1 BALDWIN STREET,
MONTPELIER, VT 05633-5701

PHONE: (802) 828-2295
FAX: (802) 828-2483

STATE OF VERMONT
JOINT FISCAL OFFICE

MEMORANDUM

To: Joint Fiscal Committee members

From: Sorsha Anderson, Senior Staff Associate

Date: January 27, 2025

Subject: Grant Request – JFO #3241

Enclosed please find one (1) item, which the Joint Fiscal Office has received from the Administration. ***This item is being held for the Joint Fiscal Committee meeting scheduled for January 31, 2025.***

JFO #3241: $630,005.00 to the Vermont Agency of Transportation, Department of Finance and Administration from the U.S. Department of the Interior. Funds will partially fund an updated Lidar map of 9,649 square miles of Vermont (the entire State). Some portions of the current map are more than 8 years out of date. Grant is matched with a one-time appropriation of $1,734,000.00 from the General Fund to the Agency of Digital Services from the FY2023 Budget Adjustment Act. The Agency of Transportation is acting as the fiscal agent for the funds and they will be transferred to the Agency of Digital Services. *[Received 1/24/2025]*

Please review the enclosed materials and notify the Joint Fiscal Office (Sorsha Anderson, sanderson@leg.state.vt.us) if you have questions before the meeting.

VERMONT

State of Vermont
Department of Finance & Management
109 State Street, Pavilion Building
Montpelier, VT 05620-0401

Agency of Administration

[phone] 802-828-2376

STATE OF VERMONT
FINANCE & MANAGEMENT GRANT REVIEW FORM

Grant Summary:	To partially fund an ADS-VCGI project to collect 9,649 square miles of Quality Level 1 (QL1) lidar data in a single season for the entire State of Vermont. Prior to this project, large portions of Vermont's QL2 lidar dataset were out of date (>=8 years) and stakeholders expressed a desire to obtain more recent elevation data at a higher resolution. Vermont has a history of engaging with partners to acquire lidar data and this project leverages the relationships built from past experiences. The resulting QL1 lidar products are made publicly available through The National Map, USGS/Entwine, and the Vermont Open Geodata Portal as stream-able services, direct downloads, in interactive map viewers, and in customized web mapping applications where they can serve an abundance of end user needs. The Agency of Transportation is acting as the fiscal agent for this grant and will transfer federal dollars once received to ADS.
Date:	12/20/2024
Department:	AOT Fiance and Administration
Legal Title of Grant:	National Geospatial Program: Building The National Map
Federal Catalog #:	15.817
Grant/Donor Name and Address:	National Geospatial Program U.S. Department of the Interior 12201 Sunrise Valley Drive, MS 511 Reston, Virginia, 20192
Grant Period: From:	6/26/2024 **To:** 6/30/2025
Grant/Donation	$630,005

	SFY 1	SFY 2	SFY 3	Total	Comments
Grant Amount:	$0	$0	$630,005	$630,005	FY25

	# Positions	Explanation/Comments
Position Information:	0	

Additional Comments:	

STATE OF VERMONT
FINANCE & MANAGEMENT GRANT REVIEW FORM

Department of Finance & Management	Adam Greshin Digitally signed by Adam Greshin Date: 2024.12.23 DocuSigned by:	(Initial)
Secretary of Administration	Sarah Clark 04AB832CD55C438...	(Initial)
Sent To Joint Fiscal Office	Anna Reinold APPROVED By Anna Reinold at 3:53 pm, Jan 24, 2025	**Date**

Jason Aronowitz Digitally signed by Jason Aronowitz Date: 2024.12.20 18:43:14 -05'00'

VERMONT

State of Vermont
Office of the Secretary
219 North Main Street
Barre, VT 05641
vtrans.vermont.gov

Agency of Transportation

[phone] 802-476-2690
[fax] 802-479-2210
[ttd] 800-253-0191

TO: **Joe Flynn, Secretary, Transportation**
Jayna Morse, Director of Finance & Administration, Transportation

FROM: **Candace Elmquist, Chief Financial Officer, Transportation**

DocuSigned by:
Candace Elmquist
A47F79FA84B14F6...

DATE: **September 24, 2024**

SUBJECT: **Request for Federal Grant Acceptance to Support the Vermont 2023 Statewide QL1 Program**

I am pleased to report that the Agency of Transportation has received a federal grant to support the Vermont 2023 Statewide QL1 program from the U.S. Department of the Interior. This program is administered by the Vermont Center for Geographic Information within the Agency of Digital Services; the Agency of Transportation is acting as the fiscal agent for federal funds to support this program and will transfer funds received to ADS. The federal award totals $630,005 with a period of performance from 6/26/2023 to 6/30/2025.

The purpose of this federal grant award is to acquire Quality Level 1 (QL1) inland topographic Lidar data for 9,649 square miles comprising the entire state of Vermont. The federal award is matched with $1,734,000 of General Funds, appropriated to ADS from the FY2023 Budget Adjustment Act.

ADS has spent $728,547.75 of state funds from their General Funds appropriation in support of this project through August 2024 and intends to finish the project within FY2025.

Please find enclosed a Grant Acceptance Request (AA-1) for your review and approval.

STATE OF VERMONT REQUEST FOR GRANT (*) ACCEPTANCE (Form AA-1)

BASIC GRANT INFORMATION	
1. Agency:	Agency of Transportation
2. Department:	Finance & Administration
3. Program:	Vermont 2023 Statewide QL1
4. Legal Title of Grant:	National Geospatial Program: Building The National Map
5. Federal Catalog #:	15.817

6. Grant/Donor Name and Address:

National Geospatial Program
U.S. Department of the Interior
12201 Sunrise Valley Drive, MS 511
Reston, Virginia, 20192

7. Grant Period:	**From:**	6/26/2023	**To:**	6/30/2025

8. Purpose of Grant:

This grant will partially fund an ADS-VCGI project to collect 9,649 square miles of Quality Level 1 (QL1) lidar data in a single season for the entire State of Vermont. Prior to this project, large portions of Vermont's QL2 lidar dataset were out of date (>=8 years) and stakeholders expressed a desire to obtain more recent elevation data at a higher resolution. Vermont has a history of engaging with partners to acquire lidar data and this project leverages the relationships built from past experiences. The resulting QL1 lidar products are made publicly available through The National Map, USGS/Entwine, and the Vermont Open Geodata Portal as stream-able services, direct downloads, in interactive map viewers, and in customized web mapping applications where they can serve an abundance of end user needs.

The Agency of Transportation is acting as the fiscal agent for this grant and will transfer federal dollars once received to ADS.

9. Impact on existing program if grant is not Accepted:

Project expenses are being incurred by ADS and the total cost of the project is $2,364,005. ADS has a one-time General Fund appropriation for the state match portion of this project from 2023 Act 3 Sec. 45. If the federal dollars are not accepted, ADS would be responsible for finding an equivalent amount in state funds to support this project.

10. BUDGET INFORMATION

	SFY 1	**SFY 2**	**SFY 3**	**Comments**
Expenditures:	**FY** 2023	**FY** 2024	**FY** 2025	
Personal Services	$0	$0	$2,364,005	contract with Sanborn
Operating Expenses	$	$	$	
Grants	$	$	$	
Total	$	$	$	
Revenues:				
State Funds:	$0	$0	$1,734,000	
Cash	$	$	$	
In-Kind	$	$	$	
Federal Funds:	$0	$0	$630,005	

STATE OF VERMONT REQUEST FOR GRANT (*) ACCEPTANCE (Form AA-1)

(Direct Costs)	$0	$0	$2,364,005	
(Statewide Indirect)	$	$	$	
(Departmental Indirect)	$	$	$	
Other Funds:	$	$	$	
Grant (source)	$	$	$	
Total	$0	$0	$2,364,005	

Appropriation No:	8100000100	**Amount:**	$630,005
	*request that this amount be added as 21500 (IDT) spending authority in FY2025 to allow transfer to ADS		$
			$
			$
			$
			$
			$
		Total	$630,005

PERSONAL SERVICE INFORMATION

11. Will monies from this grant be used to fund one or more Personal Service Contracts? ☐ Yes ☒ No
If "Yes", appointing authority must initial here to indicate intent to follow current competitive bidding process/policy.

Appointing Authority Name: Agreed by: _____ (initial)

12. Limited Service Position Information:	**# Positions**	**Title**
Total Positions		

12a. Equipment and space for these positions: ☐ Is presently available. ☐ Can be obtained with available funds.

13. AUTHORIZATION AGENCY/DEPARTMENT

I/we certify that no funds beyond basic application preparation and filing costs have been expended or committed in anticipation of Joint Fiscal Committee approval of this grant, unless previous notification was made on Form AA-1PN (if applicable):

Signature: DocuSigned by: Jayna Morse A3DCADA2524F439... Date: 9/26/2024

Title: Division Director

Signature: DocuSigned by: Joe Flynn EBBFF896AB5C4E8... Date: 9/26/2024

Title: Secretary

14. SECRETARY OF ADMINISTRATION

DS SC ☐ Approved:

(Secretary or designee signature) DocuSigned by: Sarah Clark 04AB832CD55C438...

Date: 1/6/2025 | 11:01:

15. ACTION BY GOVERNOR

STATE OF VERMONT REQUEST FOR GRANT (*) ACCEPTANCE (Form AA-1)

☒	Check One Box: Accepted		
☐	Rejected	(Governor's signature)	Date: 1/24/25

16. DOCUMENTATION REQUIRED

Required GRANT Documentation

☒ Request Memo	☐ Notice of Donation (if any)
☐ Dept. project approval (if applicable)	☐ Grant (Project) Timeline (if applicable)
☒ Notice of Award	☐ Request for Extension (if applicable)
☒ Grant Agreement	☐ Form AA-1PN attached (if applicable)
☒ Grant Budget	

End Form AA-1

(*) The term "grant" refers to any grant, gift, loan, or any sum of money or thing of value to be accepted by any agency, department, commission, board, or other part of state government (see 32 V.S.A. §5).

NOTICE OF AWARD

1. DATE ISSUED *MM/DD/YYYY* 06/26/2023

1a. SUPERSEDES AWARD NOTICE dated except that any additions or restrictions previously imposed remain in effect unless specifically rescinded

2. CFDA NO. 15.817 - National Geospatial Program: Building The National Map

3. ASSISTANCE TYPE Cooperative Agreement

4. GRANT NO. G23AC00363-00
Originating MCA #

5. TYPE OF AWARD Other

4a. FAIN G23AC00363

5a. ACTION TYPE New

6. PROJECT PERIOD *MM/DD/YYYY* **From** 06/26/2023 **Through** *MM/DD/YYYY* 06/30/2025

7. BUDGET PERIOD *MM/DD/YYYY* **From** 06/26/2023 **Through** *MM/DD/YYYY* 06/30/2025

AUTHORIZATION (Legislation/Regulations)

Organic Act of 1879, 43 U.S.C. 31, 43 U.S.C. 36c, 43 U.S.C. 36d, Department of the Interior and Related Agencies Appropriations Act of

8. TITLE OF PROJECT (OR PROGRAM)

Vermont 2023 Statewide QL1

9a. GRANTEE NAME AND ADDRESS

Transportation, Vermont Agency of
219 N Main St STE 402
Barre, VT, 05641-4129

9b. GRANTEE PROJECT DIRECTOR

Mr. Steve Fugate
217 N. Main St
Barre, VT, 05641-0126
Phone: 802-793-6802

10a. GRANTEE AUTHORIZING OFFICIAL

Mr. Bradley Kukenberger
1 National Life Dr
Montpelier, VT, 05602-3377
Phone: 802-793-8462

10b. FEDERAL PROJECT OFFICER

Tania Cerda
National Center 12201 Sunrise Valley Drive
Reston, VA, 20192
Phone: 703-648-7484

ALL AMOUNTS ARE SHOWN IN USD

11. APPROVED BUDGET (Excludes Direct Assistance)

I Financial Assistance from the Federal Awarding Agency Only

II Total project costs including grant funds and all other financial participation — II

a. Salaries and Wages	$	0.00
b. Fringe Benefits	$	0.00
c. Total Personnel Costs	$	0.00
d. Equipment	$	0.00
e. Supplies	$	0.00
f. Travel	$	0.00
g. Construction	$	0.00
h. Other	$	0.00
i. Contractual	$	2,364,005.00
j. TOTAL DIRECT COSTS	$	2,364,005.00
k. INDIRECT COSTS	$	0.00
l. **TOTAL APPROVED BUDGET**	$	2,364,005.00
m. Federal Share	$	630,005.00
n. Non-Federal Share	$	1,734,000.00

12. AWARD COMPUTATION

a. Amount of Federal Financial Assistance (from item 11m)	$	630,005.00
b. Less Unobligated Balance From Prior Budget Periods	$	0.00
c. Less Cumulative Prior Award(s) This Budget Period	$	0.00
d. **AMOUNT OF FINANCIAL ASSISTANCE THIS ACTION**	$	630,005.00
13. Total Federal Funds Awarded to Date for Project Period	$	630,005.00

14. RECOMMENDED FUTURE SUPPORT
(Subject to the availability of funds and satisfactory progress of the project):

YEAR	TOTAL DIRECT COSTS	YEAR	TOTAL DIRECT COSTS
a. 2	$	d. 5	$
b. 3	$	e. 6	$
c. 4	$	f. 7	$

15. PROGRAM INCOME SHALL BE USED IN ACCORD WITH ONE OF THE FOLLOWING ALTERNATIVES:

a. DEDUCTION
b. ADDITIONAL COSTS
c. MATCHING
d. OTHER RESEARCH (Add / Deduct Option)
e. OTHER *(See REMARKS)*

b

16. THIS AWARD IS BASED ON AN APPLICATION SUBMITTED TO, AND AS APPROVED BY, THE FEDERAL AWARDING AGENCY ON THE ABOVE TITLED PROJECT AND IS SUBJECT TO THE TERMS AND CONDITIONS INCORPORATED EITHER DIRECTLY OR BY REFERENCE IN THE FOLLOWING:

a. The grant program legislation
b. The grant program regulations.
c. This award notice including terms and conditions, if any, noted below under REMARKS.
d. Federal administrative requirements, cost principles and audit requirements applicable to this grant.

In the event there are conflicting or otherwise inconsistent policies applicable to the grant, the above order of precedence shall prevail. Acceptance of the grant terms and conditions is acknowledged by the grantee when funds are drawn or otherwise obtained from the grant payment system.

REMARKS (Other Terms and Conditions Attached - ● Yes ○ No)

See next page

GRANTS MANAGEMENT OFFICIAL:

Sherri Bredesen, Chief, National Grants Branch
National Center 12201 Sunrise Valley Drive
205
Reston, VA, 20192
Phone: 703-648-7485

17. VENDOR CODE 0070063546 **18a. UEI** K5ZLF422BS36 **18b. DUNS** 809376296 **19. CONG. DIST.** 00

LINE#	FINANCIAL ACCT	AMT OF FIN ASST	START DATE	END DATE	TAS ACCT	PO LINE DESCRIPTION
1	0051033703-00010	$3,002.50	06/26/2023	06/30/2025	0804	VT 3DEP Coop Agreement NGP funds
2	0051033703-00020	$312,000.00	06/26/2023	06/30/2025	0804	IRA Funds 3DEP VT Coop Agreement
3	0051033703-00030	$315,002.50	06/26/2023	06/30/2025	0804	NRCS funds 3DEP VT Coop Agreement

REMARKS:

G23AC00363, App. G-CSS-2023-000844, PR# 0020283701

USGS Project Officer:
David S. Nail
National Map Liaison for MO, IL, IN, KY
US Geological Survey
1400 Independence Road
Rolla, MO 65401
MS 912
Office: 573-308-3638
Mobile: 317-601-1385
Email: dnail@usgs.gov

Principal Investigator:
Steve Fugate
217 N. Main St
Barre, VT 05641-0126
Phone Number: 413-545-4888
Email: steve.fugate@vermont.gov

Authorized Representative
Bradley Kukenberger
Vermont Agency of Transportation
Barre City Place
219 North Main Street
Barre, VT 05641
Phone: (802) 793-8462
Email: bradley.kukenberger@vermont.gov

Issuing Office:
U.S. Geological Survey
Office of Acquisition and Grants
12201 Sunrise Valley Drive, MS 205
Reston, VA 20192
Tania Cerda
Phone: 703-648-7484
E-mail: tcerda@usgs.gov

Project Period: Jun 26, 2023, through June 30, 2025

AWARD ATTACHMENTS

Transportation, Vermont Agency of G23AC00363-00

1. BAA TERMS & CONDITIONS

COOPERATIVE AGREEMENT NUMBER G23AC00363 BETWEEN

THE UNITED STATES GEOLOGICAL SURVEY

AND

THE STATE OF VERMONT
VERMONT AGENCY OF TRANSPORTATION

OFFER AND ACCEPTANCE:

The United States of America, acting by and through the USGS, hereby offers a Cooperative Agreement to the State of Vermont, Vermont Agency of Transportation for all approved costs up to and not exceeding $630,005.00 (See B.1) for support described herein. Acceptance of a Federal Financial Assistance award from the Department of the Interior (DOI) carries with it the responsibility to be aware of and comply with the terms and conditions of award. Acceptance is defined as the start of work, drawing down funds, or accepting the award by signature or electronic means. Awards are based on the application submitted to and approved by DOI and are subject to the terms and conditions incorporated either directly or by reference below.

SECTION A – PROJECT DESCRIPTION

A.1 Project Description

This cooperative agreement will provide support for the project titled: Vermont 2023 Statewide QL1.

The State of Vermont, Vermont Agency of Transportation is proposing a collaborative project to acquire QL1 inland topographic Lidar for 9,649 square miles comprising the entire state of Vermont. Vermont successfully participated in 3DEP from 2013 - 2017 and completed statewide QL2 lidar in 2017, which has been a tremendous asset to a growing number of users. Currently, Vermont's data is an average of 8 years old and large portions of the dataset are out of date. Led by the Vermont Center for Geographic Information (VCGI) and the Agency of Transportation, Vermont will build on the success of past partnerships to meet the growing need for more recent elevation data at a higher spatial resolution. Unlike previous efforts, the 2023 lidar acquisition will collect lLdar for the entire state in a single year. Doing so will reduce costs through the economies of scale and reduce the amount of administrative overhead needed to manage the high number of deliverables that are associated with multi-year efforts.

The objective of this project is to acquire QL1 inland topographic Lidar for 9,649 square miles comprising the entire state of Vermont.

A.2 USGS Involvement

Substantial involvement is anticipated through the terms of this Agreement between the USGS and the Recipient. A summary of the involvement is as follows:

The USGS will be substantially involved with the Principal Investigator(s) (PI) and other institution staff throughout the course of the project. It is expected that there will be frequent contact between the USGS Project Officer identified in the cooperative agreement and the PI to discuss project progress and issues. If required by USGS policy, the USGS will initiate and manage the DOI tribal notification and consultation process on behalf of the USGS and the State of Vermont, Vermont Agency of Transportation. Additional USGS 3DEP staff will be involved in collaborative discussions regarding data specifications and validation, cost estimates, monitoring BAA reporting and data delivery schedules. USGS will perform data validation, data processing into national databases, data dissemination and archive of the final product. Teleconferences will be held on a quarterly basis to discuss and review project status. Monthly Progress Reports as well as a final report at the end of the project are required.

SECTION B – FUNDING AND AWARD PERIODS

B.1 Funding

a) The total estimated cost of the USGS share for the performance of this Agreement is $630,005.00 inclusive of any renewal years.

b) The amount of federal funds obligated under this Agreement, presently the sum of $630,005.00, shall be available for payment of costs incurred by the Recipient in performance of this Agreement from June 26, 2023, through June 30, 2025. In no event shall costs be incurred in performance of this Agreement in excess of the funds currently obligated.

B.2 Award Periods

The initial budget period is from June 26, 2023, through June 30, 2025. The total project period is from June 26, 2023, through June 30, 2025.

B.3 Pre-Agreement Costs

The Recipient is not authorized to incur costs prior to the award of this Agreement. Costs incurred prior to the award of this agreement are not allowable.

SECTION C - DELIVERABLES

C.1 Progress Reports

a) The Recipient shall submit a monthly Progress Report via email to the USGS Project Officer and the USGS Contracting Officer on the first day of each month following the award date. The Recipient must submit annual progress reports electronically through GrantSolutions (*https://www.home.grantsolutions.gov/home)* or via e-mail to the USGS Program Officer and one copy of the transmittal letter to the USGS Grants Management Official. Unless otherwise specified in this Agreement, annual progress reports should be submitted at least sixty (60) days prior to the end of the current budget period to allow adequate time for the designated office to review the report. In the case of multi-year Agreements, failure to submit timely reports may delay processing of funding increments.

b) The monthly and annual progress reports shall include the following information:

(i) Scheduled and actual
  (i) Date the data acquisition contract is in place
  (ii) Date the acquisition begins
  (iii) Date the Lidar acquisition is completed
  (iv) Date(s) the data is delivered from the acquisition contractor to the organization
  (v) Expected delivery date to the USGS of pilot project area data
  (vi) Expected delivery date(s) to the USGS of full project area data

(ii) A comparison of actual accomplishments to the objectives of the Agreement established for the budget period and overall progress in response to the performance metrics.

(iii) The reasons why established goals were not met, if appropriate.

(iv) Additional pertinent information including, when appropriate, analysis and explanation of cost overruns or high unit costs.

(v) An outline of anticipated activities and adjustments to the program during the next budget period.

c) Between the required reporting dates, events may occur which have significant impact upon the project or program. In such cases, the Recipient shall inform the USGS as soon as the following types of conditions become known:

(i) Problems, delays, or adverse conditions which will materially impair the ability to meet the objective of the Agreement. This disclosure must include a statement of the action taken, or contemplated, and any assistance needed to resolve the situation.

(ii) Favorable developments which enable meeting time schedules and objectives sooner or at less cost than anticipated or producing more or different beneficial results than originally planned.

C.2 Final Technical Report

a) The Recipient must submit the final technical report electronically through GrantSolutions (*https://www.home.grantsolutions.gov/home)* or via e-mail to the USGS Program Officer. The final performance report will be due 120 calendar days after the period of performance end date.

b) The final technical report shall document and summarize the results of Recipient's work. The report shall include a quantitative description of activities and overall progress in response to the performance metrics which documents and summarizes the results of the entire Agreement. The final report shall include tables, graphs, diagrams, sketches, etc., as required to explain the results achieved under the Agreement. The report shall also include recommendations and conclusions based upon both the experience and the results obtained.

C.3 Data Delivery (Pilot and Final)

1. Data Delivery Requirements and Specifications

    a. Data shall adhere to 3DEP Lidar Base Specification 2021 rev. A: https://www.usgs.gov/core-science-systems/ngp/ss/lidar-base-specification-online In the event that a new version of the specification is released during the period of performance, opportunities to migrate to the revised specification will be discussed between the parties. Decisions to migrate to a new specification will be documented and incorporated into the formal agreement.
    b. The recipient shall provide the USGS pertinent project documents such as the task order, statement of work, and project reports to enable a thorough and appropriate inspection of the data.
    c. The USGS has established data delivery guidelines. Recipients will be provided a copy of the current Data Delivery Requirements and Specifications and asked to adhere to the guidelines as they are able. The guidelines will be presented to and discussed with the Recipient during the project kick-off meeting with the USGS Project Officer. Technical consultation is available throughout the period of performance.

2. Data Delivery Timeframe and Address, Inspection Period

    a. The total project period is from 06/26/2023 through 06/30/2025. All data must be provided to the USGS at least 140 days in advance of the project period end date to allow for USGS inspection, therefore the date for final data delivery is 02/10/2025. The recipient may request an extension if there is a delay in the data acquisition or other issues associated with the processing of the data. Anticipated delays are to be noted in the monthly and annual reports.

b. Instructions and a delivery address for the data will be provided by the USGS project officer at the time of data delivery.
c. The USGS National Geospatial Technical Operations Center (NGTOC) will be used to ensure that the delivered data products meet the requirements of the *3DEP* Lidar Base Specification identified in section C.3.1.a and The National Map: 3D Elevation Program (3DEP) as set forth in section C.3.1: *Data Delivery Requirements and Specifications.* The inspection period for each data product delivery (initial and redelivery) will be up to 60 calendar days.

3. Pilot Project Area Delivery
   a. Option A: The recipient shall deliver pilot dataset for evaluation of the file format, which will consist of two adjacent tiles of raster data and the lidar point cloud data for one of these tiles. Since the format of these files, not the quality, will be evaluated by USGS Data Validation, they may be delivered any time after automated ground classification has been performed. The raster tiles shall be delivered at the resolution specified for the DEM – these tiles may be bare earth DEMs, first return DEMs, or other raster products.

      Where there are multiple CRS or QL deliverables, it is advisable, but not required, that the contractor deliver one LPC file and two adjacent rasters for each CRS and QL.

      Option B: The recipient shall deliver a Project Pilot consisting of classified point cloud data from an area of no less than 5 square miles, to include each of the primary land cover categories (NVA/VVA categories); and hydro-flattened bare earth DEMs and breaklines corresponding to this classified LAS data. The Pilot shall be submitted to the USGS as soon as possible during data processing, and prior to delivery of the full dataset. The USGS will complete a preliminary review of the data and note and discuss with the partner any potential data issues with regards to adherence to the USGS Base Lidar Specification. If the full project area is an area of diverse geography, it may be beneficial for the recipient to submit multiple pilot projects (such as marshland, heavily forested, open terrain) to assure that the entire dataset conforms with the Lidar Base Specification.

C.4 Annual Financial Reports

a) The Recipient must submit an annual SF 425, Federal Financial Report, for each individual USGS award. The SF 425 is available at *https://www.grants.gov/web/grants/forms/post-award-reporting-forms.html.* The annual SF 425 will be due within 90 days following the end of the first year (from date of award), and subsequent years if needed.

b) The SF 425 must be submitted electronically through GrantSolutions (*https://www.home.grantsolutions.gov/home)* or by e-mail to SF425@usgs.gov. Recipient must include the USGS award number in the subject line of all e-mail correspondence. If, after 90 days, Recipient has not submitted a report, the Recipient's account in ASAP will be placed in a manual review status until the report is submitted.

C.5 Final Financial Report

a) The Recipient will liquidate all obligations incurred under the award and submit a final SF 425, Federal Financial Report in accordance with C.4.b. no later than 120 calendar days after the Agreement completion date.

b) Recipient will promptly return any unexpended federal cash advances or will complete a final draw from ASAP to obtain any remaining amounts due. Once 120 days has passed since the Agreement completion date, USGS shall unilaterally deobligate federal funds as reflected in the Final SF 425.

c) Subsequent revision to the final SF 425 will be considered only as follows:

i. When the revision results in a balance due to the Government, the Recipient must submit a revised final SF 425, Federal Financial Report, and refund the excess payment whenever the overcharge is discovered, no matter how long the lapse of time since the original due date of the report.

ii. When the revision represents additional reimbursable costs claimed by the Recipient, a revised final SF 425 may be submitted to the USGS Grants Management Official with an explanation. If approved, the USGS will either request and pay a final invoice or reestablish the ASAP subaccount to permit the Recipient to make a revised final draw. Any revised final report representing additional reimbursable amounts must be submitted no later than 1 year from the due date of the original report, i.e., 15 months following the Agreement completion date. USGS will not accept any revised SF 425 covering additional expenditures after that date and will return any late request for additional payment to the Recipient.

C.6 Publications

a) Acknowledgment of Support

Recipient is responsible for assuring that an acknowledgment of USGS support:

1. is made in any publication (including World Wide Web pages) of any material based on or developed under this Agreement, in the following terms:

> This material is based upon work supported by the U.S. Geological Survey under Grant/Cooperative Agreement No. (*insert agreement number*).

2. is orally acknowledged during all news media interviews, including popular media such as radio, television and news magazines.

b) Disclaimer

Recipient is responsible for assuring that every publication of material (including World Wide Web pages) based on or developed under this Agreement, contains the following disclaimer:

> The views and conclusions contained in this document are those of the authors and should not be interpreted as representing the opinions or policies of the U.S. Geological Survey. Mention of trade names or commercial products does not constitute their endorsement by the U.S. Geological Survey.

c) USGS Logo

Use of the USGS logo (also known as "visual identity" or "identifier") constitutes the recipient's agreement to and acceptance of the following terms:

- The USGS identifier is trademarked and not in the public domain.
- Use of the trademarked USGS identifier is authorized by USGS for use only by recipients of USGS funding.
- Use is authorized on information products that result from research funded by the financial assistance award.
- Use the USGS identifier for any other purpose without written permission from USGS is prohibited; doing so constitutes trademark infringement.
- Recipient will adhere to the design requirements, which are as follows:
    - The USGS identifier must appear in black, white, or green (RGB 0, 111, 65; Pantone 348; CYMK 100, 0, 79, 27; HEX: 006F41) only.
    - The USGS identifier cannot be modified in any way except for proportional sizing.
    - The USGS identifier should appear at the same size as logos of other agencies, if any.
    - If used on a digital product, the USGS identifier should link to www.usgs.gov

d) Publication

Publication of the results of any project carried out under this assistance award is authorized in professional journals, trade magazines, or may be made by the USGS. Such manuscripts or publications submitted to journals or professional publications for publication shall be accompanied by the following notation:

> This manuscript is submitted for publication with the understanding that the United States Government is authorized to reproduce and distribute reprints for Governmental purposes.

e) Copies for USGS

Recipient is responsible for assuring that the USGS Project Office is provided a digital version, preferably as a MS Word DOCx file, of every accepted manuscript upon acceptance for publication by the journal.

f) Department of the Interior Requirements

Two copies of each publication produced under a Grant or Cooperative Agreement shall be sent to the Natural Resources Library with a transmittal that identifies the sender and the publication. The address of the library is:

U.S. Department of the Interior
Natural Resources Library
Division of Information and Library Services
Gifts and Exchange Section
18th and C Streets, NW
Washington, DC 20240

g) Publication of data over Federally recognized Tribes

Data acquired concerning federally recognized Tribal lands may not be published by the USGS if the Tribe objects in writing to public release of any products identified by the Tribe as sensitive protected information resulting from remotely sensed data acquisition over their lands. All other project area data outside of the Tribal lands boundaries will be published. USGS may use the restricted data internally and/or provide a copy of the restricted data to federal agencies for their internal use. All non-federal entities must receive written permission from the Tribe to receive a copy of the restricted data regardless of their status as a funding partner. Entities who receive a copy may not further distribute the restricted tribal data.

If USGS receives a FOIA request for the data, we would work with the Tribe to protect the data from release under the FOIA to the best of our ability under the law. However, after our FOIA Office reviews any such request and after appropriate coordination with the Tribe and consultations and discussions with the Office of the Solicitor, Division of Indian Affairs and Division of General Law, it may be determined that USGS has no legal basis to protect the information. Also, in the event that USGS were to deny such a FOIA request, USGS's decision could be overturned on appeal by the Department of the Interior's FOIA Appeals Office or by a federal court.

SECTION D – ASSISTANCE ADMINISTRATIVE DATA

D.1 Assistance Administration

This Agreement will be administered by the USGS Grants Management Official indicated on the award cover page. Written communications shall make reference to the Assistance Award number and shall be mailed (or emailed) to the Contracting Officer.

D.2 Payment

Payments under financial assistance awards must be made using the Department of the Treasury Automated Standard Application for Payments (ASAP) system (www.asap.gov).

a) The Recipient agrees that it has established or will establish an account with ASAP. USGS will initiate enrollment in ASAP. If the Recipient does not currently have an ASAP account, they must designate an individual (name, title, address, phone and e-mail) who will serve as the Point of Contact (POC).

b) With the award of each grant/cooperative agreement, a sub-account will be set up from which the Recipient can draw down funds. After Recipients complete enrollment in ASAP and link their banking information to the USGS ALC (14080001), it may take up to 10 days for sub-accounts to be activated and for funds to be authorized for drawdown in ASAP.

c) Inquiries regarding payment should be directed to ASAP at 855-868-0151.

d) Payments may be drawn in advance only as needed to meet immediate cash disbursement needs.

D.3 Revisions and Prior Approvals

Modifications to this Agreement shall generally be executed by mutual written consent of the parties, with the exception of certain purely administrative changes that may be executed unilaterally by the USGS. Recipients may make certain limited budgetary and programmatic changes without prior USGS approval as outlined in 2 CFR 200.308 and 200.407. Any proposed change which requires prior written approval of the USGS shall be submitted in writing to the address at D.1 at least thirty (30) days prior to the requested effective date of the proposed change. The USGS will respond to the change request within thirty (30) days of receipt.

a) Extensions. Recipients are specifically advised that requests for extension or other change to the budget or project period(s) require prior written approval. Such requests must be submitted as outlined above and be accompanied by a statement supporting the extension and a revised budget indicating the planned use of all unexpended funds during the proposed extension period.

b) Transfer of Funds. Recipients are specifically advised that prior written approval of the USGS Grants Management Official is not required for transfer of funds between direct cost categories when the cumulative amount of the transfer during the performance period does not exceed ten percent (10%) of the total USGS award. Prior written approval is required from the USGS Grants Management Official for transfers of funds in excess of the ten percent limitation.

c) Carry Forward of Funds. Recipients are specifically advised that prior written approval by the USGS Grants Management Official is required to carry forward unobligated balances to subsequent budget periods. It is expected that funds be expended during the budget period for which they are obligated. The request must include the amount of funds to be carried over, why the carry-over of funds is necessary, and for how long the funds should be carried over.

SECTION E - GENERAL PROVISIONS

E.1 Department of the Interior Standard Terms and Conditions

The Recipient shall be subject to the Department of the Interior Standard Terms and Conditions which are incorporated herein by reference and available on the Internet at: *https://www.doi.gov/grants/doi-standard-terms-and-conditions*

E.2 Additional Terms and Conditions

a) Research Integrity

1) USGS requires that all grant or cooperative agreement Recipient organizations adhere to the Federal Policy on Research Misconduct, Office of Science and Technology Policy, December 6, 2000, 65 Federal Register (FR) 76260. The Federal Policy on Research Misconduct outlines requirements for addressing allegations of research misconduct, including the investigation, adjudication, and appeal of allegations of research misconduct and the implementation of appropriate administrative actions.

2) The Recipient must promptly notify the USGS Project Office when research misconduct that warrants an investigation pursuant to the Federal Policy on Research Misconduct is alleged.

b) Data Availability

1) Applicability. The Department of the Interior is committed to basing its decisions on the best available science and providing the American people with enough information to thoughtfully and substantively evaluate the data, methodology, and analysis used by the Department to inform its decisions.

2) Use of Data. The regulations at 2 CFR 200.315 apply to data produced under a Federal award, including the provision that the Federal Government has the right to obtain,

reproduce, publish, or otherwise use the data produced under a Federal award as well as authorize others to receive, reproduce, publish, or otherwise use such data for Federal purposes.

3) Availability of Data. The recipient shall make the data produced under this award and any subaward(s) available to the Government for public release, consistent with applicable law, to allow meaningful third party evaluation and reproduction of the following:

    a. The scientific data relied upon;
    b. The analysis replied upon; and
    c. The methodology, including models, use to gather and analyze the data.

c) Conflict of Interest

1) Applicability.

    a. This section intends to ensure that non-Federal entities and their employees take appropriate steps to avoid conflicts of interest in their responsibilities under or with respect to Federal financial assistance agreements.
    b. In the procurement of supplies, equipment, construction, and services by recipients and by subrecipients, the conflict of interest provisions in 2 CFR 200.318 apply.

2) Requirements.

    a. Non-Federal entities must avoid prohibited conflicts of interest, including any significant financial interests that could cause a reasonable person to question the recipient's ability to provide impartial, technically sound, and objective performance under or with respect to a Federal financial assistance agreement.
    b. In addition to any other probations that may apply with respect to conflicts of interest, no key official of an actual or proposed recipient or subrecipient, who is substantially involved in the proposal or project, may have been a former Federal employee who, within the last one (1) year, participated personally and substantially in the evaluation, award, or administration of an award with respect to that recipient or subrecipient or in development of the requirement leading to the funding announcement.
    c. No actual or prospective recipient or subrecipient may solicit, obtain, or use non-public information regarding the evaluation, award, or administration of an award to that recipient or subrecipient or the development of a Federal financial assistance opportunity that may be of competitive interest to that recipient or subrecipient.

3) Notification.

a. Non-Federal entities, including applicants for financial assistance awards, must disclose in writing any conflict of interest to the DOI awarding agency or pass-through entity in accordance with 2 CFR 200.112, Conflicts of Interest.
b. Recipients must establish internal controls that include, at a minimum, procedures to identify, disclose, and mitigate or eliminate identified conflicts of interest. The recipient is responsible for notifying the USGS Grants Management Official in writing of any conflicts of interest that may arise during the life of the award, including those that have been reported by subrecipients.

4) Restrictions on Lobbying. Non-Federal entities are strictly prohibited from using funds under this grant or cooperative agreement for lobbying activities and must provide the required certifications and disclosures pursuant to 43 CFR Part 18 and 31 USC 1352.

5) Review Procedures. The USGS Grants Management Official will examine each conflict of interest disclosure on the basis of its particular facts and the nature of the proposed grant or cooperative agreement, and will determine whether a significant potential conflict exists and, if it does, develop and appropriate means for resolving it.

6) Enforcement. Failure to resolve conflicts of interest in a matter that satisfies the Government may be cause for termination of the award. Failure to make required disclosures may result in any of remedies described in 2 CFR 200.338, Remedies for Noncompliance, including suspension or debarment (see also 2 CFR Part 180).

d) Program Income

1) If the Recipient is an educational institution or nonprofit research organization, any other program income will be added to funds committed to the project by the Federal awarding agency and Recipient and be used to further eligible project or program objectives, as described in 2 CFR 200.307(e)(2).

2) For all other types of Recipients, any other program income will be deducted from total allowable costs to determine the net allowable costs before calculating the Government's share of reimbursable costs, as provided in 2 CFR 200.307(e)(1).

e) Government Furnished Equipment or Equipment Authorized for Purchase

Title to equipment acquired wholly or in part with Federal funds shall be vested in the Recipient unless otherwise specified in the award document. The Recipient shall retain control and maintain an inventory of such equipment as long as there is a need for such equipment to accomplish the purpose of the project, whether or not the project continues to be supported by Federal funds. When there is no longer a need for such equipment to accomplish the purpose of the project, the Recipient shall use the equipment in connection with other Federal awards the Recipient has received. Disposal of equipment shall be in accordance with 2 CFR 200.313.

No equipment is provided or authorized for purchase on this grant/cooperative agreement.

SECTION F – SPECIAL PROVISIONS

F.1 Tribal Consultation Provision:

The DOI Policy on Consultation with Indian Tribes and the DOI Policy on Consultation with Alaska Native Claims Settlement Act (ANCSA) Corporations requires that DOI Agencies provide federally-recognized Indian Tribes or ANCSA Corporations the opportunity to consult with the Agency before taking any action affecting tribal or ANCSA Corporation interests. USGS has determined that the acquisition and publication of airborne lidar over tribal lands requires tribal notification. BAA award recipients are subject to this policy.

USGS will initiate and manage the tribal notification and consultation process on behalf of award recipients shortly after award. USGS will identify any tribal/ANCSA lands within the project boundary and send a notification letter to those tribes. The BAA award recipients will receive a copy of the tribal notification letter. If the tribe objects to public release of the products resulting from the lidar acquisition over their lands, the data may not be published. All other project area data outside of the tribal land boundaries will be published. All non-federal entities must receive written permission from the Tribe to receive a copy of the restricted data regardless of their status as a funding partner. Entities who receive a copy may not further distribute the restricted tribal data.

Additional language for projects on surveyor access to tribal lands:

USGS requests that the data acquisition contract contain language regarding access to tribal lands by survey teams. The contract should state that the lidar vendor should avoid sending survey teams onto tribal lands if possible. If the teams need to collect data on tribal lands it should be limited to federal, state, county or Bureau of Indian Affairs (BIA) road right of ways. If a project requires additional points outside of these areas, the survey team will contact the tribe to determine their procedures for access to tribal lands.

F.2 Geospatial Requirements

Geospatial Data Act of 2018, Pub. L. 115-254, Subtitle F – Geospatial Data, §§ 751- 759C, codified at 43 U.S.C. §§ 2801– 2811 - Federal recipient collection of geospatial data through the use of the Department of the Interior financial assistance funds requires a due diligence search at the GeoPlatform.gov list of datasets to discover whether the needed geospatial related data, products, or services already exist. If the required data set already exists, the recipient must use it. If the required data is not already available, the recipient must produce the proposed geospatial data, products, or services in compliance with applicable proposed guidance and standards established by the Federal Geospatial Data Committee (FGDC) posted at www.fgdc.gov. Recipients must submit a digital copy of all GIS data produced or collected as

part of the award funds to the bureau or office via email or data transfer. All GIS data files shall be in open format. All delineated GIS data (points, lines or polygons) should be established in compliance with the approved open data standards with complete feature level metadata.

2 CFR 1402.315 Availability of Data

(a) All data, methodology, factual inputs, models, analyses, technical information, reports, conclusions, valuation products or other scientific assessments in any medium or form, including textual, numerical, graphic, cartographic, narrative, or audiovisual, resulting from a financial assistance agreement is available for use by the Department of the Interior, including being available in a manner that is sufficient for independent verification.

(b) The Federal Government has the right to:

(1) Obtain, reproduce, publish, or otherwise use the data, methodology, factual inputs, models, analyses, technical information, reports, conclusions, or other scientific assessments, produced under a Federal award; and

(2) Authorize others to receive, reproduce, publish, or otherwise use such data, methodology, factual inputs, models, analyses, technical information, reports, conclusions, or other scientific assessments, for Federal purposes, including to allow for meaningful third-party evaluation.

SECTION G – DOCUMENTS INCORPORATED BY REFERENCE AND ORDER OF PRECEDENCE

G.1 Documents Incorporated By Reference

The following documents are hereby incorporated into this Agreement by reference:

1) The Recipient's proposal, Vermont 2023 Statewide QL1, dated November 14, 2022.
2) The Recipient's application for financial assistance (SF424, SF424A, SF424B), dated November 15, 2022.

G.2 Order of Precedence

In the event of any inconsistency within this Agreement, the following order of precedence shall be followed:

1) The cover page.
2) Sections A through F of this Agreement.
3) Documents incorporated by reference (see G.1) in the order in which they are incorporated.

– END OF ASSISTANCE AWARD DOCUMENT –

US Geological Survey
Broad Agency Announcement for 3D Elevation Program (3DEP)
DOIGFBO230001/ G23AS00052
Attachment A

Proposal Submission for the Acquisition of Lidar Data

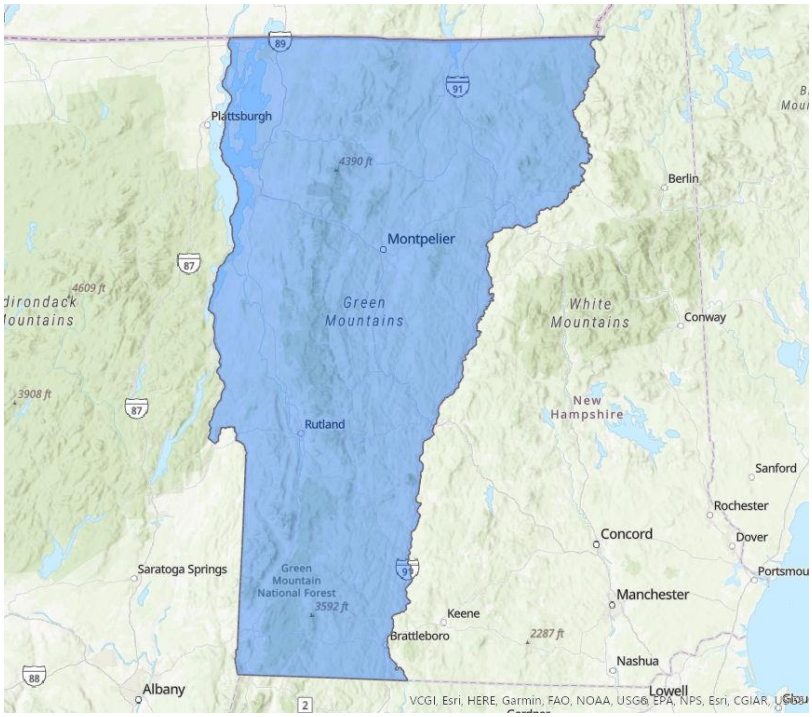
Instructions: Enter text or value. Press TAB to register the entry in other parts of the submission tool.

Organization:	State of Vermont	Date:	11/14/2022
Organization DUNS Number:	80-937-6296	Small Business:	☐ Yes ☒ No
POC First Name:	Steve	Last Name:	Fugate
Title:	Vermont Lidar Program Manager		
Street Address:	One National Life Drive Dewey Building 2nd Floor		
City:	Montpelier	State: VT	Zip Code: 05620
Email Address:	steve.fugate@vermont.gov	Phone:	(802)793-6802
Additional Details or Clarifications:	This application is a multi-agency proposal being submitted under the Vermont Agency of Transportation's Unique Entity Identifier.		

Project Title: *300 characters maximum*	Vermont 2023 Statewide QL1
Project Summary: *3000 characters maximum*	Please provide a summary of your project. Summary should include purpose and justification of proposed acquisition and relationship of project to existing, in-work, or planned acquisitions. The State of Vermont is proposing a collaborative project to acquire QL1 inland topographic lidar for 9,649 square miles comprising the entire state of Vermont. Vermont successfully participarted in 3DEP from 2013 - 2017 and completed statewide QL2 lidar in 2017, which has been a tremendous asset to a growing number of users. Currently, Vermont's data is an average of 8 years old and large portions of the dataset are out of date. Led by the Vermont Center for Geographic Information (VCGI) and the Agency of Transportation, Vermont will build on the success of past partnerships to meet the growing need for more recent elevation data at a higher spatial resolution. Unlike previous efforts, the 2023 lidar acquisition will collect lidar for the entire state in a single year. Doing so will reduce costs through the economies of scale and reduce the amount of administrative overhead needed to manage the high number of deliverables that are associated with multi-year efforts. The new and improved elevation data will support activities across all sectors of Vermont's Strategic Plan and core functions throughout government -

	including public safety, environmental protection, water quality, watershed management, geology, transportation planning, forest and wildlife management, local planning, and floodplain management, and more. The Vermont Lidar Plan highlights some of the impactful work that is reliant upon the QL2 lidar data, provides a justification for a new state wide QL1 acquisition, and outlines the maintenance and distribution plan for the resulting products. All lidar related products will be added to the USGS 3DEP collection and will become part of the Vermont LiDAR Program's list of curated elevation assets where they will be made publicly available through the National Map and the Vermont Open Geodata Portal respetively as web services, direct downloads, interactive map viewers, and customized web mapping applications.
Project Synopsis: *1000 characters maximum*	The USGS releases a list of projects receiving funds from the 3DEP. Please provide a short synopsis of your project suitable for publication should your project be selected for award. VCGI proposes a collaborative project to collect 9,649 squrare miles of QL1 lidar data in a single season for the entire State of Vermont. Presently, large portions of Vermont's QL2 lidar dataset are out of date (>=8 years) and stakeholders have expressed a desire to obtain more recent elevation data at a higher resolution. Vermont has a history of engaging with partners to acquire lidar data and this project will leverage the relationships built from past experiences. The resulting QL1 lidar products will be made publically avilable through The National Map, USGS/Entwine, and the Vermont Open Geodata Portal as streamable services, direct downloads, in interactive map viewers, and in customized web mapping applications where they can serve an abundance of end user needs.
Acknowledgement required; please read and check box	☒ The applicant agrees to the release of this project summary should this proposal be selected for award.
Lidar Case Studies: *Acknowledgement required; please read and check Yes or No*	The USGS is interested in how award recipients utilize lidar data to support their mission or business objectives. If selected for award, do you give permission for the USGS to contact you following project completion to ask questions about the utilization of the lidar data. ☒ Yes ☐ No

Project Map:	Insert a jpeg or other picture by clicking on the center of the image box below or by using copy (CTRL-C)/paste (CTRL-V).



GEOGRAPHIC EXTENT OF PROJECT

Project GIS File:	A vector GIS file defining the location and coverage area of your project is required for proposal submission. Your project area must be represented by a polygon in shapefile, geopackage, or KML/KMZ format. **The file name should use the following naming convention: ST_Geographic_Description** where: ST= State Abbreviation (ex. AL. or UT); AND Geographic Description (ex. Blue_Arrow_Middle_Counties or Eastern_Utah_6_Counties) *Note: Minimum shapefile components required are: .shp, .sbx, .dbf, .prj.*
3DEP Project Boundary Creation and Delivery Scheme:	The project shapefile, geopackage, or KML/KMZ file must be expanded to add a 100m buffer to comply with the Defined Project Boundary (DPA) of the 3DEP Lidar Base Specification (LBS). The final data will be delivered to the USGS and the partner in a spatial reference system and tiling scheme of the applicant's choice. The spatial reference system must be registered with EPSG. Refer to Attachment B for instructions.

Acknowledgement required; please read and check box	☒ A project vector GIS file with proper file name and format has been submitted as a part of the proposal submission package. The project has been expanded to the DPA and is in the spatial reference system of choice
State(s):	Vermont
Geographic Extent:	☐ County(ies) Please specify: _____ ☐ Watershed Please specify: _____ ☒ Other Please specify: Statewide
Square Miles:	9649 *Note: Please hit TAB after entering square miles to auto-populate "Square Miles" field in project finance tables.*
Additional Details or Clarifications:	Coordinate Reference System - NAD_1983_2011_StatePlane_Vermont_ FIPS_4400 WKID : 6589 Tiling Scheme: 1400m x 1400m grid

PROPOSED TIMELINE

Acquisition: *Select Only One Option*	☐ Spring 2022 ☐ Fall 2022 /Winter 2023 ☒ Other: Spring 2023
Additional Details or Clarifications:	The acquisition window can be extended into late Fall 2023 if conditions prevent successful statewide spring collection.

DATA SPECIFICATION

Data must adhere to the most current USGS Lidar Base Specification. In addition to the requirements outlined in the USGS Base Lidar Specification (https://www.usgs.gov/3dep/lidarspec), lidar data and derived products must meet the current definition of Quality Level 2 (QL2). Upgrades to QL1 are allowed but the cost of the upgrades is the responsibility of the applicant. If a new edition of the specification is released during the open period of the BAA, opportunities to migrate to the revised specification will be discussed and agreed upon at the time of award.

Project will be collected to: *Select Only One Option*	☐ QL2 ☒ QL1 ☐ QL1 / QL2 combination (Provide details and/or delineate QL1 and QL2 Areas on project graphic and in project GIS file) ☐ Other: _____
Additional Details or Clarifications:	

DATA DELIVERABLES

Standard 3DEP deliverables are defined in the current USGS Lidar Base Specification (https://www.usgs.gov/3dep/lidarspec)

Final Project Deliverables:	Standard period of performance for lidar acquisition projects is 18 to 24 months. Project deliverables are **required** at the end of the performance period.

Acknowledgement required; please read and check box	☒ The applicant agrees to provide all project deliverables to the USGS without use restrictions upon final acceptance of the project deliverables from lidar acquisition contractor.
Additional Collection Conditions and/or Products and Services: *Select if Additional Products are Required*	Additional capture conditions and/or products and services are available. The cost of variations from the LBS is the responsibility of the applicant
	☒ The applicant does not require any additional capture conditions or additional products or services
	☐ The applicant anticipates the need for additional capture conditions and/or additional products and services generated from the lidar data. It is recommended the applicant research technical requirements and costs of additional products and services in advance of submitting this application. **The cost of these additional requirements and products and services are the sole responsibility of the applicant and will be incorporated into partner funding agreement(s)**. For those applicants proposing to use the Geospatial Products and Services Contracts (GPSC), the following additional products may be available **(check all that apply below)**: Collection Conditions ☐ Coastal Tide Coordination ☐ Leaf-on ☐ USFS Guaranteed 50% sidelap ☐ Multiple Spatial Reference Systems Additional Products and Services ☐ Additions to the Minimum Lidar Classification Scheme (additional point cloud classifications) ☐ Additions to the Hydro Flattening Requirements for Inland Lakes and Ponds ☐ Additions to the Hydro Flattening Requirements for Inland Rivers and Streams ☐ First Return DSM (non-hydroflattened) ☐ Machine generated contours ☐ Machine generated building footprints ☐ Hillshades ☐ Other. Please specify: _____ Requests for additional products and services should be documented in Attachment C to assure consideration of these additional costs in the Independent Government Cost Estimate (IGCE) and recognition by all partners of the full project costs

APPROACH TO DATA ACQUISITION

Award Mechanism: *Select Only One Option*	☐ **USGS Geospatial Products and Services Contract (GPSC)** Applicant enters into agreement with the USGS GPSC to procure data. The USGS National Geospatial Program's preferred method of data acquisition is through the GPSC, a multiple award acquisition vehicle that is designed to utilize the team of firms on the contract for services needed to accomplish 3DEP data acquisition. ☒ **Financial Assistance - Cooperative Agreement (Government) or Cost-Share Contract (Non-Government)** Applicant manages data procurement *(Technical approach is **required** on page 8)*.

Go to section below

Go to page 7

Award Mechanism: ***USGS Geospatial Products and Services Contract (GPSC)***

Suggested Source (Optional if selected award mechanism is GPSC) *300 characters maximum*	(Optional) Please identify a suggested GPSC contractor if one has been identified for the project. If a suggested source is identified a rational must be provided below.
Rationale for Suggested Source (Only for GPSC): *3000 characters maximum*	Rationale for Suggested Source

Award Mechanism: ***Financial Assistance*** **-** *Cooperative Agreement (Government) or Cost-Share Contract (Non-Government**)***	
Technical Approach (Only for Cooperative Agreement or Cost-Share Contract): *5000 characters maximum*	Please provide a qualifications statement describing your proposed technical approach for acquiring and performing quality assurance of lidar data and derived products. Include information on your approach to selecting a vendor. If a vendor has already been selected, please provide a brief summary of the vendor's experience and past performance as related to the acquisition and processing of lidar data that meets the most current USGS Lidar Base Specification (https://www.usgs.gov/3dep/lidarspec). VCGI intends to contract with Sanborn, Inc. to collect and process the lidar data to meet the USGS 3DEP Lidar Base Specifications requirements for QL1 data. The following are understood to be the basic requirements for this project: 1) Acquisition and Post-processing: National Geospatial Program Lidar Base Specification 2022, Revision A at QL1 with an ANPS of ≤ 0.35 meters. 2) Spatial Accuracy: RMSEz ≤ 10 cm; NVA at the 95-percent confidence level ≤ 19.6 cm; VVA at the 95th percentile ≤ 30 cm.3) Hydro-flattening: National Geospatial Program Lidar Base Specification 2022, Revision A. 4) Classification Scheme: National Geospatial Program Lidar Base Specification 2022, Revision A. 5)Field Testing: Non-vegetated Vertical Accuracy (NVA) and Vegetated Vertical Accuracy (VVA) check points required Deliverables: 1. Classified Point Cloud 2. Bare Earth Surface (Raster DEM) 3. Breaklines 4. Intensity Images 5. Maximum Height Surface Rasters 6. Swath Separation Images 7. Swath Polygons 8. Ground Survey 9. Lidar Mapping Report 10. Metadata 11. Project Pilot Quality Control VCGI will work with Sanborn and the University of Vermont Spatial Analysis Lab to ensure a quality-review process for all data to adhere to product specifications, data formats, and data completeness for all deliverables. The following outlines the quality assurance and control procedures that will be considered:

	• Pre-Acquisition Review o Project boundaries o Flight plan o Sensor settings o Weather conditions o Survey plan o Base station location • Data Acquisition Review o Nominal pulse spacing o Intensity values o Data voids o Scan angle o Swath overlap o Sensor anomalies • Data Calibration Review o GPS-IMU accuracy review o Vertical accuracy o Relative accuracy • Surface Quality Review o Misclassification 2 o Noise o Artifacts o Surface consistency • Data Completeness and Formatting Review o Delivery layout o LAS format o Classification levels o GPS time o Horizontal datum o Vertical datum o Units o Coverage checks of deliverables o Deliverables o Breakline format o DEM format and resolution o Metadata Vendor Qualifications Sanborn has a demonstrable track record of success on large, complex aerial survey projects in the Northeast United States including Vermont, Delaware, Connecticut, New York, New Jersey and Maryland. The Sanborn team has

	extensive experience in the collection of both USGS Quality Level 1 and Quality Level 2 Lidar over the past several years. Sanborn's aircrews are highly familiar with the airspace systems in Vermont and know how to navigate safely and efficiently within its boundaries. They have the relationships needed to gain access to the sensitive and restricted areas. They know the terrain and local weather patterns, and how to structure mobilizations to take maximum advantage of the limited time window in which to collect lidar. Sanborn understands the challenges of performing airborne data acquisition in the State, most notably, the short seasonal window of opportunity between snow clear and leaf-off conditions, combined with the potential scarcity of weather conditions sufficient to allow collection of quality lidar. In 2022, Sanborn completed the largest leaf-off single year imagery acquisition in the the history of Vermont's imagery program, going back to 1968. Sanborn has provided Geospatial services to the USGS for over 25 years. In October of 2016, and again in 2021, Sanborn was awarded a Geospatial Products and Services Contracts (GPSC3 and GPSC4) from the U.S. Geological Survey (USGS) that allows the agency to negotiate task orders with Sanborn during a five-year term. Through these contracts, Sanborn has provided support to the nationwide 3DEP program, providing data compliant to current USGS Lidar Base Specification acquisition, processing and deliverable requirements. Sanborn executed the awarded task orders in New Jersey, Missouri Oklahoma, Arizona, Utah, Michigan, Nevada, New York, Virginia, California, and Colorado. Sanborn has active Quality Manage Systems that are integrated into the workflow to ensure that errors are identified and eliminated early in the production process, rather than later on. Sanborn's project management approach encompasses best practices of the Project Management Institute and uses automated software to assist with planning, monitoring, tracking, and reporting.

PROJECT FINANCES

The cost of lidar acquisition varies based on geographic extent, terrain, and vegetative cover. This cost includes data acquisition, data processing, vendor quality assurance/quality control (QA/QC) and additional products and services as appropriate. For applicants proposing to manage their own contract for data acquisition, the cost of any additional products and services should not be included in the 3DEP funding request. Applicants must include an ESTIMATED cost of their project by utilizing of one of the following options:

- a preliminary Independent Government Cost Estimate (IGCE) from the USGS Geospatial Products and Services Contracts (GPSC) Commercial Partnership Team (refer to Attachment C)
- an estimate received from a lidar acquisition vendor
- an estimate from another source together with an explanation of how the estimate was obtained

The estimate should include the costs for the entire project regardless of the QL requested. The USGS will complete an independent review during the evaluation period to determine if the proposed cost estimate reflect valid industry cost for the specific geographic area and reflect a good value to the government. **In addition to the acquisition cost, applicants utilizing the GPSC contracts will be subject to a 6% assessment on the value of their contribution. This assessment covers the cost of contract management. The final cost of the project will include the acquisition cost plus the assessment**. The proposed funding table below calculates the assessment automatically.

Estimated Cost over entire Project Area: *Select Only One Option*	☐ The applicant is using a preliminary Independent Government Cost Estimate (IGCE per Attachment C) received from the USGS Geospatial Products and Services (GPSC) Commercial Partnership Team to estimate 3DEP acquisition, processing and vendor QA/QC costs			
	☒ The applicant is using an estimate from a lidar acquisition vendor or an alternate QL2 figure to estimate project acquisition, processing and vendor QA/QC costs. Please provide explanation of how estimated cost was derived: Vermont went through a procurement process and selected Sanborn out of six qualified vendors. Sanborn is currently under contract with Vermont. The contract is currently being revised to specifically include 3DEP LBS related provisions and final pricing is estimated to be at or below $245/per square mile based on quotes.			
The applicant should select only one option. If the applicant has been provided with a total ESTIMATED cost, use Option 1; if the applicant has a cost per square mile, use Option 2.		Square miles	Cost per square mile	Total ESTIMATED Costs
Option 1: Provide Total Estimated Costs		9649	$ 0.00	$0.00
OR				
Option 2: Provide Cost Per Square Mile		9649	$245.00	$2,364,005.00

Hit TAB to complete input

Proposed Funding

Applicant shall enter the proposed funding partners, the amount each partner proposes to contribute to the project and the total funding available from partners. The applicant is also asked to provide the certainty of each partner's contribution. Each proposed funding partner must complete Attachment D: *Validation of Funding Partner*. The attachments shall be included as part of the submission package.

Award Mechanism:	Financial Assistance	**Total Estimated Project Cost** *(from previous page)*:	$2,364,005.00	

Funding Partner(s)

Name(s)	**Type** (Federal / Non-Federal)	**Proposed Total Contribution**	**If Contract Mechanism = GPSC, 6% Assessment**	**Amt to Lidar Data Acquisition, Processing, QA/QC**	**Certainty of Contribution** (Guaranteed, Pending)	**If funding is 'Pending'** (not yet guaranteed)**; note date** (MMM YYYY) **when funding decision will be final.**
State of Vermont Agency of Digital Services	Nonfederal	$1,734,000.00		$1,734,000.00	Pending	Feb 2023
	Nonfederal	$			Choose One	
	Choose One	$			Choose One	
	Choose One	$			Choose One	
	Choose One	$			Choose One	
	Choose One	$			Choose One	
Funding Partner Totals *(from above)*				$1,734,000.00	73%	% Cost Share for 3DEP Base Data
Funds Requested from 3DEP				$630,005.00	27%	% Cost Share for 3DEP Base Data
Total Combined BAA Contributions			Federal	$630,005.00	27%	% Cost Share for 3DEP Base Data
			Nonfederal	$1,734,000.00	73%	% Cost Share for 3DEP Base Data

Hit TAB to complete input

PAST PERFORMANCE

Past Performance (of primary applicant) *750 characters maximum*	Please provide a summary of the applicant's history of managing large data acquisitions with multiple funding partners The Vermont team routinely engages with stakeholders to collect and manage large remotely sensed datasets. This includes six cycles of USGS BAA 3DEP lidar acquisition grants from 2012-2017 with partners from FEMA, NRCS, U.S. Army Corps of Engineers, USFS, and Vermont state Agencies and many more. Staff also have over 20 years experience managing annual leaf-off imagery collections funded by a variety of state and regional partners. Vermont's imagery program began in 1968.

ADDITIONAL PROJECT DETAILS OR CLARIFICATIONS

(1500 characters maximum)

Vendor Selection Process
In 2020 and interagency group with seven representatives completed the procurement process for orthoimagery and lidar acquisition services. Contract evaluation included:

- Organizational experience and resources
- Capacity and ability to provide services
- Possession of required knowledge, skills, and abilities
- Technical approach and quality of proposed solutions
- Strength of proposed approach and understanding of responsibilities
- Reasonable cost and ROI

Out of six proposals, Vermont selected The Sanborn Map Company, Inc. (Sanborn) as the vendor. Vermont is currently in the process of amending the current contract to better reflect the exact needs of this project and to include specific 3DEP related provisions.

State Funding Source
The state funding source is proposed to come from a current fiscal year $138 million dollar general fund budget surplus. Utilization of these funds requires the legislature to approve the Governor's budget adjustment. The Vermont legislature has a long history of supporting agency needs through lidar acquisition and the budget adjustment act will be passed well before the spring leaf-off flight window. See Attachment D and attached Letter of Support.

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US Geological Survey
Broad Agency Announcement for 3D Elevation Program (3DEP)
DOIGFBO230001/G23AS00052

Attachment D
Validation of Proposed Funding Partners
Required for Proposal Submission

Applicant Information	First Name: Bradley	Last Name: Kukenberger
	Organization:State of Vermont	
	Project Title: Vermont 2023 Statewide QL1	

Proposed Funding Partner Information	First Name: Shawn	Last Name: Nailor
	Organization: Agency of Digital Services	
Financial Assistance Awards	This form acknowledges that our organization is a full and willing partner in the project referenced above. If accepted for award, our organization has proposed a good faith contribution of $____1,734,000.00____towards the acquisition costs of this project.	
Geospatial Products and Services (GPSC)	This form acknowledges that our organization is a full and willing partner in the project referenced above. If accepted for award, our organization has proposed a good faith contribution of $_____towards the total cost of this project. The applicant recognizes that $\_\_\_\_\_$ 0.00_____will be applied to the acquisition costs and 6% $\_\_\_\_\_$ 0.00____will be applied to cover the cost of DOI and USGS assessments.	
As stated in the proposal this contribution is:	☐ Guaranteed ☒ Pending, with a final funding decision expected on 02/2023 *(Use: MMM YYYY)*	

Complete Only ONE Statement based on Award Mechanism

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Signature of Funding Partner_____

Date 11/9/2022

VERMONT

November 10, 2022

Leadership across agencies and departments in the State of Vermont strongly support the attached application to the United States Geological Survey's Federal FY 2023 Broad Agency Announcement (USGS BAA FFY23) in support of the 3D Elevation Program (3DEP).

Statewide Quality Level 1 (QL1) lidar coverage will support activities across all sectors of Vermont's Strategic Plan and core functions throughout Agencies and Departments in state government. For example, it will help us: 1) grow Vermont's economy by supporting housing development; 2) protect the vulnerable by improving the accuracy of mapped areas prone to flood inundation; 3) make Vermont more affordable by limiting the need for field data collection; and 4) modernize and improve efficiency of government with a single source of open and useful data available to local, regional, state and federal government.

Vermont has successfully participated in 3DEP in the past, acquiring quality level 2 (QL2) data which is now on average 8 years old and older than 10 years in parts of the state. The current availability of QL2 lidar has been a tremendous asset for many uses. Yet portions of the dataset are outdated and advancements in sensor technology coupled with the higher resolution offered by QL1 have created an opportunity to meet a greater number of uses now dependent on lidar-derived elevation data and with an exceptional return on investment. According to a recent requirements and benefits study from Dewberry, the majority of users required QL1 data or better and over 75% required data updated within the past 8 years. The goals of this project align with those findings and are consistent with stakeholder feedback in Vermont.

Figure 1 - Lidar use cases across the four sectors of Vermont's strategic plan

Lidar-derived elevation data provides the foundation for many of the state's critical data assets, and we are thrilled to see USGS leadership's commitment to the 3DEP program objectives of collecting high quality lidar data for the nation. Completing this statewide acquisition in one season would make Vermont the first state to have 100% coverage at a QL1 and will provide a tremendous asset to support and empower decision makers across all levels of government and beyond for broad public benefit.

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Joe Flynn
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Joe Flynn
Secretary, Agency of Transportation

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Julie S. Moore P.E.
Secretary, Agency of Natural Resources

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Lindsay Kurrle
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Lindsay Kurrle
Secretary, Agency of Commerce and Community Development

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Anson Tebbetts
Secretary, Agency of Agriculture, Food & Markets

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Jenney Samuelson
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Jenney Samuelson
Secretary, Agency of Health and Human Services

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Shawn Nailor
Secretary, Agency of Digital Services

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June E. Tierney
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June E. Tierney
Commissioner, Department of Public Service