WASHINGTON STATE DEPARTMENT OF
Natural Resources

Cooperative Purchasing Agreement

In accordance with Chapter 39.34 RCW, The Washington Department of Natural Resources and Lewis County agree to a cooperative governmental purchasing agreement for Lidar.

Pursuant to Intergovernmental Cooperative Purchasing Agreement number 16-286 between the Washington State Department of Natural Resources (DNR) and Lewis County;

1. Lewis County wishes to acquire LiDAR Survey Data through DNR's contract with the USGS to provide public-domain high-resolution LiDAR topographic survey data in Washington.

2. Per the agreement, DNR will act as the agent for Lewis County for this purchase.

3. This agreement covers the attached Statement of Work from the USGS dated February 2016 for the following named project: **Western Washington 2016 LiDAR Data Acquisition and Product Development Project**. This agreement is part of a cooperative partnership with DNR and participating cities, counties, jurisdictions and other parties to acquire LiDAR data.

4. DNR will obtain this data under its contract with USGS.

5. The total cost for the project is set out in Exhibit A and cost to Lewis County is a shared cost not to exceed **$30000.00**.

6. DNR relies on its contract with USGS to the extent provided by law and upon the following terms:

(a) In accordance with Chapter 39.34.030(5)(b) RCW, DNR represents that it has complied with all necessary contract bidding and award requirements that are applicable to DNR's contract with the USGS. As such, Lewis County's obligations under Chapter 39.34.030(5)(b) RCW are likewise met.
(b) Lewis County accepts responsibility for compliance with any additional or varying laws and regulations governing its purchases. Any purchases by Lewis County shall be effected by a purchase order or other authorized form of ordering to DNR.
(c) DNR will obtain the services and data from the USGS and deliver it to Lewis County.
(d) DNR accepts no responsibility for payment of the purchase price by Lewis County.

7. This Agreement commences upon execution by signature of the Parties and shall terminate on December 31st, 2018, unless renewed.

This agreement may be revoked at any time in writing by either party, provided, however, that Lewis County agrees to pay for any services rendered under this agreement prior to termination.

Accepted for: _____

_____

_____

_____

Date: _____

Accepted for: Washington State Department of Natural Resources, Geology and Earth Resources Division

David K. Norman

David K. Norman

Washington State Geologist

Date: 3/4/2015

STATEMENT OF WORK
FOR THE
WESTERN WASHINGTON
2016 LIDAR DATA ACQUISITION AND
PRODUCT DEVELOPMENT PROJECT

BAA G15PSOO558 3DEP AWARD

FEBRUARY 2016

1) Purpose:

The USGS, and Washington Department of Natural Resources will collaborate to acquire high-resolution, Quality Level 1 LiDAR data and produce derived elevation products covering an area of approximately 5,448 square miles in Western Washington, as shown in Attachment A. This project is for Spring 2016 acquisition of high resolution LiDAR data and derived products with remaining lowland areas not collected in Spring 2016 to be collected in Fall 2016/Winter 2017 if needed. The LiDAR data will be processed to produce a classified point cloud, tile-based bare earth and first return Digital Elevation Models (DEMs) and related products. All resulting elevation products will be placed in the public domain and will be made available for viewing and download through the USGS National Map.

2) Statement of Work

USGS will select a qualified vendor to perform the LiDAR collection and processing via the Bureau's Geospatial Product and Service Contract (GPSC). GPSC task orders are awarded to qualified vendors through federal government solicitation. Current solicitation 09CR14-NoSolicitation was issued March 03, 2009. Qualified consultants are selected in accordance with Public Law 92-528 (Brooks Act) and FAR 36.6 - Architect-Engineering Services, which establishes a qualifications-based selection process, in which contracts for Architectural and Engineering services are negotiated on the basis of demonstrated competence and qualification for the type of professional services required at a fair and reasonable price. Vendor selection is based on the following 7 criteria (1) Professional qualifications necessary for satisfactory performance of required services; (2) Specialized experience and technical competence in the type of work required; (3) Capacity to accomplish the work in the required time; (4) Past performance on contracts with Government agencies and private industry in terms of cost control, quality of work, and compliance with performance schedules; (5) Location in the general geographical area of the project and knowledge of the locality of the project (6) Acceptability under other appropriate evaluation criteria. (7) The preferred WA DNR vendor for this acquisition is Quantum Spatial. This process is aligned with the USGS's consultant RFP and selection process.

The Task Order issued by USGS to the selected GPSC Contractor provides full details regarding project collection requirements and resulting deliverables.

3) Partner Responsibilities

USGS will:

- In combination with Washington Department of Natural Resources, contribute a BAA share of $628,236.00 in support of total project cost (USGS: $412,024.08, FEMA: $116,211.92, and NRCS: $100,000.00, Washington Department of Natural Resources: $2,591,600).
- Prepare a Task Order for agreed upon products and services.
- Serve as Government Point of Contact during the full period of the Agreement.
- Receive and catalog all project deliverables.
- Inspect/perform QA operations on all deliverables.
- Prepare product Validation Summary Report(s) and distribute to relevant project Points of Contact.
- Return data to Contractor as needed for error correction/rework.

Washington Department of Natural Resources will:

- Provide funding for production activities associated with Lidar collection, processing, and derivative product generation.
- Serve as the Point of Contact and coordinating body between the USGS and local partners. Local partners include: Lewis County, Seattle City Light, Sierra Pacific Industries, Skagit County, Snohomish County, the Swinomish Tribe, and Whatcom County.
- Review and accept the conditions outlined in the Task Order.
- Evaluate a pilot dataset prior to final delivery.
- Distribute LiDAR data and derivative products to local partners and the public.

4) Technical Specifications

All specifications and deliverables will meet or exceed the U.S. Geological Survey Lidar Guidelines and Base Specification Version 1.2 (*http://pubs.usgs.gov/tm/11b4/*).

Additional specifications as requested by DNR, as typical project parameters for Northwest conditions

Returns Collected Per Pulse	Swath Overlap	Maximum Swath Overlap difference
At least 4	50% overlap	±16cm

Additional Project Data Specifications:

a) Vertical Datum: NAVD88 using the most recent approved Geoid model from the National Geodetic Survey (NGS), data to be delivered in orthometric heights with feet as the preferred vertical units.

b) Horizontal Datum: Horizontal NAD83 (HARN)

c) Coordinate System and Projection: WA State Plane, SOUTH Zone

d) Units: US Survey Feet

f) Tiling Scheme: 3.00 x3.00 foot regular grid. Tiles will be formatted using a 0.75minute by 0.75 minute tiling scheme and named according to the US National Grid conventions. Edge matching is required between tiles within and between deliveries.

g) Coverage: No voids between swaths or due to cloud cover or instrument failure.

h) Flight Season: LiDAR collection primarily during Spring 2016 with additional collection in Fall 2016 and Winter 2017 to complete acquisitions.

i) Collection will take place during leaf-off, cloud-free, lack of standing or flooded water conditions.

5) Deliverables

The USGS will provide the following deliverables to the Washington Department of Natural Resources:

a) Point Cloud Data: at least 8 points per square meter final density required, full classified point cloud, LAS v1.4 format.

b) Digital Elevation Models (DEM): BARE EARTH, hydro-flattened grids with a post spacing no greater than 3 ft and no less than that specified. DEM data will comprise of individually tiled DEM files. Hydro enforcement is not preferred for these products in order to maintain geomorphic accuracy.

c) Digital Surface Model: FIRST RETURN, hydro-flattened grids with a post spacing no greater than 3 ft and no less than that specified. DEM data will comprise of individually tiled DEM files. Hydro enforcement is not preferred for these products in order to maintain geomorphic accuracy.

d) Control and calibration points: Ground Control Points (GCPs) collected by the contractor to control the survey as well as to compare to the LiDAR collection in order to ensure accuracy will be delivered in the Survey Report as a list of X, Y, Z coordinates as well as in an ASCII text or ESRI shapefile format.

e) Intensity image files, if available.

f) Survey Report: text report that describes the survey and collection methods, conditions, and vendor's accuracy assessment.

g) Metadata: Processed LiDAR data and derived products will include FGDC-compliant metadata.

h) QA/QC report: The QA/QC report or checklist as completed by the USGS as well as any QC reports delivered by the contractor.

i) Data Deliver Mode: External Hard Drive.

6) Acceptance Criteria

The deliverables will be accepted by the USGS in accordance to the U.S. Geological Survey Lidar Guidelines and Base Specification Version 1.2. More specifically, QC/QA on the deliverables will be done to ensure all specified data and documents are present and can be opened/viewed in appropriate software and that all GIS products, DEMs, and las files are in the correct projection and coordinate system. DEMs will also be reviewed for quality and consistency to include but not limited to an inspection of hydrologic flattening, verification of any spikes, wells, voids, or other artifacts, and that applicable features are either removed or maintained as specified. Any deliverables not meeting the acceptance criteria will be sent back to the contractor to be reworked and redelivered as described by section 5, Schedule and Data Delivery.

7) Schedule and Data Delivery

The LiDAR collection component of this project is planned to occur in Spring of 2016 or as soon as acceptable capture conditions allow. Focus for the Spring 2016 timeframe will be on the northern lowland portions of the AOI. The DNR is required to spend a portion of their funds totaling at least $1 Million by June 30, 2016 with the remaining portion being spent by June 30, 2017. Services that can be paid for by these funds include all pre-planning activities and LiDAR survey collection. All processed data and derived products defined in the USGS project Task Order will be sent directly to USGS National Geospatial Technical Operations Center by the GPSC Contractor for evaluation.

A sample of data will be available as a pilot review of the data quality, to be evaluated by the USGS and DNR prior to finished product deliveries. The finished data and derived products will be delivered in at least two blocks, as either a northern and southern block as appropriate given the area of interest (see Figures 2 and 3 of Attachment A), or delivered as completed in Spring 2016 and additional areas completed thereafter. USGS will evaluate project deliverables within 60 days of receipt. Substandard deliverables will be returned to the Contractor for correction/rework. The Contractor will remedy all discrepancies identified and return corrected deliverables to USGS within 30 days of notification for subsequent inspection. Within 30 days of acceptance of project deliverables, the Contractor will provide a copy of all deliverables to the DNR LiDAR project Point of Contact.

8) Other terms

Every effort will be made to award contract(s) to complete the work as described in this SOW. However, if the total funding amount is not sufficient to complete the work as described, then adjustments will be made to either obtain additional funding, or, the project will be re-scoped to the mutual satisfaction of all stakeholders.

Data over military properties is not anticipated to be shared with partners or the public, unless clearance is provided. Should unexpected restrictions affect access to other data over military properties, then only federal funds will be applied to those areas.

If data acquisition cannot be completed during a single season due to unacceptable capture conditions, then it is possible that the remaining AOI would be acquired during the next suitable collection window which may or may not be in the same calendar year.

The partner shall pay contract project costs plus applicable GPSC assessment fee which is calculated by USGS as 5% of the contracted project cost, not to exceed the amount specified in the JFA.

9) Financial Arrangements

Funding Source	Amount
Washington Department of Natural Resources	$2,200,000
Local Partners:	
Lewis County	$30,000
Seattle City Light	$31,600
Sierra Pacific Industries	$45,000
Skagit County	$60,000
Snohomish County	$30,000
Swinomish Tribe	$100,000
Whatcom County	$85,000
Total from Washington DNR and Partners	$2,581,600.00
USGS, FEMA, NRCS	$628,236.00

10) Contacts

USGS Financial Contacts:		**WA DNR Financial Contact:**
Jim Almekinder	Name	Tara Salzer
US Geological Survey		Division of Geology and Earth Resources
1400 Independence Road, MS317	Address	1111 Washington St. SE, MS47007
Rolla, MO 65401		Olympia, WA 98501
573-308-3549	Telephone	360-902-1465
jalmekinder@usgs.gov	E-Mail	Tara.Salzer@dnr.wa.gov
Debbie Prater	Name	
US Geological Survey		
1400 Independence Road, MS318	Address	
Rolla, MO 65401		
573-308-3643	Telephone	
dprater@usgs.gov	E-Mail	

USGS Delivery to:		**WA DNR Delivery to:**
Tom Carlson	Name	Abby Gleason
US Geological Survey		Division of Geology and Earth Resources
934 Broadway, Suite 300	Address	1111 Washington St. SE, MS47007
Tacoma, WA 98402		Olympia, WA 98501
253-552-1682	Telephone	360-902-1560
tcarlson@usgs.gov	E-Mail	Abigail.Gleason@dnr.wa.gov

Attachment A

WESTERN WASHINGTON
2016 LIDAR DATA ACQUISITION AND
PRODUCT DEVELOPMENT PROJECT

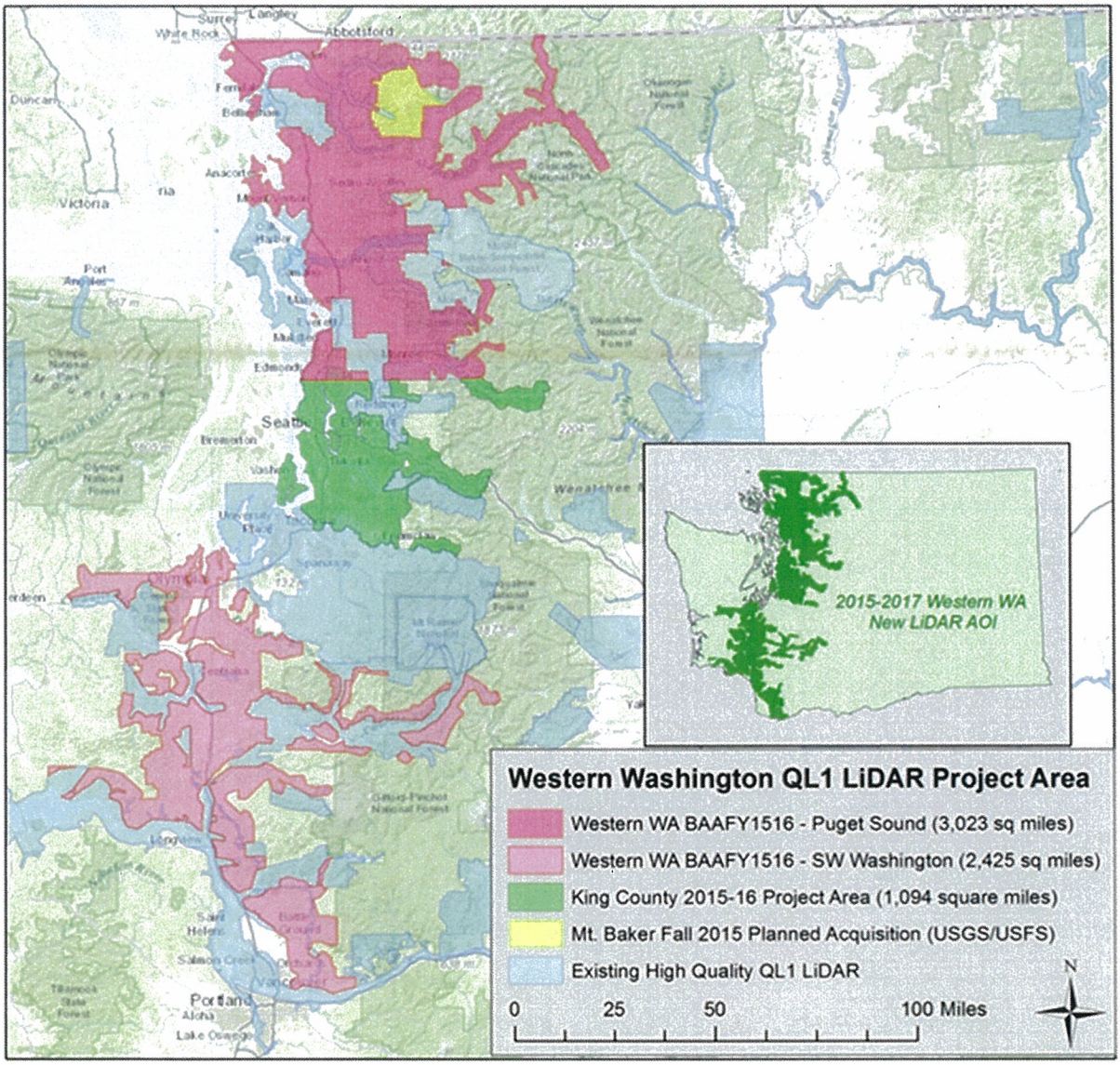

Figure 1: Complete QL1 LiDAR Project Area, with existing high quality LiDAR and concurrent projects for reference. Figures 2 and 3 feature the northern and southern AOIs respectively.

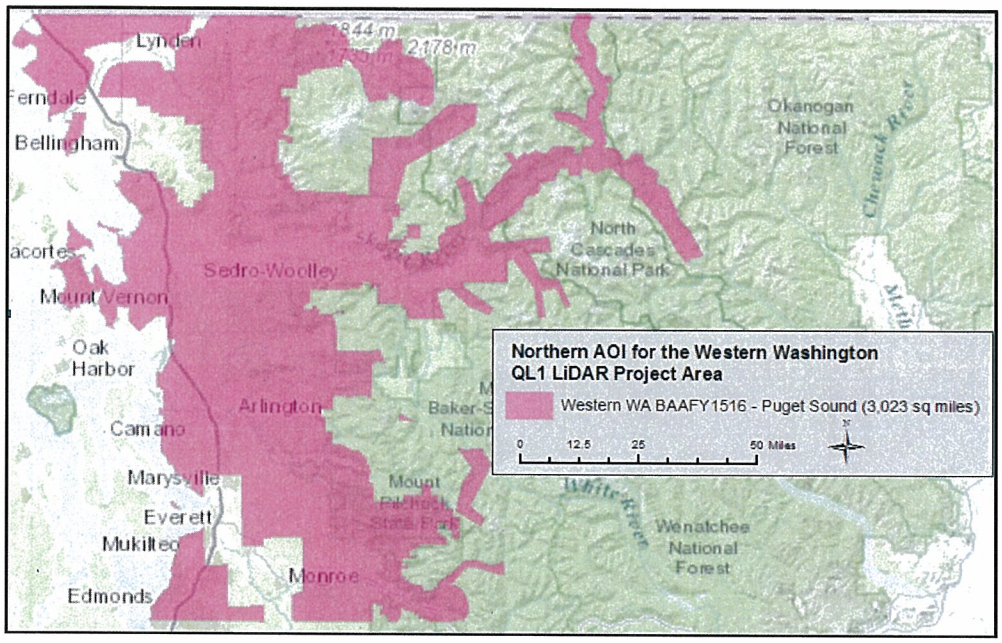

Figure 2: Northern AOI for the Western Washington QL1 project area.

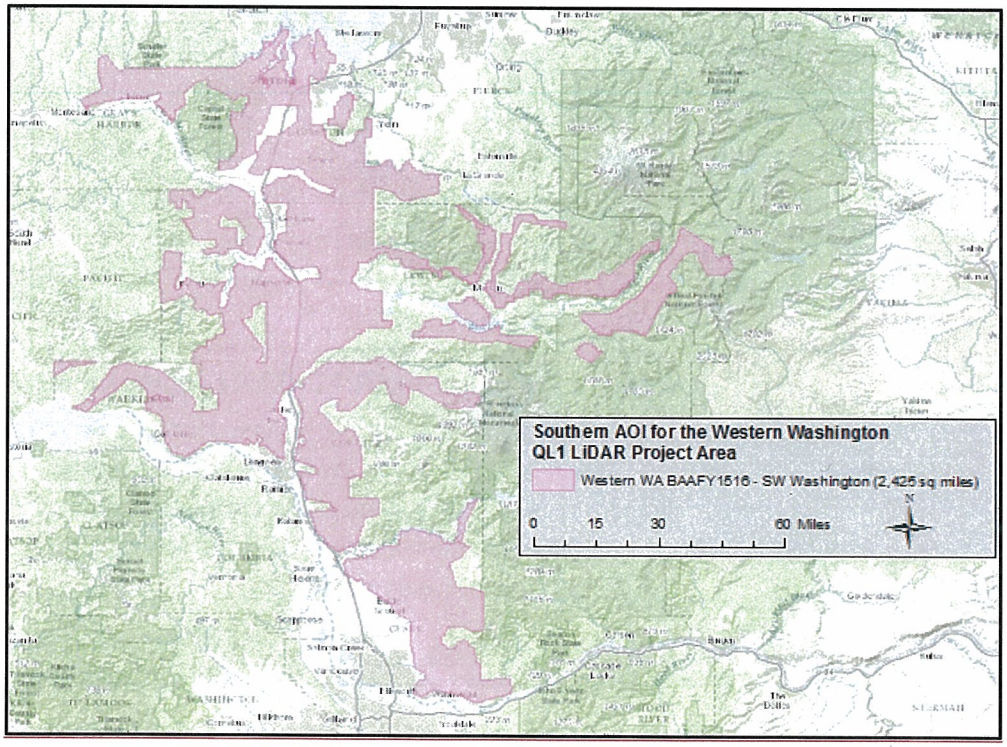

Figure 3: Southern AOI for the Western Washington QL1 project area.