 522 PLS lbs. Estimated delivery time should be between April 1 to May 30, 2016.			
Comments:						

I HEREBY CERTIFY THAT THIS PROPOSAL MEETS OR EXCEEDS THE MINIMUM REQUIREMENT INCLUDING SPECIFICATIONS AND ADDENDUMS.

Signature: _____ Date: _____

Section 1 Introduction

1.1 Purpose & Overview of the RFB Process

The purpose of this Request for Bid (RFB) is to solicit Bid Responses from responsible, responsive Bidders to provide the goods and/or services identified and described further in Section 3 of this RFB. The Iowa DOT may renew the contract(s) for up to the number of annual renewals as indicated. Any contract(s) resulting from the RFB shall not be an exclusive contract.

Overview: Provide all materials, labor and equipment necessary to complete seed mixing and storage per pound of pure live seed (PLS). Delivery of this seed will be required within 48 hours of notification from the Iowa Department of Transportation to the locations listed on the schedule of prices.

1.2 General

1.2.1 The owner of these projects is the Iowa Department of Transportation, 800 Lincoln Way, Ames, IA 50010

Project Location: See schedule of prices

Section 2 Administrative Information

2.1 Issuing Agent

The Issuing Agent, identified on the cover page is the sole point of contact regarding the RFB from the date of issuance until the notice of intent to award is issued (selection of the successful contractor).

2.2 Restriction on Communication

From the issue date of this RFB until the notice of intent to award is issued (announcement of the successful bidder), bidders may contact only the Issuing Agent.

The Issuing Agent will respond only to questions regarding the procurement process. Questions related to the interpretation of this RFB must be submitted in writing to the Issuing Officer by the deadline found in the Procurement Timetable listed immediately after the cover sheet. Verbal questions related to the interpretation of this RFB will not be accepted. Questions related to the interpretation of this RFB must be submitted as provided in section 2.5. Contractors may be disqualified if they contact any state employee other than the Issuing Agent. *Exception: Contractors may contact the State Targeted Small Business Office on issues related to the preference for Targeted Small Businesses. See Section 2.32.*

In NO CASE shall verbal communication override written communications. Only written communications are binding on the State.

The Iowa DOT assumes no responsibility for representations concerning conditions made by its officers or employees prior to the execution of a contract, unless such representations are specifically incorporated into this RFB. Verbal discussions pertaining to modifications or clarifications of this RFB shall not be considered part of the RFB unless confirmed in writing. All such requests for clarification shall be submitted in writing. Any information provided by the Contractor verbally shall not be considered part of that Contractor's proposal. Only written communications from the Contractor and received by the Department shall be accepted.

With the exception of the written Bid Response which must be submitted by Contractors in accordance with Section 2 herein, communications between the Issuing Agent and Contractors may be conducted by regular prepaid US mail, courier service, e-mail or facsimile transmission.

2.3 Downloading the RFB from the Internet

All correspondence for this Bid Proposal will be posted on the Iowa DOT's website at www.iowadot.gov/purchasing/lettingschedule. **Bidders are required** to visit the Iowa DOT's home page periodically for any and all addendums or other pertinent information regarding this bid opportunity.

2.4 Submission of Bid Responses

The Iowa DOT must receive Bid Responses addressed to the Department of Transportation, Purchasing Section, 800 Lincoln Way, Ames, Iowa 50010 before the deadline.

Contractors mailing Bid Responses must allow ample mail delivery time to ensure receipt by the Iowa DOT on or before the due date. Postmarking by the due date will not substitute for actual receipt of the Bid Response.

Electronic mail and faxed Bid Responses will be accepted.

Contractors must furnish all information necessary to evaluate the Bid Response. Bid Responses that fail to meet the mandatory requirements of the RFB will be disqualified. Verbal information provided by the Contractor shall not be considered part of the Contractor's Bid Response.

2.5 Nonmaterial and Material Variances

The Iowa DOT reserves the right to waive or permit cure of nonmaterial variances in the Bidder's Bid Response if, in the judgment of the Iowa DOT, it is in the Iowa DOT best interest to do so. Nonmaterial variances include minor informalities that do not affect responsiveness; that are merely a matter of form or format; that do not change the relative standing or otherwise prejudice other Contractors; that do not change the meaning or scope of the RFB; or that do not reflect a material change in the services. In the event the Iowa DOT waives or permits cure of nonmaterial variances, such waiver or cure will not modify the RFB requirements or excuse the Contractor from full compliance with RFB specifications or other contract requirements if the Contractor is awarded the contract. The determination of materiality is in the sole discretion of the Iowa DOT.

2.6 Reference Checks

The Iowa DOT reserves the right to contact any reference to assist in the evaluation of the Bid Response, to verify information contained in the Bid Response and to discuss the Contractor's qualifications and the qualifications of any subcontractor identified in the bidders Bid Response.

2.7 Information From Other Sources

The Iowa DOT reserves the right to obtain and consider information from other sources concerning a Contractor, such as the Contractor's capability and performance under other contracts, the qualifications of any subcontractor identified in the Contractor's Bid Response, specifically, the Contractor's financial stability, past or pending litigation, and publicly available information.

2.8 Verification of Bid Response Contents

The content of a Bid Response submitted by a Contractor is subject to verification. Misleading or inaccurate responses shall result in disqualification and rejection of the Bid Response.

2.9 Criminal History and Background Investigation

The Contractor hereby explicitly authorizes the Iowa DOT to conduct criminal history and/or other background investigation(s) of the Contractor, its officers, directors, shareholders, partners and managerial and supervisory personnel retained by the Contractor for the performance of the contract.

2.10 Bid Response Clarification Process

The Iowa DOT reserves the right to contact a Contractor after the submission of Bid Response for the purpose of clarification to ensure mutual understanding.

This contact may include written questions, interviews, site visits, a review of past performance if the Contractor has provided goods or services to the Iowa DOT or any other political subdivision wherever located, or requests for corrective pages in the Contractor's Bid Response. The Iowa DOT will not consider information received if the information materially alters the content of this Bid Proposal or alters the type of goods and services the Contractor is offering to the Iowa DOT. An individual authorized to legally bind the Contractor shall sign responses to any request for clarification. Responses shall be submitted to the Iowa DOT within the time specified in the Iowa DOT request. Failure to comply with requests for additional information may result in rejection of the Bid Response as non-compliant.

2.11 No Contract Rights until Execution

The full execution of a written contract shall constitute the making of a contract for services and no Contractor shall acquire any legal or equitable rights relative to the contract services until the contract has been fully executed by the successful Contractor and the Iowa DOT.

2.12 Restrictions on Gifts and Activities

Iowa Code Chapter 68B restricts gifts which may be given or received by state employees and requires certain individuals to disclose information concerning their activities with state government. Contractors are responsible to determine the applicability of this Chapter to their activities and to comply with the requirements. In addition, pursuant to Iowa Code section 722.1, it is a felony offense to bribe or attempt to bribe a public official.

The laws of Iowa provide that it is a felony to offer, promise, or give anything of value or benefit to a state employee with the intent to influence that employee's acts, opinion, judgment or exercise of discretion with respect to that employee's duties. Evidence of violations of this statute will be submitted to the proper prosecuting attorney.

2.13 No Minimum Guaranteed

The Iowa DOT anticipates that the selected Contractor will provide services as requested by the Iowa DOT. The Iowa DOT will not guarantee any minimum compensation will be paid to the Contractor or any minimum usage of the Contractor's services.

2.14 Conflicts Between Terms

The Iowa DOT reserves the right to accept or reject any exception taken by the Contractor to the terms and conditions contained in this RFB. Should the Contractor take exception to the terms and conditions required by the Iowa DOT, the Contractor's exceptions may be rejected and the entire proposal declared nonresponsive. The Iowa DOT may elect to negotiate with the Contractor regarding contract terms that do not

materially alter the substantive requirements of the request for proposals or the contents of the Contractor's Bid Response.

2.15 Contractors Responsibilities

2.15.1 Codes, Laws and Regulations

The laws of the State of Iowa in relation to and pertaining to public improvements shall apply to these projects. All construction, materials and methods shall comply with the State and Local Building Codes and with Local Ordinances, except where plans and specifications establish a higher standard.

2.15.2 Licenses, Permits and Inspections

The Bidders shall comply with all codes, laws, ordinances, rules and regulations of any public authority having jurisdiction that bears on the performance of its work. Bidders shall pay for all licenses, permits and inspection fees required for its work. Bidders must furnish copies of all approved inspection certificates and approvals from authorities having jurisdiction in a timely fashion upon completion of the work.

2.16 Consideration of Bids

2.16.1 Rejection of Bids

- The Iowa DOT reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the Iowa DOT that such bidder is properly qualified to carry out the obligations of the Contract and to complete the work contemplated therein.
- Conditional bids will not be accepted.

2.16.2 Qualification of Bidder

The Iowa DOT may make such investigations as they deem necessary to determine the ability of the Bidder to perform the required work, and the bidder shall furnish to the Iowa DOT all such information and data for this purpose as the Iowa DOT may request.

2.17 Performance and Payment Bonds

2.17.1 Bonds

If the contracted estimated value is \$25,000 or more, the Bidder shall furnish bonds covering the faithful performance of 100% of the Contract and the payment of all obligations arising thereunder. One copy of the bond shall be submitted on Iowa Department of Transportation Form 131070. All items must be properly filled in, including Bidder's signature. Resident commission agent or attorney-in-fact must file a copy of the power of attorney.

2.17.2 Power of Attorney

Attorney-in-fact who signs the Proposal Guarantee, Performance Bond, and Labor and Material Payment Bond must file with each bond a certified and effectively dated copy of the Power of Attorney.

2.18 Labor Regulations

All Bidders, before entering into a contract with the Department, must be registered with the Division of Labor in the Iowa Department of Workforce Development (515-281-3606) according to chapter 91C, Code of Iowa 2015. This pertains to contractor's who engage in the business of construction.

Section 3 General Requirements

3.1 Scope of Work

Successful Bidder shall be required to provide all materials, labor, and equipment necessary to complete seed mixing and storage per pound of pure live seed (PLS).

Deliver this seed within 48 hours of notification from the Iowa DOT to the following locations:

1. Intersection of Highway 20 and Highway 71 in Sac County— approximately 20,896 PLS lbs. Estimated delivery time should be between May 1 to May 15, 2016.
2. DOT Maintenance Garage on L Avenue in Tama, Iowa – approximately 4,076 PLS lbs. Estimated delivery time should be between May 20 to June 3, 2016.
3. Intersection of Highway 20 and Highway 196 in Sac County— approximately 6,658 PLS lbs. Estimated delivery time should be November 1 to November 30, 2016.
4. Intersection of I-29 and Highway 275 in Pottawattamie County— approximately 1,087 PLS lbs. Estimated delivery time should be May 1 to May 30, 2016.
5. Highway 92 and County Road R-63 in Warren County— approximately 2,174 PLS lbs. Estimated delivery time should be between November 1 to November 30, 2016.
6. Interstate I-35 and County Road P-53 in Dallas County— approximately 438 PLS lbs. Estimated delivery time should be between April 1 to May 30, 2016.
7. Highway 3 and Highway 188 in Butler County— approximately 522 PLS lbs. Estimated delivery time should be between April 1 to May 30, 2016.

Provide certification by the Iowa Crop Improvement Association or other state's Crop Improvement Associations with this bid as being a certified seed conditioner.

Bid items 1 through 5 will have two different seed mixes. The cover crop will not be incorporated into any of the mixes for bid items 1 through 5. On bid items 6 and 7, the cover crop will be supplied by a different contractor and will not be required to be mixed with this contract. Bid item 6 and 7 will have two seed mixes.

Collect samples from each container of seed for testing.

Perform a seed germination, purity and noxious weed test at Iowa State University Seed Lab for the following species prior to mixing:

Big bluestem (*Andropogon gerardii*)
Canada wildrye (*Elymus canadensis*)
Virginia wildrye (*Elymus virginicus*)
Indiangrass (*Sorghastrum nutans*)
Little bluestem (*Schizachyrium scoparium*)
Partridge pea (*Chamaecrista fasciculata*)
Side-oats grama (*Bouteloua curtipendula*)
Switchgrass (*Panicum virgatum*)

All costs for the seed sampling will be paid by the winning bidder.

One pound of each seed type will be required to be submitted to Iowa State University Seed Lab. The one pound sample should be a representative sample of type of seed received. For example, if 10 bags of Big Bluestem are received, approximately 1/5 of a pound of seed should be sampled from each bag of Big Bluestem, combined then sent to Iowa State University Seed Lab.

Only one sample per supplier per lot will be required. For example, one lot (supplier) of Big Bluestem that will be used for several projects will only need to be sampled once and not multiple samples that would represent multiple seeding projects. If there are multiple lots (suppliers) of Big Bluestem though, a sample would be needed from each lot (supplier).

Forward test results to:

Iowa Department of Transportation
Roadside Development Section ATTN: Mike Heller Office of Design
800 Lincoln Way, Ames, IA 50010
michael.heller@dot.iowa.gov

Submit the completed Reference "Attachment A" to the Iowa Department of Transportation for verification of certification and mixing of seeds.

3.2 Adoption of General Conditions

3.2.1 The General Requirements of this Contract shall include the "General Conditions", "Plans and Specifications" and any and all requirements of this RFB, as herein stated.

3.2.2 All bidder information and conditions, bid check lists and similar documents included in the specifications issued by the Iowa DOT, Ames, Iowa are hereby made a part of the General Conditions.

3.3 Contractor Response

3.3.1 Guarantee

The Contractor shall guarantee all work executed under this contract, both as the workmanship and materials, for a period of twelve (12) months after the substantial completion date. Neither the final payment nor any provision of the contract documents shall relieve the Contractor of responsibility for faulty materials or workmanship. The Contractor shall remedy any defect thereto and pay for any damage to other work resulting therefrom, which shall appear within a period of one (1) year from the date of the final acceptance. With one month remaining in the guarantee period, the Contractor shall notify the Iowa DOT and set up a complete walk-through inspection.

3.3.2 Obligation

- At the time of the bid opening, each bidder will be presumed to have read and become thoroughly familiar with the drawings, specifications, and other contract documents, including all addenda.
- Bidders are responsible for the proper submission of bids. Omissions by a bidder to examine a form, instrument, or document shall in no way relieve that bidder from any obligations in respect to their bid.

3.4 Bid Proposal Documents

3.4.1 Plans and Specifications

Electronic specifications are available on the Iowa DOT's website, www.iowadot.gov/purchasing. The Bidder is responsible for all copies of plans and specifications necessary for the execution of the work.

Section 4 Contract Terms & Conditions

4.1 Contract Award

It is the intent of the Iowa DOT to award the contract to the responsible bidder whose submitted quotation is the most advantageous to the Iowa DOT, cost and other factors considered. Other factors include, but are not limited to: meeting or exceeding mandatory requirements, proposed staffing, and meeting required time schedule.

Bid price will include all requirements listed in Section 3 to complete this proposed project.

Protests of award recommendations shall be made in accordance with Paragraph 761--20.4(6)"e", Iowa Administrative Code.

4.2 Contract Period

See Bid Proposal timeline for dates. The date of completion shall be stated in calendar days on the Bidder's Bid Response, and if necessary, adjusted by mutual agreement between the Iowa DOT and successful bidder prior to executing the contract documents.

The Iowa DOT realizes that deliveries and site conditions have a definite bearing on the completion date. The Iowa DOT will demand diligence in the prosecution of the work, but with good cause and satisfactory past performance by the Contractor, the Iowa DOT may revise the completion date to another mutually-acceptable date, when requested in writing and in good faith by the Contractor.

Section 4169. Erosion Control Materials

4169.01 DESCRIPTION.

All materials required to be furnished and described in this section.

4169.02 SEEDS.

- A. Furnish seeds approved for use according to requirements of this section, including specified purity and germination, as shown in Tables 4169.02-1 and 4169.02-2.

Table 4169.02-1: Seeds (Common Names, Scientific Names, Purity, and Germination)

Common Name	Scientific Name	Purity (%)	Germination (%)
DOMESTIC GRASSES			
Bluegrass, Kentucky	<i>Poa pratensis</i>	85	80
Bluegrass, Ky. RAM-1	<i>Poa pratensis</i> -RAM-1	95	85
Bluegrass, Ky. PARK	<i>Poa pratensis</i> -PARK	95	85
Brome, smooth-LINCOLN	<i>Bromus inermis</i>	90	85
Fescue, tall, FAWN	<i>Festuca arundinacea</i> -FAWN	98	85
Fescue, chewings, red	<i>Festuca rubra</i> var. <i>commutata</i>	98	90
Fescue, creeping, red	<i>Festuca rubra</i>	98	85
Fescue, red-PENNLAWN	<i>Festuca rubra</i> PENNLAWN	98	85
Fescue, Tall, Olympic (Fineleaf)	<i>Festuca arundinacea</i> -Olympic	98	85
Fescue, Tall, Rebel (Fineleaf)	<i>Festuca arundinacea</i>	98	85
Fescue, Sheeps	<i>Festuca ovina</i>	98	85
Orchardgrass	<i>Dactylis glomerata</i>	90	90
Red top	<i>Agrostis alba</i>	92	85
Reed Canarygrass	<i>Phalaris arundinacea</i>	98	70
Wildrye, Canada	<i>Elymus Canadensis</i>	95	85
Wildrye, Russian	<i>Elymus junceus</i>	95	85
Ryegrass, Perennial	<i>Lolium perenne</i>	95	90
Timothy	<i>Phleum pratense</i>	99	85
LEGUMES			
Alfalfa, RANGER/VERNAL	<i>Medicago sativa</i>	99	90 ^(a)
Alfalfa, Travois	<i>Medicago</i> spp.	99	90 ^(a)
Birdsfoot Trefoil EMPIRE	<i>Lotus corniculatus</i>	98	85 ^(a)
Crownvetch, Emerald	<i>Coronilla varia</i>	98	70 ^(a)
Hairy Vetch	<i>Vicia villosa</i>	96	85 ^(a)
Lespedeza, Korean	<i>Lespedeza stipulacea</i>	98	80 ^(a)
Red Clover, medium	<i>Trifolium pretense</i>	99	90 ^(a)
Alsike Clover	<i>Trifolium hybridum</i>	99	90 ^(a)
White Clover	<i>Trifolium repens</i>	98	90 ^(a)
NURSE CROP OR STABILIZING CROP			
Oats	<i>Avena sativa</i>	97	90
Rye	<i>Secale cereale</i>	97	90
Sudangrass, PIPER	<i>Sorghum vulgare</i> var. <i>sudanese</i>	98	85

^(a) Includes hard seed.

Table 4169.02-2: Seeds (Common Names, Scientific Names, and PLS)

Common Names	Scientific Names	PLS (%)
*Furnish seed certified as Source Identified Class (Yellow Tag) Source G0-Iowa.		
NATIVE GRASSES		
Big Bluestem*	Andropogon gerardii	30
Little Bluestem*	Andropogon scoparius	30
Switchgrass*	Panicum virgatum	63
Indiangrass*	Sorghastrum nutans	30
Sorghastrum nutans	Bouteloua curtipendula	30
Western Wheatgrass*	Agropyron smithii	56
Buffalograss*	Buchloe dactyloides	60
Sand Bluestem*	Andropogon gerardii, var. paucipilus	30
Blue Grama	Bouteloua gracilis	30
Intermediate Wheatgrass	Agropyron intermedium	70
Slender Wheatgrass	Agropyron trachycaulum, var. unilaterale	70
Prairie Dropseed	Sporobolus heterolepis	65
Sand Dropseed	Sporobolus cryptandrus	65
Sand Lovegrass	Eragrostis trichodes	65
Weeping Lovegrass	Eragrostis curvula	65
Hairy Wood Chess	Bromus purgans	60
Blue-joint grass	Calamagrostis Canadensis	47
Bottlebrush sedge	Carex comosa	62
Tussock sedge	Carex stricta	78
Fox sedge	Carex vulpinoidea	64
Virginia wild-rye	Elymus virginicus	60
Reed manna grass	Glyceria grandis	50
Fowl manna grass	Glyceria striata	72
Common rush	Juncus effusus	80
Rice Cut Grass	Leesia oryzoides	62
Rye grass, annual	Lolium italicum	89
Fowl bluegrass	Poa palustris	72
Green bulrush	Scirpus atrovirens	45
Wool grass	Scirpus cyperinus	78
Soft-stem bulrush	Scirpus validus	78
Indian grass	Sorghastrum nutans	60
Spike Rush	Eleocharis palustris	71
FORBS		
Canada anemone	Anemone Canadensis	72
Marsh milkweed	Asclepias incarnate	25
New England aster	Aster novae-angliae	25
Swamp aster	Aster puniceus	25
Showy tic-trefoil	Desmodium canadense	25
Joe-pye weed	Eupatorium maculatum	66
Boneset	Eupatorium perfoliatum	41
Ox Eye sunflower	Heliopsis helianthoides	38
Blue-flag iris	Iris virginica-shrevii	19
Meadow blazingstar	Liatis ligulistylis	24
Tall blazingstar	Liatis pycnostachya	24
Great blue lobelia	Lobelia siphilitica	13
Reed manna grass	Glyceria grandis	50
Fowl manna grass	Glyceria striata	72

Common Rush	<i>Juncus effuses</i>	80
Rice Cut Grass	<i>Leesia oryzoides</i>	62

- B. Furnish all seeds, including grass, legume, forbs, and cereal crop seeds, from an established seed dealer or certified seed grower. Ensure they meet requirements of the Iowa Department of Agriculture regulations (Iowa Seed Law) and are labeled accordingly. Ensure the test date to determine the percentage of germination requirement was completed within a 9 month period exclusive of the calendar month in which the test was completed. Ensure the seed analysis on the label is mechanically printed.
- C. Approval of all seed for use will be based on the accumulative total of PLS specified for each phase of the work, so that the PLS is not less than the accumulative total of the PLS specified. PLS is obtained by multiplying purity times germination.
- D. If the seed does not comply with minimum requirements for purity and germination and such seed cannot be obtained, the Engineer may approve use of the seed on a basis of PLS or may authorize a suitable substitution for the seed specified.
- E. The accumulative total of Pure Live Seed (PLS) is the product obtained by multiplying the pounds (kilograms) of each seed by the purity and germination percentages expressed as decimals. Calculations will be based on test results of samples taken by the Contracting Authority. If the seeds were not sampled or if these test results are not available, the PLS will be calculated from information shown on the label.

4169.03 FERTILIZER.

Furnish fertilizer of the grade, type, and form specified and that complies with Iowa Department of Agriculture rules and the following requirements:

- A. Fertilizer grade will be identified according to the percent nitrogen (N), percent available phosphoric acid, (P₂O₅), and percent water soluble potassium, (K₂O), in that order. Approval will be based on that identification.
- B. Furnish all fertilizer from an established fertilizer dealer. Ensure guaranteed analysis is provided either through mechanically printed commercial fertilizer bags or through a manufacturer's (not a distributor's) bill of lading.
- C. Fertilizer inspection and acceptance will be according to Materials I.M. 469.03.
- D. Furnish fertilizer of a type that can be uniformly distributed by the application equipment. Fertilizer may be chemically combined or may be furnished as separate ingredients. If supplying chemically combined fertilizer, have each unit of fertilizer chemically combined. Ensure the manufacturer's guarantee indicates compliance with this agreement. If supplying fertilizer as separate ingredients, comply with the following:
 - Each of the separate ingredients of uniform size,

- Analysis guaranteed by the manufacturer.
 - Mixed using a drum mixer, grinder mixer, or other mechanical mixers.
 - Mixed only by the fertilizer dealer.
- E. When 6-24-24 chemically combined commercial fertilizer has been specified, a combination of ammoniated phosphate (either monoammonium phosphate (11-52-0) or diammonium phosphate (18-46-0)), muriate of potash (granular form), and urea (granular form) may be used.
- F. When 13-13-13 chemically combined commercial fertilizer has been specified, a combination of ammoniated phosphate (either monoammonium phosphate (11-52-0) or diammonium phosphate (18-46-0)), muriate of potash (granular form), and urea (granular form) may be used.
- G. Fertilizer may be furnished in a dry or liquid form.
- H. Furnish a list of the number of containers and a corresponding scale ticket from an approved scale for the fertilizer to be used in the work.
- I. Official samples taken by the Contracting Authority may be tested. A tolerance of minus 1.0% from the guaranteed analysis for each nutrient will be considered substantial compliance.
- J. Ground limestone is to be of the type known as No. 1 fine (70% passing No. 200 sieve) with an analysis of elemental calcium of no less than 37% or no more than 40%.

4169.04 INOCULANT FOR LEGUMES.

An inoculant is a culture of bacteria specifically formulated for legume seeds (alfalfa, clovers, lespedeza, birdsfoot trefoil, hairy vetch, and crownvetch). Ensure the manufacturer's container indicates the specific legume seed to be inoculated and the expiration date. Use inoculant that meets the requirements of the Iowa Seed Law. Follow the safety precautions specified on the product label.

4169.05 STICKING AGENT.

A sticking agent is a commercial material recommended by the manufacturer to improve adhesion of inoculant to the seed. For quantities less than 50 pounds, the sticking agent need not be a commercial agent; however, the Engineer's approval is required. Apply separately prior to application of inoculant. Follow safety precautions specified on the product label. A sticking agent is not required if a liquid formulation of inoculant is used.

4169.06 SOD.

- A. Use sod consisting of approximately 1 inch of well established turf consisting of live Kentucky bluegrass, unless otherwise specified. Ensure sod is free from roots of trees or brush, stones, and other objectionable materials. Ensure sod is free from all noxious weeds and reasonably free of all other weeds.
- B. Ensure sod is cut in strips of uniform width and thickness with ends square. The Engineer may order the thickness adjusted to meet the sod conditions.

Cut sod to the length specified for the use intended. If not specified, cut to a minimum length of 3 feet. Mow sod areas to a height of approximately 1 1/2 inches to 2 inches prior to cutting.

- C. Ensure sod was regularly maintained prior to cutting. Apply pre-emergence weed control chemicals and weed control chemicals for broadleaf weeds.
- D. Roll or stack sod within 1 hour after being cut. The Engineer may approve other methods of handling sod. Take precautions to prevent drying or heating. Do not use sod damaged by heat or dry conditions, or sod cut more than 18 hours before being incorporated into the work.
- E. Sod will be subject to inspection by the Engineer at the job site, and approval of the work constitutes approval of the material.

4169.07 MULCH.

A. Straw Mulch.

Material used as mulch may consist of dry cereal straw or native grass straw. Use Certified Noxious Weed Seed Free Mulch certified by the Iowa Crop Improvement Association or other state's Crop Improvement Associations. Bail cereal or native grass straw the same growing season as the grain was harvested from the plant.

B. Hydraulic Mulches.

1. Wood Cellulose Fiber.

- a. Natural or cooked cellulose fiber processed from whole wood chips, or a combination of (50%-50%) cellulose fiber produced from whole wood chips and recycled fiber from sawdust, recycled paper, chipboard, or corrugated cardboard.
- b. Contains a colloidal polysaccharide tackifier adhered to the fiber to prevent separation during shipment and avoid chemical coagglomeration during mixing.
- c. Forms a homogeneous slurry of fibers, tackifier, and water that can be applied with standard hydraulic mulching equipment and be dyed green to facilitate visual metering during application.
- d. Contains no growth or germination inhibiting factors, and has a minimum pH of 4.8.

2. Bonded Fiber Matrix.

- a. Long-strand wood fibers held together by organic tackifiers and bonding agents that, when dry, become insoluble and non-dispersible.
- b. Upon curing (24 to 48 hours) forms a continuous, 100% coverage, flexible, absorbent, erosion-resistant blanket that encourages seed germination.
- c. Manufactured to be applied with standard hydraulic mulching equipment and dyed green to facilitate visual metering during application.
- d. Contains no growth or germination inhibiting factors.
- e. Physical Properties:

- 1) **Fibers:** Virgin wood, greater than 88% by volume.
 - 2) **Organic Material:** Greater than 96% by volume.
 - 3) **Tackifier:** 8 to 10%.
 - 4) **pH:** 4.8 minimum.
 - 5) **Moisture Content:** 12% \pm 3%.
 - 6) **Minimum Water Holding Capacity:** 1.2 gallons per pound.
- f. All components pre-packaged by manufacturer to ensure material performance and compliance. Field mixing of additives or any components will not be allowed.
 - g. Other products not meeting requirements of Article 4169.07, B, 2, e, may be approved if they meet the following requirements:
 - 1) Contain non-toxic tackifiers that upon drying become insoluble and non-dispersible to eliminate direct raindrop impact on soil according to ASTM D 7101 and EPA 2021.0-1.
 - 2) Contain no germination or growth inhibiting factors and do not form a water-resistant crust that can inhibit plant growth.
 - 3) Hydraulic mulch that is completely photo-degradable or biodegradable.
 - 4) Contain a minimum 90% organic material according to ASTM D 2974.
 - 5) Have a rainfall event (R-factor) of $140 < R$ according to ASTM D 6459.
 - 6) Have a cover factor of $C \leq 0.03$ according to ASTM D 6459.
 - 7) Vegetation Establishment of 400% minimum according to ASTM D 7322.
 - 8) Water Holding Capacity 600% minimum according to ASTM D 7367.

3. Mechanically-Bonded Fiber Matrix.

- a. Long-strand wood fibers and crimped, interlocking synthetic fibers.
- b. Upon curing (2 hours) forms a continuous, 100% coverage, flexible, absorbent, porous, erosion-resistant blanket that encourages seed germination.
- c. Manufactured to be applied with standard hydraulic mulching equipment and dyed green to facilitate visual metering during application.
- d. Contains no growth or germination inhibiting factors.
- e. Physical Properties:
 - 1) **Virgin Wood Fibers:** 73% minimum.
 - 2) **Crimped, Interlocking Synthetic Fibers:** 5% \pm 1%.
 - 3) **Tackifier:** 10% \pm 1%.
 - 4) **Moisture Content:** 12% \pm 3%.
 - 5) **Minimum Water-Holding Capacity:** 1.2 gallons per pound.
 - 6) **pH:** 4.8 minimum.
- f. All components pre-packaged by manufacturer to ensure material performance and compliance. Field mixing of additives or any components will not be allowed.
- g. Other products not meeting requirements in Article 4169.07, B, 3, e, may be approved if they meet the following requirements:
 - 1) Contain non-toxic tackifiers that upon drying become insoluble and non-dispersible to eliminate direct raindrop impact on soil according to ASTM D 7101 and EPA 2021.0-1.

- 2) Contain no germination or growth inhibiting factors and do not form a water-resistant crust that can inhibit plant growth.
- 3) Hydraulic mulch that is completely photo-degradable or biodegradable.
- 4) Contain a minimum 90% organic material according to ASTM D 2974.
- 5) Have a rainfall event (R-factor) of $175 < R$ according to ASTM D 6459.
- 6) Have a cover factor of $C \leq 0.01$ according to ASTM D 6459.
- 7) Vegetation Establishment of 500% minimum according to ASTM D 7322.
- 8) Water Holding Capacity of 700% minimum according to ASTM D 7367.

4169.08. COMPOST.

- A. Use an organic substance produced by the biological and biochemical decomposition of source-separated compostable materials separated at the point of waste generation. Organic substances may include, but are not limited to:
 - Leaf and yard trimmings,
 - Food scraps,
 - Food processing residues,
 - Manure and/or other agricultural residuals,
 - Forest residues and bark, and
 - Soiled and/or unrecyclable paper and biosolids.
- B. Compost is to contain no visible admixture of refuse or other physical contaminants nor any material toxic to plant growth. Compost is to meet the additional requirements below. All physical requirements are to comply with the United States Composting Council, "Testing Methods for the Examination of Composting and Compost" (TMECC).
 1. **Minimum organic material:** 30% (dry weight basis) as determined by loss on ignition.
 2. **Moisture content:** 30% to 60%. Organic material shall be loose and friable and not dusty.
 3. **Soluble salts:** less than 5.0 ds/m.
 4. **Stability:** Carbon dioxide evolution rate less than 8 according to TMECC 5.08-B. Growth screening: Emergence a minimum of 80% for all compost to be vegetated.
 5. **pH:** 6.0 - 8.0.
 6. **Fecal Coliform:** Comply with TMECC 07.01-B.
 7. **Heavy Metals:** Comply with TMECC 04.06 and TMECC 04.13-B.

8. Comply with the following for particle size:
 - **Pneumatic Seeding (Urban):** 100% passing the 1/2 inch screen.
 - **Pneumatic or Mechanical Seeding (Rural):** 100% passing the 1 inch screen, 80% to 90% passing the 3/4 inch screen, and 70% to 80% passing the 1/2 inch screen.
 - **Filter Sock, Filter Berm, and Filter Blanket:** 100% passing the 2 inch screen, 70% to 90% passing the 1 inch screen, and 50% to 70% passing the 1/2 inch screen.

4169.09 STAKES FOR HOLDING SOD.

Use either wood or metal wire stakes for holding sod. Use wood stakes in sandy soils or when the Engineer requires.

A. Wood Stakes.

- 1 to 1 1/2 inches wide, 1/4 to 1/2 inch thick, and 12 inches long.
- Where this length of stake does not provide firm bearing, the Engineer may require stakes of sufficient length to secure firm bearing.

B. Wire Stakes.

- Staples made from No. 11 wire or heavier and with a minimum 2 inch flat spread on the top of the sod.
- Legs at least 6 inches long. The Engineer may require wire legs longer than 6 inches.

4169.10 SPECIAL DITCH CONTROL, TURF REINFORCEMENT MAT, SLOPE PROTECTION, AND OUTLET OR CHANNEL SCOUR PROTECTION (TRANSITION MAT).

Comply with the following and meet the requirements of Materials I.M. 469.10.

A. Wire Staples.

Meet the following requirements for wire staples for holding special ditch control wood excelsior mat and special ditch control jute mesh over sod:

1. U-shaped wire staples.
2. Each leg a minimum of 6 inches long. In sandy soil conditions the Engineer may require the length of each leg to be a minimum of 12 inches.
3. No. 11 diameter wire.
4. Staples of sufficient hardness to facilitate installation without bending.

B. Special Ditch Control.

1. Wood Excelsior Mat.

A mat of interlocking wood fibers. Meet the following requirements:

- Plastic netting applied to both sides for holding the excelsior in place.
- Nontoxic to growth of plants and germination of seeds.

- Minimum dry weight of 0.68 pounds per square yard according to ASTM D 6475.
- Furnished in rolls with a uniform width of 48 inches, with a tolerance of minus 1 inch and a minimum length of 80 feet.
- Furnished in plastic bags or otherwise protected to prevent damage from weather and handling.

2. Coconut Fiber Mat.

At the Contractor's option, coconut fiber mat may be substituted for wood excelsior mat for special ditch control. Meet the following requirements:

- Uniform thickness with the coconut fiber evenly distributed over the entire area of the mat.
- Both sides of the mat covered with polypropylene netting attached with cotton thread.
- Minimum dry weight of 0.40 pounds per square yard according to ASTM D 6475.
- Furnished in rolls with a uniform width of 48 inches with a tolerance of minus 1 inch and a minimum length of 80 feet.
- Furnished in plastic bags or otherwise protected to prevent damage from weather and handling.

C. Slope Protection.

Wood excelsior mat, coconut fiber mat, straw mat, or straw coconut mat may be used for slope protection.

1. Wood Excelsior Mats.

A mat of interlocking wood fibers meeting the requirements of Article 4169.10, B, 1. with the following exceptions:

- Plastic netting applied to one or both sides for holding the excelsior in place. Mats without netting where the excelsior is mechanically stitched together to hold it in place may be allowed.
- Minimum dry weight of 0.50 pounds per square yard according to ASTM D 6475.

2. Straw Mat, Straw-Coconut Fiber Mat, or Coconut Fiber Mat.

At the Contractor's option straw mat, straw-coconut fiber mat, or coconut fiber mat may be substituted for wood excelsior mat for slope protection. Meet the following requirements:

- Consistent thickness with the straw, straw-coconut fiber, or coconut fiber evenly distributed over the entire area of the mat.
- The top side of the mat covered with polypropylene netting attached with cotton thread.
- Minimum dry weight (mass) of 0.40 pounds per square yard according to ASTM D 6475.
- Furnished in rolls with a uniform width of 48 inches, with a tolerance of minus 1 inch and a minimum length of 80 feet.
- Furnished in plastic bags or otherwise protected to prevent damage from weather or handling.

D. Netting.

1. Comply with the following mesh netting sizes. A tolerance of plus or minus 0.10 inch applies to netting size.
 - Netting applied on wood excelsior mats: no more than 1 inch by 2 inches.
 - Netting applied on coconut fiber only mats for channel and slope: no more than 3/4 inch by 3/4 inch.
 - Netting applied on the top side of straw and straw-coconut fiber mats for slopes only: no more than 1/2 inch by 1/2 inch.
2. A minimum weight of 9 pounds per 1000 square yards is required for netting for special ditch control or slope protection.

E. Turf Reinforcement Mat (TRM).

1. **Type 1 TRM:** constructed of a web of mechanically or melt-bonded polymer netting, or monofilaments fibers entangled to form a strong and dimensionally stable mat. Bonding methods include polymer welding, thermal or polymer fusion, or the placement of synthetic fibers between two high-strength, biaxially-oriented nets, mechanically bound by parallel stitching with polyolefin thread. Products may contain a degradable component.
2. **Type 2 and 3 TRM:** constructed of a web of mechanically or melt-bonded polymer netting, or monofilaments, or fibers that are entangled to form a strong and dimensionally stable mat. Non-woven bonding methods include polymer welding, thermal or polymer fusion, or the placement of fibers between two high-strength, biaxially oriented nets, mechanically bound by parallel stitching with polyolefin thread. Components are to be 100% synthetic and resistant to biological, chemical, and ultraviolet degradation.
3. **Type 4 TRM:** a high performance/survivability TRM composed of monofilament yarns woven into a resilient uniform configuration. Use mats consisting of a matrix exhibiting very high interlock and reinforcement capacities with both soil and root systems and demonstrating a high tensile modulus. TRMs manufactured from discontinuous or loosely held together by stitched or glued, netting, or composites will not be allowed in this category. Components are to be 100% synthetic and resistant to biological, chemical, and ultraviolet degradation. Use this category when field conditions exist with high loading and/or high survivability requirements.
4. Comply with Table 4169.10-1 for minimum material property and performance requirements:

Table 4169.10-1: Minimum Material Property and Performance Requirements

Property	Property	Test Method	Type 1	Type 2	Type 3	Type 4
Material	Thickness	ASTM D 6525	0.25 in	0.25 in	0.25 in	0.25 in

Material	Tensile Strength ^(a, b)	ASTM D 6818	125 lb/ft	240 lb/ft	750 lb/ft	3000 lb/ft
Material	UV Resistance	ASTM D 4355	80% @ 500 hrs	80% @ 1000 hrs	80% @ 1000 hrs	90% @ 3000 hrs
Performance	Maximum Shear Stress (Channel Applications) ^c	ASTM D 6460	7-9 lb/ft ²	10-11 lb/ft ²	12-14 lb/ft ²	15-16 lb/ft ²
Performance	Maximum Slope Gradient (Slope Applications)	N/A	1:1 (H:V) or flatter	1:1 (H:V) or flatter	1:1 (H:V) or greater	1:1 (H:V) or greater
<p>a. Minimum Average Roll Values, machine direction only.</p> <p>b. Tensile Strength of structural components retained after exposure.</p> <p>c. Maximum shear stress that fully-vegetated TRM can sustain without physical damage or excess erosion (1/2 inch soil loss) during a 30 minute flow event in large scale testing. Acceptable large scale testing protocol includes ASTM D 6460 or independent testing conducted by the Texas Transportation Institute, Colorado State University, Utah State University, or other approved testing facility. Bench scale testing is not acceptable.</p>						

F. Outlet or Channel Scour Protection (Transition Mat)

1. Mat.

- a. Constructed of 85% minimum UV resistant material with a maximum ground cover of 80%.
- b. Meet the requirements of Table 4169.10-2:

Table 4169.10-2: Material Property and Performance Requirements

Property	Test Method	Value
Mass/Unit Area (max)	ASTM D 6566	3 lbs/ft ²
Thickness (min)	ASTM D 6525	0.4 in
Thickness (max)	ASTM D 6525	1.1 in
Tensile Strength (TD)	ASTM D 6818	550 lbs/ft
Percent Open Area (min)	ASTM D 6567	20%
UV Stability	ASTM D 4355	85%

2. Anchoring Devices.

- a. Furnish bullet tip style anchors made of a metal alloy attached to a wire rope.
- b. Anchors capable of withstanding a minimum 300 pounds of pull out resistance in cohesive soils.
- c. Wire rope a minimum of 30 inches in length with a minimum breaking strength of at least 300 pounds.
- d. The top washer a minimum of 3 inches in diameter and constructed of a UV resistant plastic.
- e. Each anchor equipped to allow the retightening of the anchor when deemed necessary by the Engineer.

4169.11 FILTER FABRIC.

Furnish nonwoven polypropylene, UV stabilized filter fabric complying with Table 4169.11-1.

Table 4169.11-1: Filter Fabric Properties

Property	Typical	Minimum
Tensile Strength, lbs	130	115
Grab Elongation, %	70	50

Trapezoidal Tear Strength, lbs	60	50
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4169.12 PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE.

A. General.

1. Provide wattles, sediment logs, and filter socks consisting of the following materials contained in a tube of photo degradable fabric or synthetic netting:
 - a. Wattles: Cereal straw or native grass straw certified by the Iowa Crop Improvement Association or other state's Crop Improvement Associations as Certified Noxious Weed Seed Free Mulch. Wattles with observed seed heads will not be accepted.
 - b. Sediment logs: Wood excelsior fibers.
 - c. Filter socks: Compost (from an approved source meeting Article 4169.08) wood chips, or mulch.
2. Fill wattles, sediment logs, and filter socks using a mechanical device. Hand filling of wattles, sediment logs, and filter socks will not be allowed.
3. Ensure wattles, sediment logs, and filter socks do not contain:
 - A visible admixture of refuse or other physical contaminants,
 - Germination or growth inhibiting factors, or
 - Material toxic to plant growth.
4. Ensure wattles, sediment logs, and filter socks have waterproof identification tags printed using permanent ink and containing manufacturer's name and address. For wattles and sediment logs, tags shall be attached to the inside of the netting of each wattle or sediment log. For filter socks, tags shall be attached to the outside of each sock.
5. Approved perimeter and slope sediment control devices are listed in Materials I.M. 469.10, Appendix E.

B. Wattles and Sediment Logs.

Meet the following minimum weight requirements:

- 20 inch sediment logs and straw wattles: 3 pounds per foot with tolerance of 0.25 pounds per foot.
- 12 inch sediment logs and straw wattles: 2 pounds per foot with tolerance of 0.25 pounds per foot.
- 9 inch sediment logs and straw wattles: 1 pound per foot with a tolerance of 0.1 pounds per foot.
- 6 inch sediment logs and straw wattles: 0.5 pounds per foot with a tolerance of 0.1 pounds per foot.

C. Filter Socks.

Provide filter socks with a maximum 3/8 inch opening.

INSPECTION & ACCEPTANCE OF SEED

GENERAL

The provisions of this IM shall apply to seed and seed mixtures defined in the plans and Section 4169 of the Standard Specifications.

ACCEPTANCE

Seed

Seeds shall be furnished and labeled in accordance with laws relating to agriculture seeds and the fuels and regulations of Iowa Department of Agriculture. The exception being the information on the tag or label shall be mechanically printed. Each unit of seed furnished shall have a label or tag containing the name and address of the person or company who labeled said seed, kind and variety, percent purity, percent germination, percent hard seed, if present, and date tested. The test date to determine the percentage of germination shall have been completed within a nine-month period prior to seed application exclusive of the calendar month in which the test was completed (for example, seed tested 8/5/12 shall be applied by 5/31/13. If seed is to be applied after 5/31/13, then seed requires a new test).

Prior to seeding, entire lots of seed to be used should be inspected for damage due to rough handling, exposure to moisture or rodents. Evidence of contamination, or other reasons which would indicate the quality of seed is questionable, should be considered cause for holding until the lots or bags in question have been tested before use. Routine monitoring samples for testing will not be required.

If the seed does not comply with minimum requirements for purity and germination, and such seed cannot be obtained, the Engineer may approve use of the seed on a basis of pure live seed (Germination times Purity equals Pure Live Seed) or may authorize a suitable substitution for the seed specified.

Seed Mixing

- On-site Mixing (rural stabilizing crop seeding only):

Prior to seeding operations, the Engineer shall be provided opportunity to inspect seed tickets and witness the mixing of seed varieties for compliance with requirements of the contract requirements. Contractor shall provide weighing equipment or evidence of the weights of pre-bagged seed to demonstrate required application rates.

- Off-site Mixing:

Seed mixtures certified by an approved source may be incorporated into the project. Each shipment to a project shall be accompanied by proper report and certification documents described in this IM. Seed bags shall be tagged with bag weight and lot number corresponding to certification documents.

Each shipment to a project should be inspected for damage, loss or contamination, and sufficiency to demonstrate required application rate. Bags shall arrive onsite from seed conditioner in sealed/unopened bags.

APPROVED SOURCES

Seed mixture from seed conditioners approved by the Iowa Crop Improvement Association may be furnished to Iowa DOT projects on a certification basis.

Seed conditioners approved by other state's Crop Improvement Associations may furnish seed mixtures on a certification basis.

Seed shall be mixed by an approved seed conditioner as described in this IM, but the seed is not required to come from an approved seed conditioner.

CERTIFICATION DOCUMENTS

Certified seed conditioner shall furnish with each shipment a certified seed mixture report and certification sheet (see Appendix A). Each mixture report shall identify the county, project number, contractor or subcontractor, type of seed mixture. Blank forms are available at the Office of Materials website.

Each certification sheet shall be signed by a designated responsible company representative. One copy of the above described documents shall be forwarded to the project engineer at the time of shipment to the project. In addition, one copy shall be sent to the District Materials Engineer in the district in which the project is being administered.

Certified seed mixture reports and seed lot test information for seeds furnished to Department projects shall be kept by the approved seed conditioner for a minimum of three years.

APPROVED SOURCE MONITORING

The District Materials Engineer shall be responsible for establishing and performing a supplier monitoring program at least once per year.

The following items shall be evaluated during a monitor inspection and documented on a Seed Monitor Report form (see Appendix B):

- Project number/customer
- Certification date and certifying scale company of all mixing scales
- Intended seed mixture
- Verification of seed varieties, germination percentage, purity percentage, PLS percentage, date tested, and lot number
- Verification of weighed seed increments and bags
- Labeling and certification/documentation

Seed Mixture Report – Native Grass and Wetland Grass

Project No.: _____ Date: _____
 County: _____ Seed Mix Type: _____
 Contractor: _____ # of Acres: _____
 Lot #: _____

Species (Scientific name)	Origin	Lot #	Test Date	Purity (%)	Germination (%)	PLS %	PLS Factor

Species (Scientific name)	# PLS/Acre	# of Acre	Total # PLS	PLS Factor	Total Bulk Lbs.

Total: _____

Lbs/Bag: _____ Acres/Bag: _____ # of Bags: _____

Seed Mixture Report – Urban and Rural

Project No.: _____ Date: _____
 County: _____ Seed Mix Type: _____
 Contractor: _____ # of Acres: _____
 Lot #: _____

Species (Scientific name)	Origin	Lot #	Test Date	Purity (%)	Germination (%)

Species (Scientific name)	Lbs. /Acre	# of Acre	Total Bulk Lbs.
		Total:	

Lbs/Bag: _____ Acres/Bag: _____ # of Bags: _____

Certification Statement

The materials itemized in this shipment are certified to be in compliance with the applicable requirements of the Iowa Department of Transportation.

Project No.	
County	
Seed Mixture Type	
# of Acres	
Total Bulk Lbs. of Mixture	
Lbs./Bag	
Acres/Bag	
Lot No.	
# of Bags	
Contractor	
Date	

Company: _____

Name: _____

Signature: _____

Date: _____

List state(s) where company is an approved seed conditioner:
