AmSpec, LLC
1249 South River Road, Suite 204
Cranbury, New Jersey 08512
www.amspecgroup.com

May 15, 2026

Suzanne Lippre
Administrative Analyst
Planning & Building Department
County of Humboldt
3105 H Street
Eureka, California 95501

Subject: Proposal for Professional Planning and Technical Support Services to Assist with Humboldt Natural and Working Lands Carbon Stock and Management Study (RFP PLN2026-01)

Ms. Lippre,

AmSpec, LLC (hereinafter “AmSpec") is pleased to submit this proposal in response to RFP PLN2026-01 for professional planning and technical support services to assist with the Humboldt Natural and Working Lands Carbon Stock and Management Study. AmSpec is a technical consulting firm with extensive experience supporting public- and private-sector clients with natural and working lands greenhouse gas (GHG) inventories, carbon stock and sequestration analysis, GIS-based climate analytics, and development of science-based planning tools.

Our team brings deep familiarity with California climate policy, including AB 32, SB 32, AB 1279, and the 2025 update to the California Air Resources Board (CARB) Natural and Working Lands (NWL) Carbon Inventory. We have demonstrated experience translating complex biophysical modeling into clear, usable decision-support tools for counties, tribes, land managers, and the public, with particular strength in forest- and agriculture-dominated rural counties, wildfire risk and resilience analysis, and integrated biomass and soil carbon accounting.

We understand this project is foundational for Humboldt County’s Regional Climate Action Plan (RCAP) implementation and 2030 update. Our proposed approach emphasizes methodological transparency, California Environmental Quality Act (CEQA) defensibility, repeatability, and meaningful engagement with local landowners and stakeholders. Building on existing regional and statewide carbon inventories, we will deliver a county-scale analytical framework tailored to Humboldt County’s landscape and planning context, designed to support practical decision-making and future inventory updates.

Thank you for the opportunity to be considered. We look forward to partnering with the County of Humboldt on this important effort. Please contact Alena Raymond at Alena.Raymond@amspecgroup.com or Gillian Dagan at Gillian.Dagan@amspecgroup.com with any questions.

Sincerely,

Alena Raymond, PhD
Project Manager
Alena.Raymond@amspecgroup.com

Gillian Dagan, PhD, MBA
Project Director
Gillian.Dagan@amspecgroup.com

AUTHORIZED SIGNATURE

The attached Signature Affidavit (Attachment A) is signed by an authorized representative of AmSpec empowered to bind the firm contractually.

SCOPE OF WORK

Based on our understanding of Humboldt County's Request for Proposals (RFP No. PLN2026-01), the objective of this project is to develop a countywide Natural and Working Lands Carbon Stock Inventory and a Carbon Sequestration Feasibility Study that together establish a transparent, CEQA-defensible baseline and inform climate action planning, land management decisions, and future updates to the RCAP. The work will quantify existing aboveground biomass, belowground biomass, and soil organic carbon; evaluate recent trends and carbon stability; and identify feasible strategies to maintain or enhance carbon sequestration across Humboldt County's natural and working landscapes.

The proposed scope of work emphasizes alignment with CARB's 2025 NWL Carbon Inventory, the Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories, and applicable state policy, while ensuring results are clear, repeatable, and usable by County staff and partners. Under this scope, the following three tasks will be completed.

Task 1. Project Planning Framework

Task 1 involves initial project planning and coordination with County staff to finalize objectives, guiding questions, assumptions, and roles. A kickoff meeting will be conducted to confirm the project scope, schedule, available data sources, and communication protocols. This task also includes targeted stakeholder engagement with local landowners and a comprehensive review of relevant plans, studies, policies, and datasets.

Under Task 1, the project team will:

- Conduct a kickoff meeting with County staff (virtual or in person)
- Refine and document the final project scope and analytical framework, including updates to the General Approach Table (in Microsoft Word or Microsoft Excel format)
- Support outreach and one public meeting to gather input from local landowners and land managers
- Review and synthesize applicable literature, policies, and datasets, including CARB's 2025 NWL Carbon Inventory, the 2017 Carbon Inventory Estimates prepared for the North Coast Resource Partnership (NCRP), the Humboldt RCAP, IPCC Guidelines, and County-provided GIS data
- Prepare a Literature and Data Review Summary (in Microsoft Word format) and a comprehensive resource library (in Microsoft Excel)

Task 2. Humboldt Countywide Natural and Working Lands Carbon Stock Inventory and Summary Report

Task 2 represents the core technical effort for the project and will result in a Humboldt Countywide Natural and Working Lands Carbon Stock Inventory and summary report. Using information developed in Task 1, the project team will select and document a best-available, CEQA-defensible methodology consistent with CARB and IPCC guidance, including calibration to locally available datasets where feasible and validation against published regional and statewide reference datasets.

Where supported by available datasets, spatial analysis will be conducted at resolutions approaching 1 meter using enhanced remote sensing products, representing a substantial refinement over the 30-meter raster resolution used in prior regional and statewide inventories. This increased spatial granularity enables delineation of management-relevant units such as parcels, forest stands, and agricultural field boundaries, improving attribution of carbon stocks, changes, and management effects. The Carbon Stock Inventory will be conducted as a desktop analysis leveraging best available datasets, models, and stakeholder input, consistent with County expectations and prior regional and statewide studies.

Under Task 2, the project team will:

- Classify and analyze lands by land use, land cover, ownership, and management type using spatial units that reflect management contexts rather than coarse raster averages, enabling attribution of carbon stocks and changes to land uses, ownership, and management regimes
- Quantify existing aboveground biomass, belowground biomass, and soil organic carbon using spatially explicit analysis
- Evaluate changes in carbon stocks over the past 10 years and attribute increases and decreases to specific drivers such as land-use change, disturbance, and management practices
- Assess carbon stock stability and vulnerability, including the influence of wildfire and other climate-related disturbances
- Prepare a draft and final Carbon Stock Inventory Report with maps, figures, tables, and clear explanations suitable for public communication
- Deliver supporting GIS data, calculation files, assumptions, uncertainty documentation, and instructions for future inventory updates

Task 3. Carbon Sequestration Feasibility Study and Final Humboldt Natural and Working Lands Carbon Stock and Management Study Report

Task 3 builds on the Carbon Stock Inventory to identify and evaluate opportunities to maintain or enhance carbon sequestration through feasible land management, restoration, and stewardship strategies across Humboldt County. The Feasibility Study will integrate inventory results, stakeholder input, and best available science to assess potential carbon benefits and implementation considerations. Results will be structured to support both technical analysis and clear communication for County staff, decision makers, and the public.

Under Task 3, the project team will:

- Identify carbon sequestration strategies and best management practices by major land type, informed by local context and relevant examples from comparable jurisdictions
- Estimate potential changes in carbon sequestration or avoided carbon loss under a defined set of representative scenarios tied to major land management and restoration strategies relevant to Humboldt County
- Evaluate feasibility considerations, including implementation constraints, relative costs, co-benefits, tradeoffs, and long-term carbon stability
- Prepare a draft Carbon Sequestration Feasibility Study as an attachment to the Carbon Stock Inventory Report
- Support a public review process, respond to comments, and prepare the Final Humboldt Natural and Working Lands Carbon Stock and Management Study Report
- Develop 1-2 illustrative case examples of land management or restoration practices that enhance carbon sequestration in Humboldt County to support communication of feasibility findings and inform implementation discussions

- Provide technical support for presentation of the final study to the Humboldt County Board of Supervisors

Methodological Improvements Relative to Prior Regional and Statewide Inventories

The proposed scope of work explicitly builds upon, and extends beyond, prior regional and statewide efforts—including the 2017 NCRP Carbon Inventory and the 2025 CARB NWL Carbon Inventory—by tailoring methods and deliverables to support county-level planning and implementation-focused decision making.

While the 2025 CARB NWL Carbon Inventory provides an essential statewide framework for tracking carbon stocks and trends, it is intentionally optimized for regional to statewide reporting and is not designed to resolve county-specific management contexts or support parcel- or program-level planning decisions. Consistent with CARB guidance, the proposed methodology advances this work through the following refinements:

- **County-scale spatial specificity:** Integration of Humboldt County land use classifications, ownership patterns, management context, and County-provided GIS datasets, using management-relevant spatial units rather than statewide raster averages, with calibration to locally available reference data, to better reflect local heterogeneity and support interpretation at relevant spatial scales.
- **Implementation-oriented temporal analysis:** Evaluation of carbon stock trends over a 10-year retrospective period with explicit consideration of land-use change, disturbance, management context, and harvested wood products where appropriate, aligned with County planning needs.
- **Enhanced carbon stability and disturbance analysis:** Building on CARB's disturbance accounting framework, with greater emphasis on wildfire exposure, post-disturbance trajectories, and carbon stock resilience specific to Humboldt County's forest and rangeland systems, moving beyond disturbance mapping to identify carbon at risk and the implications of alternative management strategies for long-term resilience.
- **Transparent soil carbon treatment:** Estimation of soil organic carbon to a standard depth of 30 cm, consistent with IPCC guidance and the 2025 CARB NWL Carbon Inventory (unless otherwise directed by the County), with stratification by land type and management context and clear documentation of assumptions, uncertainties, and limitations, recognizing that statewide soil models are not designed to resolve site-specific variability.
- **CEQA-defensible documentation:** Clear presentation of data sources, methodological choices, assumptions, spatial resolution, confidence levels, and limitations to support appropriate interpretation, use in County policy development, CEQA review, and future RCAP updates.
- **Repeatable and update-ready framework:** Delivery of GIS layers, calculation files, and methodological documentation designed to enable future County-led or consultant-led inventory updates as data, guidance, and scientific methods evolve.

Methodological Alignment with RFP Guiding Questions

The RFP organizes the work around six guiding questions in the General Approach Table. **Table 1**, below, summarizes how the proposed analytical approach addresses each guiding question and how it builds upon, and extends beyond, the scope and intent of the 2017 NCRP and 2025 CARB studies.

Table 1: Proposed Deliverables by RFP Guiding Question

Guiding Question	Proposed Deliverable	Improvement Over Prior Studies
1. What is the existing landscape aboveground, root carbon, and soil organic carbon stock and sequestration rate (per year)? How does this vary across land uses, land cover types, public vs private, and within County-owned land?	Spatially explicit estimates of aboveground, belowground, and soil organic carbon across the County, summarized by land use, land cover, ownership (public/private), and County-owned lands, using management-relevant spatial units and documented uncertainty.	Prior inventories report carbon stocks primarily as 30-meter raster averages optimized for regional or statewide analysis. The proposed approach produces carbon stock estimates aligned with locally relevant management units, enabling aggregation and interpretation at scales appropriate for CEQA review, land-use planning, and program implementation.
2. How have carbon stocks changed over the past 10 years?	County-specific assessment of carbon stock changes over the past decade, including land-use and land-cover change detection and attribution of changes to major drivers.	CARB provides a long-term statewide time series but is not designed to resolve change at a county or management-unit scale. The proposed analysis refines change detection to Humboldt County, enabling clearer attribution of trends relevant to local planning and policy questions.
3. Where have carbon stocks *increased*? What land use/land cover and land management changes have contributed to this increase, and to what extent?	Identification of areas with increasing carbon stocks and attribution of gains to land-use change, regrowth, restoration activities, and management practices, informed by stakeholder input where available.	Prior inventories attribute change at broad geographic scales. This approach enables attribution of observed increases in carbon stock to specific land-use categories and management contexts relevant to County decision-making.
4. Where have carbon stocks *decreased*? What land use/land cover and land management changes have contributed to this decrease, and to what extent?	Mapping and attribution of carbon losses to disturbance and land-use drivers such as wildfire, harvest, conversion, drought stress, and other disturbances.	Prior inventories identify statewide or regional trends but do not resolve loss drivers at locally relevant spatial units. The proposed analysis improves the County's ability to understand where and why carbon losses are occurring within its jurisdiction.
5. How stable are the existing carbon stocks against localized impacts such as wildfires and other climate hazards? What	Assessment of carbon stock vulnerability and stability, including identification of carbon at risk from wildfire and	Prior studies do not include a County-focused analysis of carbon stock stability or vulnerability. This represents a

Guiding Question	Proposed Deliverable	Improvement Over Prior Studies
factors, both human-driven and not, influence this stability?	other climate-related hazards, summarized by management context.	new analytical layer designed to support Humboldt County's wildfire resilience and long-term land management planning.
6. Where and through what active restoration, land use, and/or land management activities is there the greatest opportunity to optimize the carbon sequestration potential of the landscape while maintaining long-term stability of such stocks?	Evaluation of a defined set of land-management, restoration, and stewardship scenarios, with estimates of potential carbon benefits, feasibility considerations, and spatial distribution of opportunities.	Prior studies do not include forward-looking, County-specific scenario analysis. The proposed approach provides a quantitative basis for the Carbon Sequestration Feasibility Study and for prioritizing actions aligned with County goals and constraints.

COMPANY EXPERIENCE

AmSpec brings extensive experience delivering technically rigorous, policy-relevant climate, carbon, and environmental analysis for public- and private-sector clients. As prime consultant for this project, AmSpec will lead overall project management, methodological oversight, regulatory and policy alignment, stakeholder coordination, synthesis, and preparation of CEQA-defensible deliverables that directly support Humboldt County's RCAP implementation and future planning needs. AmSpec's team includes seasoned practitioners with backgrounds in chemical, civil, environmental, and agricultural engineering who apply advanced carbon accounting and environmental modeling methods with a strong emphasis on transparency, methodological clarity, and actionable decision-support.

For this engagement, AmSpec will partner with DigiFarm as a specialized subconsultant providing advanced geospatial analytics to support the Humboldt Natural and Working Lands Carbon Stock and Management Study. DigiFarm brings high-resolution (1-meter) land delineation derived from super-resolved Sentinel-2 imagery, enabling precise mapping of field boundaries, forest stands, and other management-relevant spatial units. DigiFarm will support spatially explicit land-use, land-cover, biomass, soil carbon, disturbance, and change analysis, strengthening technical resolution while remaining fully aligned with the project methodology defined and overseen by AmSpec. This partnership combines AmSpec's leadership in translating complex science into policy-ready, CEQA-defensible studies with DigiFarm's capacity to deliver data-rich, scalable spatial analysis, resulting in a comprehensive, implementation-oriented study tailored to Humboldt County's landscape and governance context.

Selected examples of similar projects completed by the project team are provided below:

Regional Climate Resilience, Soil Health, and Carbon Stock Assessment, Colorado. This project involved a landscape-scale climate resilience and soil carbon assessment conducted in support of a nonprofit climate resiliency initiative in Summit County, Colorado. The project established an implementation-ready baseline of ecosystem carbon stocks, soil health, and habitat condition across working ranchlands through GIS-based habitat mapping, desktop analysis, and targeted field assessments. Results were synthesized into a documented baseline carbon inventory with clearly stated assumptions, uncertainties, and decision-support findings, designed to inform landowner actions, improve soil health, and support scalable natural and working lands management strategies.

County- and Landscape-Scale Forest Biomass Modeling, Global. This project involved development and implementation of a forest above-ground biomass modeling framework for a global food-and-beverage company through a competitive procurement process. The selected methodology was independently validated against site-level biomass measurements across reference locations in North America, South America, and Africa, achieving strong statistical agreement (R^2 of 0.88-0.94). The approach demonstrated scalability across diverse forest systems and provides a peer-validated technical foundation that can be locally calibrated to U.S. Forest Service Forest Inventory and Analysis (FIA) plot data to support county-specific forest carbon accounting for planning and CEQA-defensible applications.

State-Level Forest Biomass and Carbon Mapping, Jalisco, Mexico. This project involved development of continuous forest variable maps—including above-ground biomass, carbon stocks, basal area, and related structural attributes—across the State of Jalisco, Mexico. The methodology integrated optical and synthetic aperture radar (SAR) imagery with national forest inventory samples using spatial modeling approaches to produce spatially explicit forest carbon datasets. Resulting biomass maps were used to assess forest degradation and disturbance dynamics following established academic methodologies, supporting large-area forest monitoring and carbon accounting across diverse ecosystems. This experience demonstrates the ability to tailor inventory-based carbon mapping approaches to sub-national jurisdictions with varied forest types and management contexts.

Wildfire Extent and Damage Mapping for Regional Government, Greece. This project involved imagery-based wildfire extent identification and post-fire damage assessment in support of GIS Crete, the regional government's geospatial services unit. Spatial analyses were used to delineate burned areas and assess disturbance impacts across affected landscapes, supporting regional planning and emergency response efforts. The analytical approaches employed are directly applicable to wildfire exposure assessment, disturbance attribution, and carbon stock stability analysis as proposed for Humboldt County.

Natural and Working Lands Monitoring for North American Agriculture and Risk Programs, United States and Canada. This project involved delivery of operational geospatial analytics supporting large-area monitoring of agricultural and working lands for multiple North American organizations, including agricultural trade associations, outcome-based conservation programs, and crop-insurance and risk-management entities. The engagements encompassed automated land-unit delineation, land-cover classification, vegetation and crop monitoring, soil moisture and standing-water detection, and spatial risk indicators. Collectively, this work demonstrates the ability to provide repeatable, audit-ready spatial datasets that link land management practices to measurable environmental outcomes at regional scales.

National MRV System and Satellite Monitoring for Forest Carbon Accounting, Mexico. This project involved development and implementation of a national-scale measurement, reporting, and verification (MRV) framework for forest carbon accounting in support of REDD+ and climate reporting objectives. Work included design of a satellite-based monitoring system for detecting and tracking deforestation and forest change using multi-temporal remote sensing and geospatial analysis. The project integrated national forest inventory data with remotely sensed products to estimate carbon densities and produce wall-to-wall forest biomass and carbon stock maps. Methods and data structures developed under this effort are directly applicable to county-level forest carbon accounting, land-use change analysis, and long-term monitoring programs.

Soil Carbon Baselining and Open Data Integration, Global. This project supported development of globally consistent soil carbon baselines through integration of field-boundary datasets with publicly available soil information within an open-source analysis platform. Project outcomes included scalable approaches to soil organic carbon estimation, transparent data integration, and compatibility with third-party and public

datasets. This experience provides a technical foundation for transparent, uncertainty-aware soil carbon modeling applicable to county-scale natural and working lands inventories.

REFERENCES

Three professional references are provided in Attachment B, including contact information and descriptions of services rendered for comparable projects.

PROJECT TEAM

AmSpec intends to conduct the proposed scope of work using a team of highly qualified practitioners. The project team is structured to support efficient coordination with County staff, timely delivery of milestones, and consistent integration of technical inputs across tasks. Senior advisors will provide targeted technical and methodological review, while specialized geospatial analysis will be performed by DigiFarm under AmSpec's direction. This organization supports effective project execution while maintaining clarity, accountability, and quality control throughout the study. An organizational chart is provided below in **Figure 1**, and resumes for key personnel are included in Attachment C.

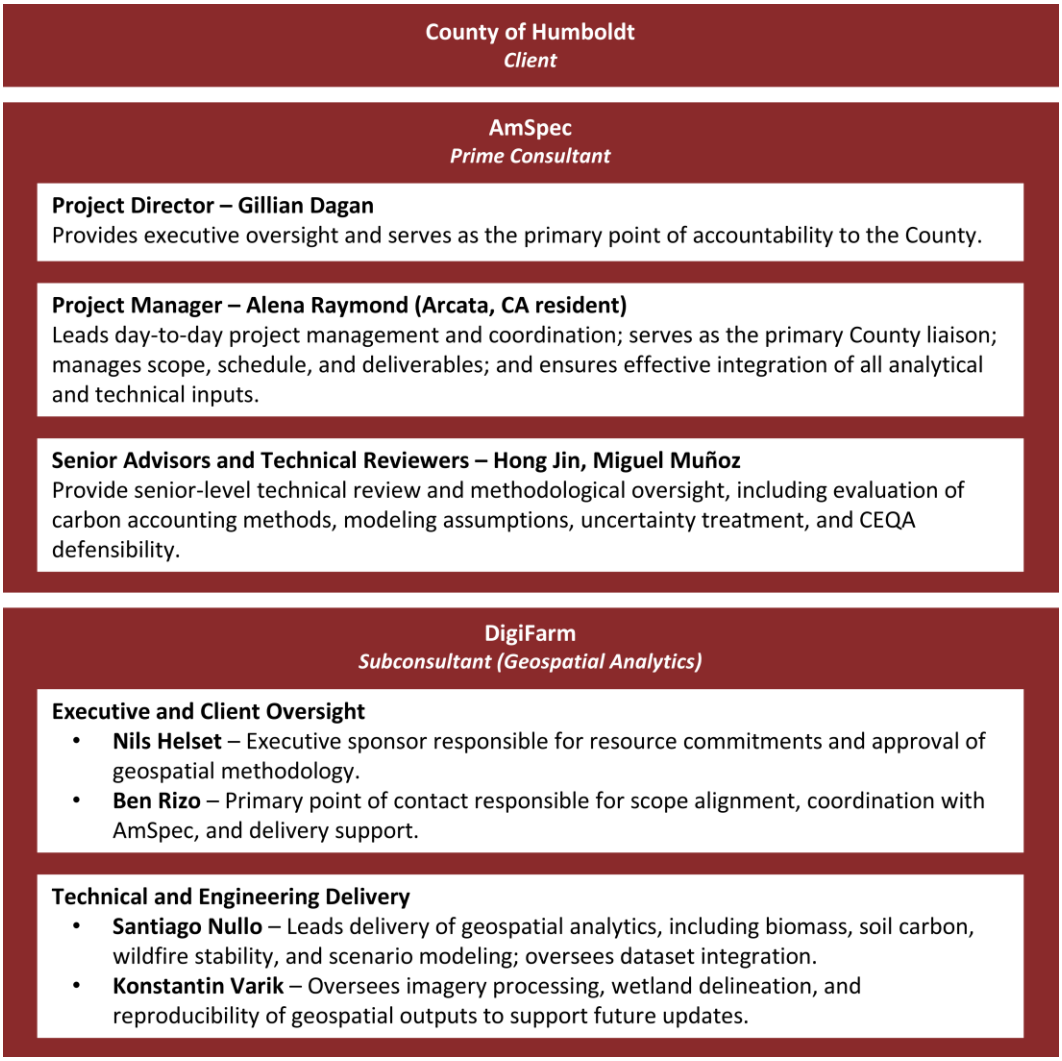

Figure 1. Project organizational chart.

TIMELINE AND AVAILABILITY

We are available to commence work immediately upon Board approval and contract execution. Our proposed schedule aligns with the County's anticipated milestones and the multi-year project horizon described in the RFP. Key anticipated deliverables and milestones include the following:

- **Project Kickoff:** Mid-July 2026 or within 2-3 weeks of the contract start date
- **Final Project Scope and General Approach Table:** Within 30 days of kickoff
- **Stakeholder Engagement and Public Meeting:** Q1-Q2 2027
- **Draft Carbon Stock Inventory Report:** Late June 2027 (provided to the County for review and comment)
- **Draft Carbon Sequestration Feasibility Study and Public Review:** Late March 2028 (initiation of 30-day public review period following County approval of the draft)
- **Final Report and Board of Supervisors Meeting:** Mid- to late January 2029

A detailed, task-level schedule will be refined and confirmed during Task 1 in coordination with County staff to ensure alignment with data availability, stakeholder engagement activities, and County review timelines.

COST ESTIMATE

AmSpec proposes to complete the scope of work outlined in this proposal on a time-and-materials basis for a total cost not to exceed **$371,700** (see **Table 2**). The services described in this proposal will be invoiced monthly and completed in accordance with the Professional Services Agreement. Hourly billing rates for all key personnel are provided in Attachment D. Rates are fully burdened and include overhead and indirect costs. AmSpec will bill only for actual services rendered and will not undertake additional scopes of work outside of what is documented here within and agreed to without prior authorization from the County.

Table 2: Cost Estimate

Task No.	Task Name	Estimated Cost
1	Project Planning Framework	$72,600
2	Humboldt Countywide Natural and Working Lands Carbon Stock Inventory and Summary Report	$189,500
3	Carbon Sequestration Feasibility Study and Final Humboldt Natural and Working Lands Carbon Stock and Management Study Report	$109,600
	Project Total	**$371,700**

ASSUMPTIONS

The proposed scope of work, schedule, and cost estimate are based on the following assumptions:

- Humboldt County will provide or facilitate access to relevant data, information, and existing studies identified in the proposed scope of work, including available GIS datasets and background reports.
- County staff will support AmSpec by assisting with coordination of meetings, stakeholder outreach, and scheduling of the required public meeting, as described in the RFP.
- County staff will provide consolidated comments on draft deliverables within mutually agreed review periods to support the overall project timeline.
- Project meetings will primarily be conducted virtually via Microsoft Teams or Zoom. Limited in-person meetings may occur if requested by the County, subject to mutual agreement.

- Project deliverables will be prepared in commonly used digital formats (e.g., Microsoft Word, Excel, PowerPoint, GIS file formats, and Adobe PDF) and transmitted electronically unless otherwise requested by the County.
- The proposed cost estimate assumes reasonable availability of publicly accessible and County-provided data and does not include costs associated with acquiring proprietary datasets.

INSURANCE REQUIREMENTS

AmSpec meets all insurance requirements specified in the Professional Services Agreement and will provide certificates of insurance upon request.

COMMITMENT TO TRANSPARENCY, ACCESSIBILITY, AND REPEATABILITY

Our work products will be:

- Transparent, with clearly documented assumptions and uncertainties
- Repeatable for future RCAP updates
- Accessible and WCAG 2.2 AA-compliant for digital deliverables
- Designed for use by County staff, partner agencies, and the public

CONCLUSION

AmSpec is enthusiastic about supporting Humboldt County in establishing a robust, science-based understanding of its natural and working lands carbon resources. We are confident our experience, technical rigor, and collaborative approach will deliver a high-quality, actionable study that informs conservation planning, land management, and land use policy in support of the County's long-term carbon neutrality goals.

PROPOSAL ACCEPTANCE

If you agree with the proposed scope of work and budget, please sign below and return a copy of this proposal to Alena Raymond at Alena.Raymond@amspecgroup.com and Gillian Dagan at Gillian.Dagan@amspecgroup.com.

Project Approval:

_____

Name:
Title:
Organization:

ATTACHMENTS

A. Signature Affidavit
B. Reference Data Sheet
C. Resumes of Key Personnel
D. Fee Schedule

ATTACHMENT A: SIGNATURE AFFIDAVIT

SIGNATURE AFFIDAVIT

NAME OF FIRM:	AmSpec, LLC
STREET ADDRESS:	1249 South River Road, Suite 204
CITY, STATE, ZIP	Cranbury, New Jersey 08512
CONTACT PERSON:	Gillian Dagan
PHONE #:	352-246-7739
FAX #:	
EMAIL:	Gillian.Dagan@amspecgroup.com

Government Code Section 6250 *et.seq*., the "Public Records Act", define a public record as any writing containing information relating to the conduct of public business. The Public Records Act provides that public records shall be disclosed upon written request, and that any citizen has a right to inspect any public record, unless the document is exempted from disclosure.

In signing this proposal, I certify that this firm has not, either directly or indirectly, entered into any agreement or participated in any collusion or otherwise taken any action in restraint of free competition; that no attempt has been made to induce any other person or firm to submit or not to submit a proposal; that this proposal has been independently arrived at without collusion with any other proposer, competitor or potential competitor; that this proposal has not been knowingly disclosed prior to the opening of proposals to any other proposer or competitor; that the above statement is accurate under penalty of perjury.

The undersigned is an authorized representative of the above named firm and hereby agrees to all the terms, conditions, and specifications required by the County in this Invitation to Bid and declares that the attached proposal and pricing are in conformity therewith.

Signature	EVP of Business Assurance & Sustainability **Title**
Gillian Dagan **Name (type or print)**	May 14, 2026 **Date**

This firm herby acknowledges receipt / review of the following addendum(s) (If any)
Addendum # Addendum # Addendum # Addendum #

ATTACHMENT B: REFERENCE DATA SHEET

Attachment B

REFERENCE DATA SHEET

[illegible]

NAME OF FIRM:	[illegible]		
STREET ADDRESS:	R[illegible]6329		
CITY, STATE, ZIP	Montevideo, Uruguay		
CONTACT PERSON:	M[illegible]D[illegible]	**EMAIL:** [illegible]	
PHONE #:	59895289689	**FAX #:**	
Product(s) and/or Service(s) Used:	[illegible]		

NAME OF FIRM:	[illegible]D[illegible]		
STREET ADDRESS:	R[illegible]2[illegible]		
CITY, STATE, ZIP	Rīga, LV-1010, Latvia		
CONTACT PERSON:	Indulis Abolins	**EMAIL:**	Indulis.abolins@lad.gov.lv
PHONE #:	+371 67027198	**FAX #:**	
Product(s) and/or Service(s) Used:	Provision of Earth-Observation data services for a national paying agency in support of CAP on-spot controls		

NAME OF FIRM:	Agrarmarkt Austria AMA — Austrian Paying Agency for Agriculture and Rural Development		
STREET ADDRESS:	Dresdner Str. 70		
CITY, STATE, ZIP	1200 Vienna, Austria		
CONTACT PERSON:	Dolenz Stefanie	**EMAIL:**	Stefanie.Dolenz@ama.gv.at
PHONE #:	+43 50 3151-4822	**FAX #:**	
Product(s) and/or Service(s) Used:	Super-Resolved Sentinel-2 Imagery for CAP Compliance and Monitoring		

ATTACHMENT C: RESUMES OF KEY PERSONNEL

GILLIAN DAGAN, PHD, MBA

PROJECT DIRECTOR

AREAS OF EXPERTISE

- Executive Leadership
- Business Assurance & Sustainability
- Third-Party, Independent Scientific Research

EDUCATION

MBA, 2020

PhD, Food Science, 2004

BS, Food Science and Human Nutrition, 2000

LOCATION

Jacksonville, FL, USA

PROFESSIONAL OVERVIEW

Dr. Gillian Dagan is an executive leader with over 20 years of experience driving applied research, technical commercialization, and strategic growth across the testing, inspection, certification, and scientific consulting sectors. She leads global sustainability and energy transition initiatives supporting certification, verification, and assurance programs for regulatory and voluntary climate markets, translating complex scientific concepts into scalable, policy-relevant programs that support organizational decision-making. Dr. Dagan's experience includes executive leadership of multidisciplinary teams, development of research-driven service offerings, and oversight of large-scale technical programs spanning energy, agriculture, and environmental systems. She has directed global teams and technical service lines supporting environmental testing, product performance, and applied research, and coordinates across technical experts, stakeholders, and organizational leadership.

RELEVANT EXPERIENCE

Executive Vice President, Business Assurance & Sustainability

AmSpec, New Jersey, USA 2023-Present

Executive leader providing strategic and technical oversight of global sustainability, certification, and assurance services. Leads global programs in carbon accounting, life cycle assessment, and sustainability assurance across multiple sectors, overseeing multidisciplinary teams delivering certification, verification, and ESG-related services aligned with international standards (e.g., ISO, GHG Protocol). Provides executive-level oversight of program development, operational quality, and technical consistency across global projects.

Director, Research and Expert Services

Mérieux NutriSciences, Chicago, USA 2015-2022

Technical and business leader supporting development and delivery of applied research and consulting services. Led strategy and growth of multiple technical service lines and teams of subject-matter experts, including development of new offerings, marketing strategies, and client engagement approaches, and coordinated cross-functional teams to deliver specialized consulting services.

Chief Scientific Officer

ABC Research Laboratories, Florida, USA 2003-2015

Scientific and operational leader overseeing technical programs and laboratory services, including direction of scientific programs, experimental design, and client-focused testing services. Provided technical expertise, including expert testimony and applied research support, while managing business operations, revenue, and team leadership.

ALENA RAYMOND, PHD

PROJECT MANAGER

AREAS OF EXPERTISE

- GHG Accounting & Management
- Life Cycle Assessment
- Climate & Sustainability
- Project Management

EDUCATION

PhD, Civil & Environmental Engineering, 2020

MS, Civil & Environmental Engineering, 2017

BS, Civil Engineering, 2015

LOCATION

Arcata, CA, USA

PROFESSIONAL REGISTRATIONS

LCFS Lead Verifier, CARB, 2025

Engineer in Training (EIT), California

PROFESSIONAL OVERVIEW

Dr. Alena Raymond is a Humboldt County-based civil and environmental engineer with over 10 years of experience in GHG accounting, life cycle assessment, and climate strategy, including five years in consulting. She manages complex, multidisciplinary projects supporting development of GHG emissions inventories and identification of decarbonization opportunities across multiple sectors. Her work applies advanced methods, models, and regulatory frameworks relevant to California and U.S. climate programs, providing technical leadership aligned with industry best practices.

RELEVANT EXPERIENCE

Senior Principal LCA Practitioner

AmSpec, California, USA 2025-Present

Lead LCA and GHG accounting practitioner managing complex projects and providing technical oversight across diverse sectors and regulatory contexts.

- Manages multidisciplinary LCA and GHG accounting projects supporting GHG emissions inventory development, decarbonization planning, and regulatory or voluntary reporting.
- Leads scenario- and change-over-time analyses, supporting evaluation of emissions drivers, feasibility considerations, and uncertainty, with documentation structured to enable transparent review and future inventory updates.
- Oversees methodological consistency, documentation, and quality control to ensure analyses are clear, defensible, and fit for regulatory or client use.
- Provides technical leadership through client engagement, proposal development, project planning, and mentoring of junior practitioners.

Project Professional

Geosyntec, California, USA 2021-2025

Technical expert supporting LCA and GHG accounting projects within the Energy Transition team.

- Supported development of GHG emissions inventories and decarbonization strategies through modeling, data analysis, and technical documentation.
- Provided strategic technical support for GHG management, marketing strategy and business development, climate risk management, and technology development.
- Collaborated with interdisciplinary teams to deliver clear, client-ready technical outputs within defined schedules and review processes.

HONG JIN, PHD

SENIOR ADVISOR/TECHNICAL REVIEWER

AREAS OF EXPERTISE

- GHG Accounting & Management
- Life Cycle Assessment
- Climate & Sustainability
- Independent Critical Review

EDUCATION

PhD, Chemical Engineering, 2006

MS, Chemical Engineering, 2001

BS, Chemical Engineering, 1996

LOCATION

Houston, TX, USA

PROFESSIONAL REGISTRATIONS

LCFS Lead Verifier, CARB, 2025

PROFESSIONAL OVERVIEW

Dr. Hong Jin has over 20 years of experience in GHG modeling, life cycle assessment, and energy transition strategy across industry and consulting roles. She provides independent technical review of GHG analyses and decision-support tools used in regulatory programs and planning efforts. Her work emphasizes methodological rigor and transparency, supporting policy-relevant analysis and program implementation across California, U.S., and international climate initiatives.

RELEVANT EXPERIENCE

Business Development Manager

AmSpec, Texas, USA 2023-Present

Senior LCA and GHG accounting advisor providing technical oversight across diverse sectors and regulatory contexts.

- Provides independent technical review and methodological guidance for LCA and GHG analyses supporting emissions inventories, decarbonization planning, and regulatory or voluntary reporting.
- Supports development of analytical approaches and ensures consistency, defensibility, and alignment with applicable standards and program requirements.

Senior Professional

Geosyntec, Texas, USA 2019-2023

Senior subject matter expert in LCA and GHG accounting providing methodological guidance and technical review across Energy Transition engagements.

- Provided technical guidance on baseline GHG inventories (scopes 1-3), peer benchmarking, goal setting, and materiality assessments to support planning, reporting, and decision-making contexts.

Senior Engineer

Chevron, Texas, USA 2013-2019

Center of Excellence for LCA, biofuels registration, and GHG accounting providing technical leadership and regulatory review support across corporate and project-level applications.

- Served on Chevron Sustainability Committee (2014-2016) to develop corporate sustainability strategies requested by Board of Directors.
- Oversaw updates and methodological consistency of Chevron's GHG Estimator Tool used for major capital project risk screening.
- Lead LCA expert for all Chevron's biofuels pathway applications and reviews under RFS and CA LCFS, coordinating with CARB and EPA (2015-2019).

MIGUEL MUÑOZ, MS

TECHNICAL REVIEWER

AREAS OF EXPERTISE

- GHG Accounting & Management
- Carbon Project Verification
- Forest Management
- Remote Sensing & GIS

EDUCATION

MS, Forestry, 2011

BS, Natural Resources Engineering, 2005

LOCATION

Zapopan, Jalisco, Mexico

PROFESSIONAL REGISTRATIONS

Verifier, Climate Action Reserve, 2024

PROFESSIONAL OVERVIEW

Mr. Muñoz has over 10 years of experience in carbon accounting, forest monitoring, and measurement, monitoring, reporting, and verification (MMRV) systems. He leads development and implementation of verification and validation frameworks supporting carbon project accounting and compliance with international standards. His work applies rigorous geospatial, statistical, and remote-sensing-based methods to estimate forest carbon stocks, emissions, and drivers of land-use change across complex landscapes. Mr. Muñoz provides technical leadership focused on transparency, scientific rigor, and alignment with international climate reporting and verification best practices.

RELEVANT EXPERIENCE

Carbon Manager

AmSpec, Jalisco, Mexico 2024-Present

Technical lead supporting carbon project verification activities under the Climate Action Reserve (CAR) forestry protocol in Mexico, supporting AFOLU carbon projects and verification.

- Leads verification activities for forest carbon projects under the CAR forestry protocol in Mexico.
- Coordinates technical review and quality assurance processes associated with carbon project verification and program compliance.

Carbon Accounting Manager

CONAFOR, Jalisco, Mexico 2021-2023

Technical expert supporting GHG inventories, baseline estimation, and carbon accounting projects within the AFOLU sector for climate reporting initiatives.

Remote Sensing Consultant for Forest Reference Emissions Level (FREL)

WWF, Jambi, Indonesia 2020-2021

Technical expert supporting the development of a FREL for the period 2010-2021 through remote sensing analysis and carbon accounting methodologies.

Expert in Forest Monitoring

Ecometrica, Jalisco, Mexico 2016-2020

Technical expert supporting forest monitoring and biomass mapping projects through the integration of remote sensing and forest inventory data.

Expert in Remote Sensing and Carbon Accounting

FAO, Jalisco, Mexico 2012-2016

Technical expert supporting the development of national forest monitoring and carbon accounting systems through remote sensing and geospatial analysis.

Nils Helset

Co-Founder & Chief Executive Officer, DigiFarm AS

Proposal Role: ***Executive and Client Oversight***

nils@digifarm.io
+47 948 42 517
Hamar, Norway

PROFILE

Co-founder and Chief Executive Officer of DigiFarm AS. Provides executive sponsorship and signing authority across DigiFarm's government and public-sector engagements, including national paying-agency contracts in Latvia, North Macedonia, and across the European Union. For the Humboldt County engagement, serves as executive oversight, contract signatory, and escalation point for County-facing strategic matters.

EDUCATION

Bachelor of Arts, Economics — Rollins College, Winter Park, Florida, 2007–2012 (GPA 4.0; President's List)

Bachelor of Arts, International Relations and Affairs — Rollins College, Winter Park, Florida, 2003–2007

PROFESSIONAL EXPERIENCE

Co-Founder & Chief Executive Officer — DigiFarm AS *2019 – Present*

Founded and leads DigiFarm AS, a Norway-headquartered geospatial intelligence company with a recently merged Spanish entity. Scaled the company to operate across 57 countries with 694 million hectares of automatically delineated field boundaries, partnerships with global ag-input companies (Bayer, Limagrain, KWS, CNH, Mahindra), and national paying-agency contracts (LAD Latvia, AFPZRR North Macedonia, PRIA Estonia).

Co-Founder & Board Member — LangO *Oct 2013 – Present*

Co-founded LangO, an enterprise English-language training platform. Led product and operations from the February 2017 launch, scaling to a team of 16 with corporate clients including Securitas, Adecco, Brioni, Munters, and Sector Alarm. Currently serves as Board Member.

Farmer (15th Generation) — Farmen Gard — Self-Employed *Jan 2015 – Dec 2023*

Operational management of a 15th-generation family farm in Hamar, Innlandet. Spring grain crops (barley, wheat) and free-range egg production. Direct hands-on agricultural experience that now informs DigiFarm's product strategy and customer engagement.

Stock Broker — Norse Gruppen — Norse Securities / Norse Forvaltning *Aug 2012 – Oct 2013*

Analysis and commercialisation of structured financial products, real-estate portfolios, and equity funds for private clients in Norway. Oslo-based.

Co-Founder — Treehouse Truck LLC *Mar 2011 – Aug 2012*

Early-stage entrepreneurial venture during economics studies at Rollins College, Central Florida.

KEY AREAS OF EXPERTISE

- Executive leadership of a TRL-9 geospatial intelligence platform serving 57 countries
- Government and paying-agency contract structuring and signing authority
- Strategic partnerships with global agricultural input and equipment companies
- Public-sector remote-sensing product commercialization and go-to-market

LANGUAGES

Norwegian (native) · English (professional working proficiency)

Note: This 1-pager is provisional pending Nils's confirmation of education and prior experience details (marked in italics above).

Pál Bence Rizo

Head of Client Success, DigiFarm AS

Proposal Role: ***Executive and Client Oversight***

ben@digifarm.io
+36 30 155 6659
Budapest, Hungary

PROFILE

Project and engagement lead for DigiFarm's North American government and public-sector deployments. 8+ years across agtech, SaaS, enterprise data, and digital transformation, with deep experience structuring international B2B and B2G partnerships and translating remote-sensing capability into commercial and regulatory outcomes. Primary point of contact for AmSpec and Humboldt County throughout the engagement; oversees scope, budget, deliverable acceptance, and County-facing communications.

EDUCATION

BSc, Agriculture Information Technology and Policy Administration Engineering — Hungarian University of Agriculture and Life Sciences (MATE / Szent István University), 2014–2018

PROFESSIONAL EXPERIENCE

Head of Client Success — DigiFarm AS *Sep 2022 – Present*
Leads global client success and business development for a satellite-based agricultural analytics company. Manages B2G and B2B engagements with national paying agencies (PRIA-class), Fortune 500 ag-input companies, and government clients. Owns proposal authorship, contract negotiation, and the technical-to-commercial translation of DigiFarm's deeply resolved Sentinel-2 imagery, field-boundary, and analytical layer products.

Customer Success Manager — Iron Mountain *Dec 2021 – Sep 2022*
Managed enterprise customer portfolio across global information-management and digital-transformation services. Structured customer relationships and identified new revenue potential within existing accounts.

Customer Success Specialist — Bayer Crop Science – The Climate Corporation *Jan 2020 – Dec 2021*
Responsible for demand generation and partner engagement for a SaaS-based precision-agriculture platform. Product demonstrations at industry events and field days; multi-pilot management with commercial case-study translation.

EMEA Indirect Sourcing Specialist — Bayer Crop Science *Sep 2018 – Dec 2019*
International procurement and supplier-relationship management across EMEA. Negotiation, contract administration, procurement-compliance, and cost-optimization.

KEY AREAS OF EXPERTISE

- Public-sector (B2G) procurement, including national paying-agency and county-level RFPs
- Translation of geospatial / remote-sensing technical capability into client-facing commercial proposals
- Multi-stakeholder engagement coordination across technical, methodology, and regulatory partners
- Sentinel-1 / Sentinel-2 satellite-data interpretation and product commercialization

LANGUAGES

Hungarian (native) · English (C1, professional working proficiency)

Santiago Nullo

Engineering GIS Lead, DigiFarm AS

Proposal Role: ***Technical and Engineering Delivery***

santiago@digifarm.io
+54 11 6120 4387
Buenos Aires, Argentina

PROFILE

Engineering lead responsible for DigiFarm's remote-sensing data-processing pipeline architecture and GIS production infrastructure. 17+ years across agricultural monitoring, mining, water and sewage infrastructure, environmental compliance, and insurance-grade flood-risk assessment. For Humboldt County, leads the geospatial production pipeline: Sentinel-1 / Sentinel-2 ingestion and pre-processing, super-resolution rendering, field-boundary and land-cover delivery, and WMTS/WMS hosting of the County's deliverables.

EDUCATION

Bachelor, Environmental Management — Universidad CAECE, Buenos Aires, Argentina, 2015

Bachelor, Computer Science — Universidad CAECE, Buenos Aires, Argentina, 2005

PROFESSIONAL EXPERIENCE

Engineering GIS Lead — DigiFarm AS *2022 – Present*

Owns DigiFarm's remote-sensing data-processing pipeline: Sentinel-1, Sentinel-2, and synthetic aperture radar processing infrastructure, GIS development supporting field boundaries, crop maps, and the broader agronomic product portfolio. Manages technical infrastructure and production-grade pipelines.

GIS and Remote Sensing Expert — Newphoneix SRL — Los Azules Mining Project *2020 – 2022*

Satellite-imagery pre-processing and ground-observation correlation for a major mining exploration project.

GIS Expert — Data Processing, Analysis & Frontend — True Flood Risk — Automated Flood Risk Assessment *2020 – 2021*

Built a web-based GIS application for insurers performing automated flood-risk assessment. Insurance-grade data processing, analysis, and UI development.

Project Lead — GIS and Remote Sensing — AYSA S.A. — Greater Buenos Aires Water and Sewage Expansion *2017 – 2019*

Led major water- and sewage-network expansion project with GIS and remote-sensing-based planning and field work, geo-data quality assurance, and cartography.

GIS and Remote Sensing Expert — Illegal Landfill Detection — OPDS, Province of Buenos Aires — Open Dump Closure Program *2012 – 2016*

Automated detection of illegal landfills using remote-sensing and GIS methods for a regional government environmental-compliance program. Trained detection models and built the automated identification system.

KEY AREAS OF EXPERTISE

- Sentinel-1, Sentinel-2, Landsat, ASTER satellite data processing and automated detection-model training
- Sentinel Hub, GDAL/Rasterio, Python geospatial stack (Rasterio, GDAL, GeoPandas)
- QGIS, ArcGIS, web-GIS application development; WMTS/WMS production infrastructure
- Government and regional-agency environmental-compliance and infrastructure monitoring

LANGUAGES

Spanish (native) · English (C1, full professional proficiency)

Professional references: Paul Baldauf, PhD (pb501@nova.edu) · Andrés Meglioli, PhD (andres@mountainpassenv.com)

Konstantin Varik

Co-Founder & Head of AI, DigiFarm AS

Proposal Role: ***Technical and Engineering Delivery***

konstantin@digifarm.io
+34 634 88 47 34
Spain (EU/EEA)

PROFILE

Co-founder and AI lead at DigiFarm AS, accountable for the deep-neural-network architecture underlying DigiFarm's deeply resolved Sentinel-2 imagery (1-meter super-resolution from native 10/20-meter bands), field-boundary delineation, and agricultural prediction models. 15+ years of CNN/GAN development in agricultural remote sensing, with production deployments across 57 countries and 560+ million hectares. For Humboldt County, technical authority on the imagery foundation, the super-resolution pipeline, the reproducibility/auditability layer, and the engagement-specific AGB and wetland models.

EDUCATION

Bauman Moscow State Technical University, 1998–2004

Stanford Online — Database Course (certificate), 2011

PROFESSIONAL EXPERIENCE

Co-Founder & Head of AI — DigiFarm AS *Jan 2019 – Present*

Leads DigiFarm's AI research and development. Specializes in deep neural networks (CNN/GAN) for agricultural remote sensing on Sentinel-1 and Sentinel-2 satellite data. Developed field-boundary-delineation model versions v1–v3, achieving over 0.94 IoU across 560 million hectares in 57 countries. Developed maize and soybean yield-forecasting models for the USA, Brazil, and Argentina at ~98–99% accuracy 1–1.5 months ahead of harvest.

Senior Software Engineer — Brightwater Sensing *Jan 2016 – Jan 2019*

Software engineering across remote-sensing and sensor-data processing.

Chief Technology Officer — Streetography *Jan 2016 – Nov 2018*

Technology leadership: technical vision, product architecture, and engineering-team management.

KEY AREAS OF EXPERTISE

- Deep neural networks (CNN, GAN) for satellite-imagery super-resolution and feature detection
- Sentinel-2 (L1C / L2A) and Sentinel-1 SAR processing at production scale; PyTorch and TensorFlow for geospatial workflows
- Field-boundary delineation, crop-yield prediction, and biomass modeling validated at sub-continental scale
- Independently case-studied by PwC for the European Commission DG AGRI (Nov 2025) as one of eight global providers of automatic agricultural parcel delineation

LANGUAGES

Russian (native) · English (C1+, full professional proficiency) · Spanish (C1, daily working language)

ATTACHMENT D: FEE SCHEDULE

CONFIDENTIAL

Consultant/Staff/GIS Analyst	$190
Senior Consultant/Senior Analyst	$250
Principal/Technical Lead	$335
Senior Principal/Project Manager	$385
Executive/Project Director	$410
Direct Expenses	Cost plus 15%
Subcontract Services	Cost plus 15%

Rates are provided on a confidential basis and are client and project specific.