



COOK COUNTY GOVERNMENT
Office of the Chief Procurement Officer

**Request for Proposal
(RFP) No. 2103-08021**

for

LiDAR Data Acquisition

Proposals are due no later than 10:00 AM (Local Time – Chicago) on Wednesday, November 10, 2021.

There will be a Non-mandatory pre-proposal conference on Monday, October 25, 2021 at 1:00 PM (Local Time – Chicago).

Web Link:

https://teams.microsoft.com/l/meetup-join/19%3ameeting_MTk3NjM1MGMtOGUyZi00MDY2LWI3NDktNzkwOTI4ZmVhMTEz%40thread.v2/0?context=%7b%22Tid%22%3a%228b4d55ae-6db4-4e05-a85c-59d6a256cd6e%22%2c%22Oid%22%3a%22ede98460-682f-4278-93d2-05f79fdb56ab%22%7d

Questions regarding the RFP should be submitted **ONLY** through below link by 5:00 PM (Local Time – Chicago) on Friday, October 29, 2021:

https://forms.office.com/Pages/ResponsePage.aspx?id=rIVNi7RtBU6oXFnWolbNbmCE6e0vaHhCk9lF95_bVqtUNTRIV0VPQkZJQlhHSVBXMjdFWTNSOVAwQi4u

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1 INTRODUCTION

1.1 Overview

Cook County Government (the “County”), through the Office of the Chief Procurement Officer (“OCPO”) seeks proposals from qualified consultants to provide services to capture Light Detection and Ranging System (LIDAR) data in calendar year 2022 and the creation of County-wide digital elevation products. The LIDAR data will also be used for the creation of a new topographic database to be included in the Counties’ enterprise Geographical Information System (GIS). Moreover, these services will be of sufficient accuracy, precision, and utility to update and enhance an existing enterprise-wide GIS database that supports current and proposed applications involving public access, change detection for assessment use, land records management, planimetric mapping, infrastructure management, engineering, map production, and various land data analyses.

1.2 Purpose / Objectives

The purpose of this RFP is to seek proposed consulting services that detail procedures, specifications, and costs in order to accomplish each of the following major tasks:

1. Global Positioning System (GPS) survey control to support LIDAR
2. Light Detection and Ranging System (LIDAR) point collection and classification
3. Digital Terrain Model (DTM) derived from LIDAR
4. Derivatives: Various interval topographic mapping, Complete tiled raster images; LAS dataset, optional bathymetry of inland waterbodies
5. Geodatabase design
6. Federal Geographic Data Committee (FGDC)- Content Standard for Digital Geospatial Metadata (CSDGM), Vers. 2 ([FGDC-STD-001-1998](#)) is the current version of this FGDC authored and endorsed standard.compliant metadata; Project Plan and Management.

Cook County intends to award one (1) contract with an expected term of one (1) year with one (1) one-year renewal option.

1.3 Cook County Background

Formed on January 15, 1831 by an act of the Illinois State Legislature, Cook County is currently estimated to have 5.2 million residents, making it the second largest county and the 19th largest government body in the United States. It is a home rule county pursuant of Article VII, Section 6 of the Illinois State Constitution. It contains 132 municipalities, including the City of Chicago, 30 townships, 237 special districts, and 160 school districts. The County employs over 24,000 people and has an annual budget of approximately \$6.18 billion. As mandated by State law, County government has three principal responsibilities, which include the protection of persons and property, the provision for public health services and the maintenance of County highways. The Cook County Board of Commissioners is the legislative body of county government, and the President is the Board’s Chief Executive Officer. There are eleven additional Cook County governmental offices, run by their independently Elected Officials.

- President of the County Board: The President is the Chief Executive Officer of the County and presides over the meetings of the County Board and directly supervises

departments which provide a variety of direct and support services. The President is elected to a four-year term by citizens of the County.

- **Board of Commissioners:** The Cook County Board of Commissioners is the governing policy board and legislative body of the county. It is comprised of 17 Commissioners, each serving a four-year term and is elected from single member districts. Each district represents approximately 300,000 residents.
- **Elected Officials:** Eleven independently elected officials run the additional Cook County governmental offices that oversee many functions and services of county government. Information about Cook County leadership can be found at: www.cookcountyil.gov/agencies/

2 SCOPE

2.1 Project Description

LIDAR data captured through this project will be the basis for the creation, update and capture of other separately remotely sensed planimetric data including updates to roads, 3D buildings and footprints, tree inventory, hydrographic features and to provide an accurate Digital Terrain Model (DTM) for annually captured orthoimagery. The County intends to use this data for change detection from previous mission data for assessment purposes and to ensure adherence to building code enforcement. Its uses also include, ecology management, engineering, urban planning and transportation studies, watershed delineation and to provide improved flood and disaster modeling and mitigation efforts.

Previous Cook County LiDAR missions have held special consideration of the dense central business district (CBD) of the City of Chicago, and other areas where there are numerous tall structures that make the collection of data difficult to capture. Multiple swaths, with additional flight lines may be required to limit data collection voids within these areas. This would include the extended lakefront area of Chicago. A shapefile of the expected delivery tiling scheme including the CBD is included with this RFP as Appendix XIII, Small Area Tile Index (see file SmallAreaTileIndex.shp). A map of this area is also included in Appendix XII.

All LIDAR data is to be captured in ideal climactic and stable weather conditions to provide optimal collection, e.g., cloud free, low moisture, leaf off snow and ice free. These products will support the maintenance of various geospatial databases included in the Counties' enterprise Geographical Information System (GIS). The County maintains its geospatial data according to the Illinois State Plane, Eastern Zone (Zone 3776), NAD83 (NSRS2007), U.S. survey feet coordinate system, the authority is EPSG. Elevation values utilize the NAVD88 datum as the Counties' standard.

The LIDAR proposed for collection is essential for vital operations involving county planning, inventory, infrastructure management, code enforcement, property assessment, regional security, environmental monitoring and assessment, emergency management, flood and disaster preparedness modeling and mitigation. The most current spatial data managed and accessed on the GIS platform has already been

proven to play a critical and integral role to the success of assessment staff, urban planners, engineers, ecologists, first responders, emergency personnel and remediation experts.

Cook County agencies that will directly benefit from this effort include the Bureau of Technology, Assessor's Office, Board of Review, Department of Geographic Information Systems, Department of Transportation and Highways, Department of Emergency Management and Regional Security, Building and Zoning, Environment and Sustainability, Forest Preserve District, Public Health, and Planning & Economic Development, Sheriff.

Cook County's most recent LiDAR capture was undertaken in 2017 as a part of a joint funding agreement with the United States Geological Survey (USGS) along with other Northeastern Illinois counties for the capture of 3DEP QL1 LiDAR data and derivative products including DEMs, additional classifications and one-foot topography and hydrographic breaklines.

See <https://www.sciencebase.gov/catalog/item/5d694938e4b0c4f70cf23504>.

The data proposed for this collection is also to conform to USGS QL1 requirements. See the following: <https://www.usgs.gov/core-science-systems/ngp/ss/lidar-base-specification-online>. Metadata from this project can also be found here: <http://thor-f5.er.usgs.gov/ngtoc/metadata/fgdc-std-001-1998.dtd>. **GIS software is necessary to open this file.**

New data from this 2022 proposed project deliverables in combination with county GIS hyperspectral and orthoimagery will enable a more refined delineation and update of a wide range of existing GIS data and allow for the creation and capture of new GIS layers. Currently existing publicly available Cook County data can be found here: <https://hub-cookcountyil.opendata.arcgis.com/>.

2.2 Scope of Services

All Proposers to this RFP should detail procedures, specifications, justification, and costs in order to accomplish the major tasks. Below is a summary of tasks that will need to be completed for this project:

1. Project Management
2. Survey control
3. LiDAR collection
4. Classification of data
5. Derivative products and services
6. Optional data collection and/or GIS updates
7. Metadata

2.3 GIS Software

Cook County GIS department has adopted ArcGIS Enterprise, a GIS software suite produced by ESRI, Inc., and all of its affiliated products including ArcGIS Desktop (ArcMap, ArcCatalog), ArcSDE, ArcGIS Pro, ArcGIS Server, and ArcGIS Online as its standard platform in the server, desktop, and Internet/Intranet environments. This ensures the efficiency of data transfer and its overall manipulation across all departments. Moreover, the effective coordination of GIS activities significantly enhances the safeguards

on data integrity and quality control. Currently, Cook County is operating at an ArcGIS Enterprise version 10.8.1, with ArcGIS Desktop version of 10.8.1 and ArcGIS Pro 2.8.

These products will support the maintenance of various geospatial databases included in the County's enterprise Geographical Information System (GIS), as well as provide public access via Cook County's flagship standard web-based data viewing application, CookViewer - <https://maps.cookcountyil.gov/cookviewer/>. This along with other GIS applications and data hosted by Cook County can also be accessed at Cook Central: <https://hub-cookcountyil.opendata.arcgis.com/>

2.4 GIS Database

Currently Cook County's GIS records are stored and managed in an ArcGIS Enterprise Server 10.8.1 utilizing Microsoft SQL Server 2019 as the RDBMS. The SQL server maintains several geodatabases. The Counties maintain all its geospatial data according to the Illinois State Plane, Eastern Zone (Zone 3776), NAD83 (NSRS2007), U.S. survey feet coordinate system. Elevation values utilize the NAVD88 datum as the County's standard. Comprehensive Federal Geographic Data Committee (FGDC)-compliant metadata has been established as a standard and has been written for all major data layers.

The County based on its extant rich web-based applications, supports code development according to the good practices of its web services environment of Windows Server 2019, IIS, SQL Server, and Esri Server API products. Development frameworks utilize a range of platforms including HTML, JavaScript, React, Python, and .NET

The County currently have both Microsoft Windows 10 on personal machines and Windows Server 2016 and 2019 on server machines." Cook County has a DEV, TEST/STAGING & PRODUCTION environment.

2.5 Standards and Considerations

The County encourages proposers to review the scientific literature to formulate an optimum solution or solutions. Unless otherwise noted, project specifications are based on the USGS's LiDAR Base Specification Heidemann, Hans Karl, September, 2019, LiDAR Base Specification Version 2.1: See U.S. Geological Survey NGP Standards and Specification Elevation Specifications Review Board Techniques and Methods, This specification is online and may be viewed at <https://www.usgs.gov/core-science-systems/ngp/ss/elevation-specifications-review-board>. These LiDAR specifications are required baseline specifications. For any item which is not specifically addressed, the reference Version 2.1 specification will be the required specification authority. This project is for a high-resolution data set of (Geiger Mode) LiDAR. Geiger Mode systems may not currently meet the USGS Lidar Base Specification, as that specification was written specifically to address linear mode lidar. Required attributes such as multiple returns, specified scan angles, and flagging overlapping points, are based on linear mode systems that collect data in a specific and different manner than the Geiger Mode technology. Attribution specific to linear mode technologies will not be considered in the assessment of the data. The project will adhere to all other specifications as noted above including adherence to minimum point density and associated vertical and relative accuracies. This project is for a high-resolution data set of LiDAR {Geiger Mode} of approximately 1,153 square miles for Cook County which includes a 300- foot buffer surrounding Cook County; see

Attachment A for the project boundary. The LiDAR is to be collected at a USGS QL1 (20 points per square meter (ppsm) for the entire project). The Spatial Reference System shall be: Illinois State Plane, Eastern Zone (Zone 3776), NAD83 (NSRS2007), U.S. survey feet coordinate system, the authority is EPSG. Elevation values utilize the NAVD88 datum as the Counties' standard.

All labor associated with the County LiDAR missions will be done in facilities located in the United States and will be reflected in the cost schedule of Appendix I – Price Proposal Form.

The County requires the capture of the LiDAR data in the spring under leaf-off conditions under typical and standard climate and environmental specifications of aerial remote sensing. The Proposer will indicate their experience with the stringent traffic control that governs the airspace around O'Hare and Midway airports.

Proposers must document their ability to assume the scale of this project given their available resources (staff, equipment, fiscal) on balance with other similar potential projects to be undertaken during the project timeframe. **A list of concurrent projects with contract dates must be provided to this end with the Proposal.**

2.6 Key Personnel

The proposer must identify the key personnel who will be committed to the project. The evaluation of proposals includes the qualifications of the personnel proposed; therefore, proposers will name key personnel as part of their proposal. Key personnel must include but are not limited to technical and operational leads, project management team, and proposer project owner/sponsor.

Provide a chronological resume for each of the proposed key personnel. Each proposed key personnel shall have three (3) references. All key personnel must be committed to the project without competing priorities. Provide the time commitment for each proposed key personnel on this County project. Indicate the commitment level of proposed key personnel to other projects independent of this County project if any.

The Chief Procurement Officer reserves the right to reject any key personnel proposed if it is determined to be in the County's best interest to do so. Key Personnel must not be replaced during the project without the approval of the Chief Procurement Officer.

2.7 Project Plan

The scope of work is to be enacted in accordance with the overall project plan noted in this section. This plan consists of three phases:

1. Phase One: Project initiation and assessment
2. Phase Two: Pilot
3. Phase Three: Production

2.8 Phase One: Project Initiation

Project initiation will begin after execution of the Contract by the Cook County Board of Commissioners. Agreement on administrative and communication procedures would follow. It will be required that during this phase, a requisite number of meeting(s) will be convened between the Contractor and the County.

After these meeting(s), the Contractor will begin drafting a project plan manual, detailing both the technical and administrative procedures to be followed for the duration of this project. This phase should include any assessment of the various processes and data that will be integrated for this project. The County will review and develop this further, if required. Any subsequent drafts will be approved by the County prior to the commencement of Phase Two.

The Contractor will be responsible for the filing of flight plans and obtaining appropriate permissions from the FAA, and other agencies, if necessary. Due to the large areal extent of this project, the Contractor will submit a formal plan to the FAA well in advance of the actual flight to assist in its successful implementation. The Contractor must also coordinate their efforts with the local air traffic control (Chicago TRACON) also if necessary. Cook County can assist with this coordination as deemed necessary.

2.9 Phase Two: Pilot

When the items in Phase One are accepted by the County, the Contractor will immediately proceed to a pilot phase to confirm the feasibility of the procedures and standards established at initiation.

The objectives of the pilot are to:

- a. Execute and evaluate all procedures as specified;
- b. Select and approve procedures to be implemented in Phase Three;
- c. Finalize design characteristics;
- d. Identify problems and develop policy for their resolution;
- e. Evaluate and approve all specified products.

The pilot area will consist of three LIDAR tiles, as defined by Cook County's present scheme from the 2003 photogrammetric mission. These tiles will include a wide range of landscapes under consideration for this project. All procedures will be developed and evaluated upon these sample tiles. Each tile is to be representative of one of the following:

1. Heavy urban – the Central Business District of Chicago
2. Typical suburban – an outlying municipality
3. Rural – undeveloped parcels, Forest Preserve District of Cook County holdings.

Upon receipt of the pilot data and findings, the County will review to ensure specification compliance, completeness, and accuracy. All procedures for correspondence and quality assurance will also be reviewed in this phase. The project plan manual, design considerations, and project schedule will be revised to incorporate the results identified during the study. When the County accepts final delivery of the pilot and all operating procedures are codified, the Contractor will be advised to begin Phase Three project production.

If significant and irreconcilable problems occur during Phase Two and are a result of the Contractor's efforts, or lack thereof, the County then reserves the right to authorize payment for the work completed, and to cancel the remainder of this task of the Contract.

Upon completion of the pilot, the manual will be amended to a near-final state, allowing for subsequent minor adjustments, which may result from the pilot. The Contractor will be responsible for updating the manual, should it be necessary. A final version will be delivered upon the completion of this project.

The general objectives of Phase Three are as follows:

- a. The production of LIDAR data and DTM for the remaining tiles comprising Cook County, per specifications
- b. Acceptance of all project deliverables by the County
- c. All digital information is installed and operating as a fully integrated entity in the enterprise GIS
- d. All digital information is sufficiently prepared as a support for further photogrammetric services, such as orthoimagery or bathymetry
- e. All source documents from the County have been returned.

When all the above has been accomplished and accepted by the County, the project will be considered complete.

2.10 Contractor Responsibilities

In addition to the requirements identified in Article 3 of the Professional Services Agreement, the major responsibilities of the Contractor are as follows, but not limited to:

1. Development and documentation of procedures to meet Contract specifications
2. Production of all designated tasks as specified
3. Maintenance of any requisite database, quality, legal, and safety standards
4. Delivery of preliminary and final products as per schedule
5. Security of the County's source materials
6. Regular conference calls and crew review meetings will be established
7. Coordinate to establish a site for management of all relevant project content
8. Correspondence with the County on all anomalous issues throughout project lifecycle
9. Provision of all labor, materials, equipment, tools, and other incidentals (except that provided by the County) that are necessary to complete the project.

2.11 County Responsibilities

The major responsibilities of the County are as follows:

1. Access to or provision of any relevant source materials as specified by the stewards of that information
2. Provide notice to all standards, protocols, and procedures for compliance during the project
3. Review and approval of plan project manual, database design, project schedule, quality control procedures, documentation, and all other deliverable products
4. Resolution of issues on a timely basis
5. Coordinate to establish a web-based site for management of all relevant project content
6. Execution and documentation of acceptance procedures on a timely basis
7. Quality assurance inspection of deliverables on a timely basis.

2.12 Project Tracking

The Contractor must comply with jointly agreed procedures of a content management site for tracking progress and documents for the duration of the project. This will be through Cook County's SharePoint

site. In addition, the Contractor will submit written monthly status reports to the County. These reports will include:

1. Work accomplished for each reporting period
2. Production goals for the next reporting period
3. Any product or document that is delivered
4. Meetings held, planned, or requested, including the minutes thereof
5. Current status of risks, issues or problems
6. Summary of approved project changes
7. Invoicing and payment
8. Other relevant information which must be reviewed and discussed.

In addition, during the requirements gathering task of the project, the Contractor will be required to submit weekly status reports. The final form and procedures of these reports will be established at project initiation. The Contractor is responsible for coordinating a project closure form with the Counties to document confirmation of deliverables, outstanding issues, and lessons learned to formally complete the contract.

2.13 Required Elements

The County tentatively proposes the following items as project deliverables. The Proposer will submit appropriate and relevant information regarding each including attribution, (per attribute description tables as determined during project initiation which may include characteristics such as file format, approximate file size, media of delivery, storage requirements and plan, and other specifications. All pilot and final data to be delivered on non-returnable portable storage device(s). These specifications will ultimately be determined between the Contractor and the County during project initiation. Deliverables to include, but not be limited to:

- a. Project Plan manual
- b. Geodatabase Design Document
- c. Raw point cloud data (Raw tiles only, Raw data by flight line is not a deliverable on this project)
- d. LAS dataset of classified LAS files including RGB values as provided by separately collected County orthoimagery
- e. Reflectance Image
- f. Bare earth surface (Raster DEM) per County
- g. Ground Survey Control Report
- h. Survey Checkpoints
- i. QA/QC Assessment Project Report
- j. Metadata
- k. Small Area Tile Index for raw point cloud and LAS dataset, items c and d from above (Refer to – Appendix XIII, SmallAreaTileIndex.shp as provided by the County, GIS software is required to view the attachment.)
- l. Large Area Tile Index for all other spatial data to be delivered (Refer to Appendix XIII, LargeAreaTileIndex.shp as provided by the County, GIS software is required to view the attachment.)
- m. Topographic Elevation Contours
- n. Breaklines

2.14 Geodatabase Design

The Proposer will describe their approach to the database design for all proposed and any optional deliverable GIS feature classes for this project. The Proposal will include a high-level conceptual geodatabase design (GDB) strategy that will accommodate all proposed data sets including control points, LIDAR flight lines, breaklines, and contours (Cook County requires a minimum of one-foot contours but six inch is preferable, pricing for both should be included by the proposer). Contour annotation, spot elevations, and spot annotation are also to be included. The GDB will include, if pertinent, any data integrity and topological requirements, tabular fields, and cartographic requirements, standards and specifications. The Proposal will additionally include specifications to deliver a formal physical geodatabase design document.

2.15 LIDAR Data

The County is requiring the generation of a LIDAR-derived digital terrain model (DTM) that meets the National Standard for Spatial Data Accuracy (NSSDA) for a minimum one-foot (1') contour interval, a vertical accuracy of 0.6 ft (18.2 cm) with a RMSE of 0.3 ft (9.25 cm). The horizontal accuracy should be 3.8 ft (1.159 m) with a RMSE of 2.2 ft (67.0 cm) for the 95 percent (95%) confidence level. Additionally, the county is requesting pricing and specifications for the capture of data that will support six-inch and two-foot interval contour data. Cook County recognizes that adjustments to this standard may be needed for the proposed six-inch (6") contour interval (proposers to detail this as necessary). The Proposal is to include the testing methodology to verify conformance with the NSSDA for the various collection types proposed.

A detailed approach will be proposed to include the following:

1. Specifications and methodology for the flight including the documentation of mission date(s), time, flight altitude, overlap and airspeed. The flight paths shall cover the study area satisfactorily including both parallel and cross flight lines to eliminate shadowing or void areas and allow for proper quality control. Discuss how various environmental conditions will be handled. Address any special considerations for areas of dense coverage such as locations containing heavy foliage and for areas with tall buildings throughout the county and for those within the Central Business District of Chicago;
2. Specifications for the data collector should include scan angle (if applicable), along-track and cross-track pulse spacing, pulse width and density, and number of returns;
3. Describe classification schema and process for the discrimination of first and last (and any additional) pulse returns (if applicable). Describe the post-processing algorithms used for vegetation or structure removal to ascertain bare earth requirements. "Bare earth" is defined as all points except, but not limited to, elevation points on bridges, buildings, other structures, and vegetation from the LIDAR-derived data;
4. Definition and resolution of data voids and data artifacts resulting from the mission;
5. Outline all quality control and quality assurance procedures to ensure the integrity of the LIDAR mission;
6. Provide descriptions, specifications and calibration procedures of all equipment used in the

mission.

The LIDAR data will be delivered in the American Society of Photogrammetry and Remote Sensing’s (ASPRS) LIDAR Data Exchange Format Standard (.LAS, version 1.4 R15 or the latest revision available) with all the required header fields. The LIDAR points will be classified as “ground” and “canopy” (not ground). It should also include flight line number and intensity values.

The Contractor shall use automated and manual filtering for bare earth creation, removing 95% or greater of artifacts, outliers, voids, systematic and random errors, noise, anomalies, human-made features and vegetation. The resulting DTM shall support the production of the proposed contours. The Contractor must deliver data with no data voids.

The data shall be delivered as a collection of feature classes that are tiled according to the scheme established in the 2017 LiDAR mission. A shapefile of the LIDAR tiling scheme will be made available as part of this RFP.

2.16 LIDAR Classification Codes

LIDAR Classification must adhere to the following standard: American Society for Photogrammetry & Remote Sensing (ASPRS) Standard Point Classes (Point Data Record Formats 6-10)

Value (Bits 0:4)	Meaning	Notes
0	Created, Never Classified	*
1	Unclassified	
2	Ground	
3	Low Vegetation	
4	Medium Vegetation	
5	High Vegetation	
6	Building	
7	Low Point (Noise)	
8	<i>Reserved</i>	
9	Water	
10	Rail	
11	Road Surface	
12	<i>Reserved</i>	
13	Wire – Guard (Shield)	
14	Wire – Conductor (Phase)	
15	Transmission Tower	
16	Wire-Structure Connector	e.g., insulators
17	Bridge Deck	
18	High Noise	
19	Overhead Structure	e.g. conveyors, mining equipment, traffic lights
20	Ignored Ground	e.g., breakline proximity
21	Snow	
22	Temporal Exclusion	Features excluded due to changes over time between data sources – e.g., water levels, landslides, permafrost
23-63	<i>Reserved</i>	

64-225	User Definable	
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* We are using both 0 and 1 as Unclassified to maintain compatibility with current popular classification software such as TerraScan. We extend the idea of classification value 1 to include cases in which data have been subjected to a classification algorithm but emerged in an undefined state. For example, data with class 0 is sent through an algorithm to detect human-made structures – points that emerge without having been assigned as belonging to structures could be remapped from class 0 to class 1. Highly accurate classifications are a goal of this project. Proposers are required to provide measurements as to what percentage of error are to be expected as a result of this project. Accurate classification of the LiDAR is of high importance to Cook County as this data will be used for the creation of other data sets. Cook County expects classification accuracies of at least 90%. The proposer will provide a methodology for attaining this level of accuracy.

2.17 Digital Terrain Model (DTM)

The County requires a hydro-enforced digital terrain model (DTM). The creation of the DTM shall utilize LIDAR-derived bare earth points and breaklines. The DTM must be capable of generating NSSDA-compliant the required contours. Breaklines shall be delineated to ensure the DTM is hydrologically correct. Breaklines will be captured for all hydrologic features and delineated according to the following specifications. The data shall be delivered as a collection of feature classes that are tiled according to the scheme established in the 2017 LiDAR mission. The shapefile of the DTM tiling scheme is available as part of this RFP (Appendix XIII, Large Area Tile Index, see file LargeAreaTileIndex.shp).

Hydrologic features with constant elevation such as lakes, reservoirs, etc. will be delineated as closed polygons with a single elevation value that reflects the water elevation at the time the data was captured. Water body features will be captured for features one-quarter acres in size or greater. No LIDAR points shall be contained within polygonal hydrologic features, e.g., reservoirs, lakes, and streams. Swimming pools will be excluded from the capture methodology.

Linear hydrographic features (streams, shorelines, canals, swales, embankments, etc.) will be delivered as breaklines with varying elevations. Linear and polygonal water features should all be connected so to allow water to flow downhill throughout the stream network. Hydrologic features will cut through all identifiable culverts and bridges. Breaklines will also be captured for all dams. These features will have z-values derived from the bare earth LiDAR data. For the double line breakline features, all the LIDAR points shall be removed for the area that falls inside of the double breaklines.

Road features, not including bridges and overpasses, shall be captured as edge of pavement breaklines as required to create a DTM capable of creating contours at the required intervals. In addition, other breaklines for transportation features should be collected as required for DTM development to meet the required contour specifications. These features will have z-values derived from the bare earth LIDAR data.

2.18 Topographic Elevation Contours

Contours shall be generated from the DTM for a mapping scale of 1:1200 (one inch equal one hundred feet). Index contours will be established for multiples of five feet (5'), technically beginning with the five-foot contour line. The final contour lines shall have z-values for each contour line. Elevation values

shall be assigned to contour lines as attributes. The contour lines will be smoothed and will meet cartographic quality.

The Proposer will provide a detailed compilation methodology, including interpolation strategies, smoothing algorithms and symbology plan. Contours must depict the general terrain including crown or cross slope of all paved areas and drainage flows. Contours must be continuous, uninterrupted lines; meaning that in general, contours cannot intersect or arbitrarily terminate. They shall end only as extensions beyond the project area limits. The Proposer will submit their methodology for the handling of contours around streams.

The Proposer will capture depressions in the topography. A depression contour is a localized contour that closes within the mapping limits (or obviously closes outside the mapping limits) such that the area enclosed by the contour is lower than the contour elevation. A procedural definition, capture methodology and symbology plan will be provided by the Proposer.

The Proposer will provide a methodology for the capture and display of spot elevations. Spot elevations are essential in the accurate depiction of the terrain. Typical candidate features include crests within closed contours, nadirs within closed depression contours, amidst widely spaced contours, and on various infrastructural elements such as intersections involving roadways & railroads, overpasses, and bridge decks. Spot elevations will also be captured for the surface height of discrete bodies of waters with constant elevation. Water elevations will not be acquired along streams.

An annotation plan for the display of the various contour elements is critical to effective cartography. The Proposer will fully specify the annotation plan to include font(s), type size, type placement (relative to features, orientation, and spacing thresholds), and masking, if necessary, for each element.

2.19 Quality Assurance

Proposers should provide a detailed description of the proposed Quality Assurance (QA) methodology adhering to best practices and clearly identifying control tasks and testing. The Counties expects this section to include at minimum:

1. High level proposed QA approach
2. Proposed review process
3. County responsibilities for each of the above including
4. Expected and optional deliverables in the format provided

2.20 Project Schedule

The Proposer will provide a detailed project schedule including all tasks and major milestones. The requirements of the LiDAR data capture in terms of seasonality must be clearly addressed and accommodated.

2.21 Metadata

Cook County is committed to documentation of its database and related information. This documentation supports the activities of its own users as well as those external to the County with whom data is shared. To this end, Cook County has adopted the FGDC, CSDGM standard for geospatial products for all data layers (including any optional data layers as proposed). An example of metadata for a typical Cook County SDE feature class is included as Appendix XI. FGDC,CSDGM-compliant metadata for the proposed feature classes will be required for this project. The Proposer will indicate the methodology to create the metadata. Metadata will be ultimately delivered in HTML, XML and TXT file formats, but working drafts during development and QA will be provided to the Counties in Microsoft Word.

2.22 Optional Data Layers (e.g. Bathymetry and/or other)

- a. Point or Polygon feature class, and
- b. FGDC-compliant metadata.

2.23 Proposed Project Approach and Implementation Methodology

Proposers should depict the proposed implementation strategy in a high-level diagram/table and include:

1. Brief description of proposed methodology, including
 - a. the number of iterations and steps to completion
 - b. weaknesses of proposed methodology (e.g., Agile leads to light documentation) and the plan to address methodology weaknesses
2. Proposed project phases
3. Team roles and responsibilities, including subcontractors and required Cook County roles
4. Milestones
5. Critical success factors
6. Assumptions

2.24 Project Task List and Timeline

Limit this response to the project plan and related timeline. Proposers should provide detailed scope tasks/activities, organized in phases including, but not limited to, project management activities, key resources, and estimated hours per key activity. Microsoft Project files are acceptable as attachments but this section requires an easy to read format (a Gantt chart is helpful but do not insert long “black lines” for the last pages of MS project plans).

2.25 Data Confidentiality and Security

The Proposer must describe how they will reasonably protect the security, confidentiality and privacy of County data and of any individuals who may be considered data subjects as to the solution.

2.26 Contract Performance Review and Acceptance

Proposers should describe all expected contract performance metrics, an approach to collect and transfer all assets to the County, the required key staff to attend close out session(s),and expected close out activities. This close out plan should include at a minimum:

1. List of all expected final documentation and respective acceptance criteria/process;
2. Vendor Performance Review expectations;
3. Final Project Lessons Learned review expectations;
4. Vendor Performance Review expectations as follows:

Contract Performance Review Item	Description – Acceptance Criteria	Acceptance Via
Project Plan		
Pilot Project		
LiDAR data		
Optional products (data)		
Metadata		
Accuracy and QA of data and metadata		
Project management and control		
Project transition		
Budget and schedule		

2.27 Invoicing and Payment

Proposers are required to submit the pricing proposal separate from the technical proposal, see Section 7.2 of this Request for Proposals for details of this requirement and Appendix I for the Pricing Proposal form. The Proposer must clearly address the following topics relating invoicing and payments:

1. Pricing methodology – The Proposer shall clearly explain whether it seeks fixed fee payment(s), time and materials payments(s), or any other payment basis, including examples if necessary.
2. Milestone-based or deliverable-based payments – The Proposer shall describe how it shall invoice the County upon the County’s acceptance of deliverables or project milestones.
3. If the proposal calls for tendering deliverables of different types (e.g., initial mages vs. maintenance), the Proposer shall clearly explain the corresponding payment expectations.
4. The County’s payment terms are found within Appendix IV Sample Contract Agreement, see Article 5) Compensation.

2.28 Proposed Payment Schedule

Based on the pricing requirements provided in Section 7.2 of this RFP, the Vendor shall invoice the County for accepted deliverables at the end of each month for the month that acceptance is signed off. In the event a deliverable cannot be fully accepted by the County or is not accepted by the County, by no fault of the Vendor but by fault of the County or due to the County terminating the Agreement for convenience, the Vendor will submit an invoice to the County, based on a mutually agreed upon, fair and reasonable estimate of the percentage of completion of the deliverable in question. Deliverables for the first year and their associated costs should be documented in the attached pricing spreadsheet.

2.29 Solution Ownership and Other Terms and Conditions

Cook County Government aims to retain all rights to data products and duratives that are provided by the vendor within the scope of this RFP.

2.30 Data Ownership

If a contract award is made through this Request for Proposals process, all County Data shall be the exclusive property of the County. The selected Proposer will treat County Data as Confidential Information.

2.31 Intellectual Property Ownership

Proposer's deliverables may be considered "works made for hire" or otherwise assigned to or owned by the County. Proposer must state its agreement or must state any objection to this section. Specifically, the Proposer must address intellectual property ownership individually with respect to each of the following in its proposal:

1. LiDARAcquisition
2. Metadata
3. Project plansDocumentation
4. Other Deliverables

2.32 Other Terms and Conditions

If the proposer requires any additional terms, the proposal shall include a clear, high-level, plain language explanation. At a minimum, the explanation shall answer the following questions:

1. Does the proposer intend to impose upon the County any additional terms and conditions, such as end user license agreements, acceptable use policies, terms of service, product use agreements, or others?
2. Does the proposer want to reference its terms and conditions via URL or change its terms and conditions at a later date? Or would the proposer include copies of the additional terms and conditions as exhibits to a contract with the County?
3. Do any additional terms limit the proposer's liabilities or the County's' remedies?

In an appendix, the proposal shall attach complete copies of any additional terms and conditions related to the proposal.

2.33 Data Access and Retention

The response must state whether Proposer will meet the following data-related system requirements:

1. At all times, the County shall be able to receive County data, associated metadata, and reasonably granular subsets thereof, as well as any associated files or attachments, from the System in a useable, encrypted format.
2. Upon termination of the contract and at the County's written request, the Proposer shall destroy County Data, including backups and copies thereof, according to NIST standards or as otherwise directed by the County.
3. At no time may Proposer suspend or terminate County's access to County Data or the System for breach of contract or term or condition relating to the System without giving the County reasonable notice and opportunity to cure according to the County's dispute resolution process.

2.34 Transition Out and Exit Requirements

The proposal must describe its plan for transitioning Deliverables, County data, and any County intellectual property to the County at the termination of the proposed solution or services, including:

1. How the aforementioned would be delivered to the County
2. Whether the Proposer would assist in transition to the County or successor vendor
3. How County data in contractor's possession would be destroyed after transition
4. All assumptions and requirements, such as required time for transition or County participation

The Proposer must include any costs associated with transition out in the separate pricing proposal.

3 RFP SCHEDULE

The County anticipates the following Schedule:

RFP posted to the County website	October 18, 2021
Non-Mandatory Pre-Proposal conference	October 25, 2021
Proposer inquiry deadline	October 29, 2021
Response to inquiries (tentative)	November 05, 2021
Proposal due date	November 10, 2021

4 INSTRUCTIONS TO PROPOSERS

4.1 Instructions

This RFP provides potential proposers with sufficient information to enable them to prepare and submit proposals. This RFP also contains the instructions governing the submittal of a proposal and the materials to be included therein, including the County requirements, which must be met to be eligible for consideration. All proposals must be complete as to the information requested in this RFP in order to be considered responsive and eligible for award. Proposers providing insufficient details will be deemed non-responsive. The County is not obligated, either to purchase the full services or the products proposed by the proposer, nor to enter into an agreement with any one proposer.

4.2 Availability of Documents

The County will publish its competitive bid, RFP, and other procurement notices, as well as award information, at:

<http://legacy.cookcountygov.com/purchasing/bids/listAllBids.php>

Interested proposers should note that, unless otherwise stated in the bid or RFP documents, there is no charge or fee to obtain a copy of the bid documents and respond to documents posted for competitive solicitations. Proposers intending to respond to any posted solicitation are encouraged to visit the web site above to ensure that they have received a complete and current set of documents. Some procurement notices may provide a downloadable version of the pertinent documents and any amendments to them, that will be available to proposers after they have completed a simple registration process.

Any proposers receiving a copy of procurement documents from a bid referral service and/or other third party are solely responsible for ensuring that they have received all necessary procurement documentation, including amendments and schedules. The County is not responsible for ensuring that all or any procurement documentation is received by any proposer that is not appropriately registered with the County.

4.3 Non-Mandatory Pre-Proposal Conference

The County will hold a non-mandatory Pre-Proposal conference on the date and time indicated below. Representatives of the County will be available to answer any questions regarding the services requested or proposal procedures.

Click Link Below for Pre-Proposal Conference Sign-In:

Prospective proposers attending the Pre-Proposal Conference will sign in using the link below. This sign-in link will only be open during the hour slated for the Pre-Proposal Conference. Final list of Pre-Proposal Conference attendees will be made available publicly.

https://forms.office.com/Pages/ResponsePage.aspx?id=rIVNi7RtBU6oXFnWolbNbmCE6e0vaHhCk9IF95_bVqtUNkRXQ1dEWVhDT0ZXT0tIU0pNTkk3MVYzRy4u

Click Link Below to Join the live Non-Mandatory Pre-Proposal Conference:

Date: Monday, October 25, 2021 at 01:00 PM (Local Time – Chicago)

Location: Microsoft Teams Meeting

Web Link:

https://teams.microsoft.com/l/meetup-join/19%3ameeting_MTk3NjM1MGMtOGUyZi00MDY2LWI3NDktNzkwOTI4ZmVhMTEz%40thread.v2/0?context=%7b%22id%22%3a%228b4d55ae-6db4-4e05-a85c-59d6a256cd6e%22%2c%22oid%22%3a%22ede98460-682f-4278-93d2-05f79fdb56ab%22%7d

4.4 Intentionally Left Blank

4.5 Clarifications

All Questions regarding this RFP will be submitted in writing ONLY through the link below:

https://forms.office.com/Pages/ResponsePage.aspx?id=rIVNi7RtBU6oXFnWolbNbmCE6e0vaHhCk9IF95_bVqtUNTRIV0VPQkZJQlhHSVBXMjdFWTNSOVAwQi4u

4.6 Submitting the Proposal Package

The Proposal and the Pricing Proposal shall be submitted to the OCPO electronically as per the instructions in Appendix II-Instructions for Submitting an Electronic Bid/Proposal/Qualification. OCPO will not accept hardcopy proposals. The Proposer remains responsible for ensuring that its Proposal is received at the time, date and manner specified. The County assumes no responsibility for any Proposal not so received. **Late Proposals will not be accepted.**

4.7 Uniformity

To provide uniformity and to facilitate comparison of Proposals, all information submitted must clearly refer to the page number, section or other identifying reference in this RFP. All information submitted must be noted in the same sequence as its appearance in this RFP. The County reserves the right to waive minor variances or irregularities.

4.8 Proposal Material

The Proposal material submitted in response to the RFP becomes the property of the County upon receipt by the Office of the Chief Procurement Officer and will be part of any contract document for the goods or services which are the subject of this RFP.

4.9 Addenda

Should any proposer have questions concerning conditions and specifications, or find discrepancies in or omissions in the specifications, or be in doubt as to their meaning, they should notify the Office of the Chief Procurement Officer no later than Due Date to obtain clarification prior to submitting a Proposal. Such inquires must reference the proposal due date and the County RFP number.

Any clarification addenda issued to Proposer prior to the Proposal due date shall be made available to all proposers. Since all addenda become a part of the Proposal, **the Addenda Acknowledgement Form (found in Appendix V) must be signed by an authorized Proposer representative and returned with the Proposal on or before the Proposal opening date. Failure to sign and return any and all addenda acknowledgements may be grounds for rejection of the Proposal.**

Interpretations that change the terms, conditions, or specifications will be made in the form of an addendum to the solicitation by the County. If issued, the County will post the addenda on the County website: <http://legacy.cookcountygov.com/purchasing/bids/listAllBids.php>. In the event there are any conflicts between the general terms and conditions and any special terms and conditions, the special terms and conditions shall take precedence.

4.10 Proposer's Responsibility for Services Proposed

The Proposer must thoroughly examine and will be held to have thoroughly examined and read the entire RFP. Failure of Proposers to fully acquaint themselves with existing conditions or the amount of work involved will not be a basis for requesting extra compensation after the award of a Contract.

4.11 Errors and Omissions In the RFP

The Proposer is expected to comply with the intent of this RFP taken as a whole and shall not avail itself of any error or omission to the detriment of the services or the County. Should the Proposer suspect any error, omission, or discrepancy in the specifications or instructions, the Proposer shall immediately notify the County in writing, and the County will issue written corrections or clarifications. The Proposer is responsible for the contents of its Proposals and for satisfying the requirements set forth in the RFP. Proposer will not be allowed to benefit from errors in the RFP that could have been reasonably discovered by the Proposer in the process of putting its proposal together.

4.12 RFP Interpretation

Interpretation of the wording of this document shall be the responsibility of the County and that interpretation shall be final.

4.13 Confidentiality and Response Cost and Ownership

From the date of issuance of the RFP until contract award, the Proposer must not make available or discuss its Proposal, or any part thereof, with any employee or agent of the County. The Proposer is hereby advised that any part of its Proposal or any other material marked as confidential, proprietary, or trade secret, can only be protected to the extent permitted by Illinois Statutes.

4.14 Use of Subcontractors

The Proposer's response must include a description of which portion(s) of the work will be subcontracted out, the names and addresses of potential Subcontractors and the expected amount of money each will receive under the Contract. The County reserves the right to accept or reject any subcontractor if in the County's sole opinion, it is in the best interest of the County.

4.15 MBE/WBE Participation Goals

Consistent with Cook County, Illinois Code of Ordinances (Article IV, Section 34-267 through 272), the County has established a goal that MBE/WBE firms retained as subcontractors receive a minimum of 0% of the overall estimated expenditures for this procurement. To continue to promote and expand the participation of certified MBE/WBE firms, the proposer shall make good faith efforts to utilize MBE/WBE certified firms as subcontractors. In its response, a proposer shall state the name(s) of the MBE and WBE subcontractor(s) and the level of participation proposed for each MBE and WBE to be awarded a subcontract, and submit the MBW/WBE Utilization Plan Forms (included in this RFP in Appendix VI).

4.16 Proposer's Disclosure and Conflict of Interest

The Proposer must complete and return the enclosed "Economic Disclosure Statement Forms" along with their proposal. If further clarification is required on any of the information provided, the County reserves the right to make any necessary inquiry with a proposer for such purpose. Such inquiry, if made, may include a deadline by which time any necessary clarifying information must be submitted.

4.17 Cook County RFP Format

All proposers will use this solicitation format for submitting their proposal. Variations or exceptions from the specifications and general conditions should be submitted in writing. Such variations or exceptions may be considered in evaluating the proposals received. Any exception taken must be noted and included with the proposal. Failure to comply with this requirement may cause a proposer's proposal to be considered "nonresponsive."

4.18 Pricing

All pricing and cost information requested in this solicitation should be provided by the proposer. While price is a factor in the evaluation of responses received, the relevant importance of pricing may vary based on the nature of the purchase and the related significance of other criteria as may be expressed elsewhere in this solicitation. In evaluating pricing, the County may give consideration to all cost of ownership factors relevant to determine the total final cost to the County, including but not limited to: administrative cost of issuing multiple awards. The County will be the sole determinant of the relevant and appropriate cost factors to be used in evaluating any Base or Alternate offers and/or Options.

4.19 Period of Firm Proposal

Prices for the proposed service must be kept firm for at least one hundred and twenty (120) days after the time specified for submitting Proposals. Firm Proposals for periods of less than this number of days may be considered non-responsive. The Proposer may specify a longer period of firm price than indicated here. If no period is indicated by the Proposer in the Proposal, the price will be firm until written notice to the contrary is received from the Proposer.

4.20 Awards

The County may, at its discretion evaluate all responsive Proposals. The County reserves the right to make the award on an all or partial basis or split the award to multiple Proposers based on the lowest responsible proposers meeting the specifications, terms and conditions. If a split award impacts the outcome of the project, it must be so stated in the proposal.

4.21 Cook County Rights

The County reserves the right to reject any and all offers, to waive any informality in the offers and, unless otherwise specified by the Proposer, to accept any item in the offer. The County also reserves the right to accept or reject all or part of your Proposal, in any combination that is economically advantageous to the County

4.22 Alteration/Modification of RFP Content

The Proposer certifies that no alterations or modifications have been made to the content of this Bid/RFP or other procurement documents (either text or graphics). Any alternates or exceptions (whether to products, services, terms, conditions, or other procurement document subject matter) are apparent and clearly noted in the offered proposal. Proposer understands that failure to comply with this requirement may result in the proposal being disqualified and, if determined to be a deliberate attempt to misrepresent the proposal, may be considered as basis to suspend or debar the proposer from future County procurement opportunities.

4.23 Recycling

Packaging, which is readily recyclable, made with recyclable materials, and designed to minimize potential adverse effects on the environment when disposed of by incineration or in a landfill is desired to the extent possible. Product(s) offered which contain recycled materials may be acceptable provided they meet all pertinent specifications and performance criteria outlined in this RFP. If the product(s) offered are manufactured utilizing recycled materials, identify the percentage composition and nature of the recycled content within.

5 EVALUATION AND SELECTION PROCESS

5.1 Responsiveness Review

County personnel will review all proposals to ascertain that they are responsive to all RFP requirements.

5.2 Acceptance of Proposals

Chief Procurement Officer reserves the right to reject any or all Proposals or any part thereof, to waive informalities, and to accept the Proposal deemed most favorable to the County.

5.3 Evaluation Process

An evaluation committee comprised of the County personnel will evaluate all responsive proposals in accordance with the evaluation criteria detailed below.

This evaluation process may result in a short-list of proposals. The evaluation committee, at its option, may request that all or short-listed proposers make a presentation, other customer testimonials, submit clarifications, schedule a site visit of their premises (as appropriate), provide a best and final offer, provide additional references, respond to questions, or consider alternative approaches.

5.3.1 Proposer Presentations

The County reserves the right to, but is not obligated to, request and require that each Proposer provide a formal presentation of its Proposal at a date and time to be determined. If required by the County, it is anticipated that such presentation will not exceed four (4) hours. No Proposer will be entitled to present during, or otherwise receive any information regarding, any presentation of any other Proposer.

5.3.2 Right to Inspect

The County reserves the right to inspect and investigate thoroughly the establishment, facilities, equipment, business reputation, and other qualification of the Proposer and any proposed subcontractors and to reject any Proposal regardless of price if it shall be administratively determined that in the County's sole discretion the Proposer is deficient in any of the essentials necessary to assure acceptable standards of performance. The County reserves the right to continue this inspection procedure throughout the life of the Contract that may arise from this RFP.

5.3.3 Best and Final Offer

The County reserves the right to request a Best and Final Offer from finalist Proposer(s), if it deems such an approach necessary. In general, the Best and Final Offer will consist of updated costs as well as answers to specific questions that were identified during the evaluation of Proposals.

If the County chooses to invoke this option, Proposals will be re-evaluated by incorporating the information requested in the Best and Final Offer document, including costs, and answers to specific questions presented in the document. The specific format for the Best and Final Offer would be determined during evaluation discussions. Turnaround time for responding to a Best and Final Offers document is usually brief (i.e., five (5) business days).

5.4 Selection Process

Upon review of all information provided by shortlisted proposers, the evaluation committee will make a recommendation for selection to the Chief Procurement Officer for concurrence and submission to the County elected officials. The County reserves the right to check references on any projects performed by the proposer whether provided by the proposer or known by the County. The selected proposal will be submitted for approval to the County Board. The County intends to select a proposal that best meets the needs of the County and provides the best overall value. Upon approval of the selected Proposer, a contract will be prepared by the County and presented to the Selected Proposer for signature.

6 EVALUATION CRITERIA

6.1 Responsiveness of Proposal

Proposer is compliant with all the requirements of the RFP.

Proposals will be reviewed for compliance with and adherence to all submittal requirements requested in this RFP. Proposals which are incomplete and missing key components necessary to fully evaluate the proposal may be rejected from further consideration due to "Non-Responsiveness" and rated Non-Responsive. The County at its discretion may wave non-material omissions or provide an opportunity to cure.

6.2 Technical Proposal

Proposals will be reviewed and selected based on the following criteria:

1. Quality of the proposed Plan of Action, Project Approach, Project Management and Methodology, including implementation schedule, support in the post implementation phase and understanding of the County's needs goals and objectives. **(35%)**
2. Qualifications and specialized experience for the Proposer to successfully perform the services for the County, as evidenced by the successful implementation of similar projects in at least three (3) large

complex public sector organizations. Preferably city, county, state, or other government entities.

(15%)

3. Qualifications and experience of the proposed key personnel as evidenced by relevant experience.

See Section 2.6. (25%)

6.3 Pricing Proposal

Pricing will be evaluated separately for overall reasonableness and competitiveness. This criterion represents 25% of the scorecard.

7 SUBMISSION OF PROPOSAL

7.1 Instructions for Submission

7.1.1 Instructions

Proposers are required to electronically submit one copy of their proposal no later than the time and date indicated in the RFP.

a. File #1 (“TECHNICAL PROPOSAL”) will contain documents as noted in Section 7.2 Submission Requirements. **Do not include any pricing information in this file.**

b. File #2 (“PRICING PROPOSAL”) will contain documents as noted in Section 7.2 Submission Requirements.

7.1.2 Time for Submission

Proposals shall be submitted no later than the due date and time indicated in this RFP. Late submittals may not be considered.

7.1.3 Format

Material should be organized following the order of the submittal requirements.

7.1.4 Complete Proposals

Proposers are advised to carefully review all the requirements and submit all documents and information as indicated in this RFP. Incomplete proposals may lead to a proposal being deemed nonresponsive. Nonresponsive proposals will not be considered.

7.1.5 Packaging and Labeling

All electronically submitted files should be clearly marked to identify the 1) RFP solicitation number 2) Name of the proposer 3) Contents of the file (i.e. Price Proposal, Technical Proposal, MBE/WBE Utilization Plan Forms).

7.1.6 Timely Delivery of Proposals

The Proposal, including the Technical Proposal and the Pricing Proposal must be submitted electronically to Cook County, Office of the Chief Procurement Officer as per the instructions in Appendix II-Instructions for Submitting an Electronic Bid/Proposal/Qualification. Include the RFP number on any correspondence related to the Proposal.

7.1.7 Late Proposals

The proposer remains responsible for ensuring that its Proposal is received at the time, date, place, and office specified in this RFP. The County assumes no responsibility for any Proposal not so received, regardless of the cause of delay.

7.1.8 Schedule of Revisions to RFP Schedule

Should the Proposer consider that changes in the County's RFP schedule are required; the Proposer shall submit a revised summary schedule with an explanation for the revision for the County's review. The County will be under no obligation to accept revised schedules.

7.2 Submission Requirements

7.2.1 Cover Letter (Include with File #1 – Technical Proposal)

The cover letter shall be signed by an authorized representative of the Proposer. The letter shall indicate the Proposer's commitment to provide the services proposed at the price and schedule proposed.

7.2.2 Executive Summary (Include with File #1 – Technical Proposal)

The executive summary should include a brief overview of the Services and the key personnel who will be responsible for the services to be provided. The Summary shall also identify the members of the team that comprise the Proposer. Indicate the organizational relationship of the team members and include an organization chart for the project.

7.2.3 Qualifications of the Proposer (Include with File#1 – Technical Proposal)

Include a brief description of the organization's track record, including history, number of employees, number of years in business, and a list of projects relevant to this RFP. Provide a list of references where relevant projects were implemented. Include the name of the contact person, name of the organization, project dollar value, address, telephone number and email address. Please provide at least three (3) references, preferably with municipal government projects. In addition, for each firm included in the proposal, provide at least three (3) references with relevancy to the project scope.

7.2.4 Propose Plan of Action, Implementation and Solution (Include with File#1 – Technical Proposal)

Provide a detailed proposed plan of action indicating how all requirements of Section 2 Scope, will be met and the methodology proposed recommendations and implementation plan to successfully meet the goals of the County. In addition, the proposed plan of action shall include key milestones, staff & schedule, and ability to deliver value with a solution evidenced by cost savings.

7.2.5 Key Personnel (Include with File#1 – Technical Proposal)

Provide a chronological resume for each of the key personnel proposed. Each key personnel shall have three (3) references. In addition, provide the time commitment for each key personnel. Indicate the level of their commitment to other projects if any. See Section 2.6.

7.2.6 Subcontracting or Teaming (Include with File#1 – Technical Proposal)

The proposer may be comprised of one (1) or more firms as to assure the overall success of the project. The firm shall identify each team member and specify their role. The Chief Procurement Officer reserves the right to accept or reject any of the team members if in the Chief Procurement Officer's sole opinion replacement of the team member, based on skills and knowledge, is in the best interest of the County.

7.2.7 MBE/WBE Participation (Include with File#2 – Price Proposal)

For each MBE/WBE certified firm proposed, provide the name of the MBE/WBE firm(s), level of participation, the role that the subcontractor(s) will perform, the type of services that it will provide, and a brief background and resumes of proposed personnel proposed and submit the MBE/WBE Utilization Plan Forms (see Appendix VI). The County may only award a contract to a responsible and responsive proposer. If the proposer does not meet the MBE/WBE participation goal stated by the County for this procurement, the proposer must nonetheless demonstrate that it undertook good faith efforts to satisfy the participation goal. Evidence of such efforts may include, but shall not be limited to,

documentation demonstrating that the proposer made attempts to identify, contact, and solicit viable MBE/WBE firms for the services required, that certain MBE/WBE firms did not respond or declined to submit proposals for the work, or any other documentation that helps demonstrate good faith efforts. Failure by the proposer to provide the required documentation or otherwise demonstrate good faith efforts will be taken into consideration by the County in its evaluation of the proposer's responsibility and responsiveness.

7.2.8 Financial Status (Include with File #1 – Technical Proposal)

Provide the audited financial statements for the last three fiscal years. Include the letter of opinion, balance sheet, schedules, and related auditor's notes.

7.2.9 Legal Actions (Include with File#1 – Technical Proposal)

Provide a list of any pending litigation in which the proposer may experience significant financial settlement and include a brief description of the reason for legal action.

7.2.10 Conflict of Interest (Include with File#1 – Technical Proposal)

Provide information regarding any real or potential conflict of interest. Failure to address any potential conflict of interest upfront may be cause for rejection of the proposal.

7.2.11 Economic Disclosure Statement (Include with File #2 – Price Proposal)

Execute and submit the Economic Disclosure Statement ("EDS"). In the event any further clarification is required on any of the information provided, the County reserves the right to make any necessary communication with the Proposer for such purpose. Such communication, if made, may include a deadline by which time any necessary clarifying information must be submitted.

7.2.12 Contract & IT Special Conditions (Include with File#1 – Technical Proposal)

The Contract is provided for information only. Execution of the Contract is not required at the time the proposal is submitted. In the event you disagree with the Contract provisions, and/or IT Special Conditions, submit any exceptions to the standard contract and/or IT Special Conditions and include the rationale for taking the exception. If you are proposing alternate language, please include the language for consideration.

7.2.13 Appendix I Pricing Proposal Form (Include with File#2 – Price Proposal)

Completion of Appendix I Price Proposal is a requirement for proposal submission.

7.2.14 Appendix VII Identification of Subcontractor/Supplier/Sub-consultant (Include with File#2 – Price Proposal)

Completion of Appendix VII Identification of Subcontractor/Supplier/Subconsultant Form is a requirement for proposal submission.

7.2.15 Appendix V Addendum Acknowledgement Form (Include with File#1 – Technical Proposal)

Any clarification addenda issued to Proposer prior to the Proposal due date shall be made available to all proposers. Since all addenda become a part of the Proposal, the Addenda Acknowledgement Form (found in Appendix V) must be signed by an authorized Proposer representative and returned with the Proposal on or before the Proposal opening date. Failure to sign and return any and all addenda acknowledgements may be grounds for rejection of the Proposal.

7.21.16 Appendix VI MBE/WBE Utilization Plan Forms (Include with File#2 – Price Proposal)

Completion of Appendix VI – MBE/WBE Utilization Plan Forms is a requirement for proposal submission.

7.21.17 Other (Include with File#1 – Technical Proposal)

Submit any information the Proposer deems pertinent to demonstrate its qualifications to perform the services being requested such as memberships in any professional associations.

Appendix I

Pricing Proposal Form

Proposers are required to submit the attached Pricing proposal separate from the Technical proposal.

The pricing proposal must be submitted in electronic Excel format.

If your company has specific, unique and/or innovative ideas to implement this system that are outside of the parameters defined on the pricing proposal, please provide your firm's recommendations on a separate sheet.

Appendix II

Instructions for Submitting an Electronic Bid/Proposal/Qualification

For electronic submissions, proposers shall use the following link to submit Bids/Proposals/Qualifications electronically:

<https://www.cookcountyl.gov/service/online-solicitation-bid-submission>

Follow these steps to submit your electronic submission:

Step 1. Select the solicitation you are submitting a Bid/Proposal/Qualification for by clicking on the corresponding solicitation number. Once a solicitation number has been selected, it will be highlighted:

SOLICITATION INFORMATION

Note: * indicates a REQUIRED field.

Please Select Solicitation Number *

1901-18013 (Closes 4/29/20 – 3PM CST) ▲
2053-18202 (Closes 4/15/20 – 3PM CST) ▼

COMPANY INFORMATION

Step 2. Enter your company information:

COMPANY INFORMATION

Organization / Company Name *

Street Address *

City *

State *

Zipcode *

Step 3. Enter your company's point of contact information:

CONTACT'S INFORMATION
<input type="text"/>
Contact First Name *
<input type="text"/>
Contact Last Name *
<input type="text"/>
Contact Email Address *
<input type="text"/>
Contact Phone Number *
<input type="text"/>

Solicitation Documents
<input type="button" value="Choose File"/> No file chosen
[Required]
Files must be less than 75 MB .
Allowed file types: pdf doc docx xls xlsx zip .

Use the section above to upload the required files for this Bid/RFP/RFQ. Please have ALL your files ready to upload when you submit your bid/Proposal, as you cannot save and continue later. At least one file is required to be uploaded with your Bid, Proposal or Qualifications package. To download fillable PDFs for many of the forms included in the solicitation, please visit: <https://www.cookcountyil.gov/service/forms-affidavits>
The maximum file size is 75MB so Bids, Proposals, or Qualifications packages that exceed the allowable size limit may not upload properly. Please plan accordingly. If you have multiple files to upload, please put them together in a zip folder and upload the zip folder.

Successful submission of a Bid/Proposal/Qualification will result in an acknowledgement receipt e-mail sent to the address provided under point of contact information.

Appendix III
Economic Disclosure Forms

Appendix IV
Sample Contract Agreement

Appendix V

Addendum Acknowledgement Form

Appendix VI

MBE/WBE Utilization Plan Forms

Appendix VII

Identification of Subcontractor/Supplier/Subconsultant Form

Appendix VIII

Electronic Payables Program

Appendix IX
Cook County Travel Policy

Appendix X

Cook County IT Special Conditions

Appendix XI

MetaData for Sample Feature Class

Cook County Metadata for 2019 Cook County Aerial Imagery

Identification_Information:

Citation:

Citation_Information:

Originator: Cook County Board of Commissioners

Publication_Date: 201907

Title: Cook County 2019 Aerial Imagery (Contract No. 1590-14847), 1:1,200-Scale (1" = 100') Tiled 4-band (R, G, B, NIR) Digital Orthoimagery for Cook County, Illinois. Raster Digital Data, Version 1.0. Published July 2019.

Edition: 1.0

Geospatial_Data_Presentation_Form: raster digital data

Publication_Information:

Publication_Place: Chicago, Illinois

Publisher: Cook County Board of Commissioners

Online_Linkage: Not yet available online

Description:

Abstract:

This digital geospatial file consists of a series of raster digital orthophoto images covering all of Cook County, Illinois.

The images have a pixel resolution of 0.5 feet which generated an orthophotographic database with a mapping scale of 1" = 100'. The imagery for the "Countywide Flight" was collected between March 23, 2019 and April 9, 2019.

A digital orthoimage is a raster image of remotely sensed data that has had displacement in the image introduced by sensor orientation and terrain relief removed. Digital orthoimages combine the image characteristics of photography with the geometric qualities of maps. The normal orientation of this data is by lines (rows) and samples (columns). Each sample in this data set contains a series of pixels ordered from west to east with the order of the lines from north to south.

The data set is tiled for dissemination into 5,347 separate tiles, each of which is 2500 feet on a side.

This digital geospatial file has been orthorectified using survey control points obtained through both Airborne Global Positioning Systems and Ground Control Survey. This dataset is projected using the Transverse Mercator map projection. The grid coordinate system used is the Illinois State Plane Coordinate System, East Zone (Zone Number Zone 3776, FIPS 1201), NAD83(2011) (horizontal datum), with ground coordinates expressed in U.S. Survey Feet.

Each tile consists of one GeoTiff file (.tif). Each tile is approximately 100MB in size resulting in a total of 522 GB for the region.

Purpose: This data set was created to serve as part of a standard database for virtually all geospatial applications in Cook County, and is intended to support general location, planning, and cartography projects,

as well as general inventory and asset management, Census analysis and mapping, and geocoding by address. The orthophotos were created as a control and foundation for planimetric and cadastral data sets and to provide a visual baseline for Cook County.

Supplemental_Information: The digital orthoimagery for Cook County, is stored as an image layer in SDE and is displayable in ArcInfo and ArcView. This image layer is a collection of georeferenced images mosaicked into a logically contiguous image and is in an RDBMS table.

Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 20190323

Beginning_Time: unknown

Ending_Date: 20190409

Ending_Time: unknown

Currentness_Reference: ground condition

Status:

Progress: Complete

Maintenance_and_Update_Frequency: Unknown

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -88.294124

East_Bounding_Coordinate: -87.491292

North_Bounding_Coordinate: 42.178117

South_Bounding_Coordinate: 41.441012

Keywords:

Theme:

Theme_Keyword_Thesaurus: None

Theme_Keyword: digital ortho-photograph

Theme_Keyword: digital ortho

Theme_Keyword: orthorectified image

Theme_Keyword: digital image

Theme_Keyword: digital ortho-photo

Theme_Keyword: rectified photograph

Theme_Keyword: rectified image

Theme_Keyword: orthophoto

Theme_Keyword: digital ortho-imagery

Theme_Keyword: ortho-image

Theme_Keyword: Color orthoimagery

Theme_Keyword: Color orthophotographs

Theme_Keyword: 4-band

Theme_Keyword: four-band

Theme:

Theme_Keyword_Thesaurus: Metadata Service Theme Categories

Theme_Keyword: Imagery, base maps, and land cover

Theme_Keyword: Offline data

Place:

Place_Keyword_Thesaurus: U.S. Department of Commerce, 1987, Codes for the Identification of the States, the District of Columbia and the Outlying Areas of The United States, and Associated Areas (FIPS 5-2): Washington, DC, National Institute of Standards and Technology.

Place_Keyword: Illinois

Place:

Place_Keyword_Thesaurus: Illinois Compiled Statutes, 70 ILCS 1705, State of Illinois, 1994

Place_Keyword: northeastern Illinois

Place:

Place_Keyword_Thesaurus: None

Place_Keyword: Chicago

Place:

Place_Keyword_Thesaurus: "Geographic Identification Code Scheme (PHC80-R5)." 1980 Census of Population and Housing, Bureau of the Census, U.S. Department of Commerce, April 1983.

Place_Keyword: Cook County

Temporal:

Temporal_Keyword_Thesaurus: None

Temporal_Keyword: 2019

Access_Constraints: Access to this feature dataset is available to county and municipal agencies. Editing privileges are restricted to authorized GIS staff members or its designees.

Use_Constraints:

Under no circumstances may the data be redistributed or made available over a network without explicit permission from the Cook County Bureau of Technology.

It is required that the Cook County Board of Commissioners be cited in any products generated from the data. The following source citation must be included: "Cook County 2019 Aerial Imagery (Contract No. 1590-14847), 1:1,200-Scale (1" = 100') Tiled 4-band (R, G, B, NIR) Digital Orthoimagery for Cook County, Illinois. Raster Digital Data, Version 1.0. Published July 2019."

Point_of_Contact:

Contact_Information:

Contact_Person_Primary:

Contact_Person: Michael J. Hammer

Contact_Organization: Cook County Bureau of Technology

Contact_Position: GIS Coordinator

Contact_Address:

Address_Type: mailing and physical address

Address: 69 W. Washington Street

Address: Room 2430

City: Chicago

State_or_Province: Illinois

Postal_Code: 60602

Country: USA

Contact_Voice_Telephone: 312-603-1776

Contact_Electronic_Mail_Address: Michael.Hammer@cookcountyil.gov

Hours_of_Service: 09:00 - 17:00, Central Time Zone, Monday - Friday, except holidays

Contact_Instructions: Please contact during normal business hours.

Data_Set_Credit: Digital ortho images were completed by Merrick & Company, Greenwood Village, Colorado. Aerial imagery was collected by Aerodata, Inc., Ann Arbor, Michigan [under the direction of Digital Aerial Solutions, LLC (DAS), Tampa, Florida]. Ground control and supplemental checkpoints were surveyed by American Surveying & Engineering, P.C., Chicago, Illinois using Global Positioning System (GPS) to support the ortho imagery processing and verifying the accuracy requirements of the digital orthoimagery.

Native_Data_Set_Environment: GeoTIFF

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

A differential rectification was performed using a set of algorithms that removed image displacement due to topographic relief and camera tip/tilt. This allowed each pixel in the image to be repositioned into its correct horizontal ground location. A rectified image file was produced in which each pixel represents a specific X-Y coordinate value on the ground.

Tones and color balances of images were adjusted to minimize radiometric changes. Histograms were used to analyze and adjust the images as necessary.

To ensure that orthophoto image files had consistent tonal balance, processes allowed for any combination of image files to be merged and viewed. A histogram and tonal match evaluation was part of our standard digital orthophoto processing routine. Histogram enhancements included linear contrast stretch, user selected contrast stretch, histogram normalization, and histogram clipping.

Final image quality and geometric fit was reviewed prior to translation from Merrick's native Inpho environment to the GeoTIFF format. The translated images were then displayed to ensure that no errors occurred during translation.

Logical Consistency Report: All orthoimagery specifications were validated by automated procedures of the vendor and manual systems by the County. Quality assurance for naming conventions, file format, and file size was performed with acceptable results.

Completeness Report:

Each image was displayed onscreen (by Merrick), both individually and in conjunction with the surrounding mapsheet images to ensure completeness of coverage, edgematching, and tone matching. As part of that check, all panels or photo-id control points were compared to the measured coordinates during the survey to ensure meeting stated accuracy standards.

When available, planimetry was overlaid with the image data to check specifically for correct fit, placement, and completeness of the data prior to the final formatting and delivery. Any discrepancies were noted and appropriate steps taken to correct any errors in placement or fit.

Positional Accuracy:

Horizontal Positional Accuracy:

Horizontal Positional Accuracy Report: Positional Accuracy: Tested 0.18 feet horizontal accuracy at 95% confidence level (0.10 feet Radial RMSE) per the FDGC Geospatial Positioning Accuracy Standards, Part 3: National Standard for Spatial Accuracy (NSSDA).

Quantitative Horizontal Positional Accuracy Assessment:

Horizontal Positional Accuracy Value: .18

Horizontal Positional Accuracy Explanation: 0.18 feet at the 95% confidence level per the FDGC Geospatial Positioning Accuracy Standards, Part 3: National Standard for Spatial Accuracy (NSSDA).

Lineage:

Source Information:

Source Citation:

Citation Information:

Originator: Cook County Board of Commissioners

Publication Date: 201907

Title: Cook County 2019 Aerial Imagery Project (Contract No. 1590-14847), 1:6,350-Scale Tiled 4-band (R, G, B, NIR) "Unprocessed"

Digital Mapping Camera Images for Cook County, Illinois. Raster Digital Data, Version 1.0. Published July 2019.

Edition: 1.0

Geospatial_Data_Presentation_Form: raster digital data

Publication_Information:

Publication_Place: Chicago, Illinois

Publisher: Cook County Board of Commissioners

Online_Linkage: Not yet available online

Type_of_Source_Media: DVD-ROM

Source_Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 20190323

Beginning_Time: unknown

Ending_Date: 20190409

Ending_Time: unknown

Source_Currentness_Reference: ground condition

Source_Citation_Abbreviation: DMC-III_IMAGES_2019

Source_Contribution: Raw "unprocessed" DMC-III imagery used to extract final published dataset.

Process_Step:

Process_Description: The digital aerial imagery collection was performed with a fixed-wing aircraft using a large format 4-band (RGBN) digital frame metric camera. The camera for the county collection is a Leica DMC-III. Images were acquired covering the entire project area with image endlap of 80% and sidelap of 70%. The processing workflow involves a rigorous Aerial triangulation (AT) followed by generating accurate and detailed 3D models, then finally generating top down, orthographic images of the models, which become the final orthophoto mosaic product. This resultant true ortho product eliminates building lean (i.e., radial displacement). The CBD area was collected with a Leica RCD30 Oblique camera system that contains four oblique 3-band cameras and one nadir 4-band camera. Using this "Pentacam" system greatly improves the quality of the true orthos in the CBD area.

Source_Used_Citation_Abbreviation: Cook County 2019 Aerial Imagery Project (Contract No. 1590-14847), Photo-identified Control Points for Cook County, Illinois. Geodatabase Vector Digital Data, Version 1.0. Published July 2019.

Process_Date: 201907

Source_Produced_Citation_Abbreviation: Digital_Orthos_2019

Process_Contact:

Contact_Information:

Contact_Person_Primary:

Contact_Person: Doug Jacoby

Contact_Organization: Merrick & Company

Contact_Position: Project Manager

Contact_Address:

Address_Type: mailing and physical address

Address: 5970 Greenwood Plaza Blvd

City: Greenwood Village

State_or_Province: Co

Postal_Code: 80111

Country: U.S.A.

Contact_Voice_Telephone: 303-353-3903

Contact_Electronic_Mail_Address: doug.jacoby@merrick.com

Hours_of_Service: 08.00 to 17.00 MountainTime

Contact_Instructions: Business is conducted Monday through Friday, except on holidays.

Cloud_Cover: 0

Spatial_Data_Organization_Information:

- Indirect_Spatial_Reference: Cook County, Illinois.
- Direct_Spatial_Reference_Method: Raster

Raster_Object_Information:

- Raster_Object_Type: Pixel
- Row_Count: 5000
- Column_Count: 5000

Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:

Planar:

- Map_Projection:
- Map_Projection_Name:
- NAD_1983_2011_StatePlane_Illinois_East_FIPS_1201_Ft_US
- Transverse_Mercator:

 - Scale_Factor_at_Central_Meridian: 0.999975
 - Longitude_of_Central_Meridian: -88.333333
 - Latitude_of_Projection_Origin: 36.666667
 - False_Easting: 984250.000000
 - False_Northing: 0.000000

- Planar_Coordinate_Information:

 - Planar_Coordinate_Encoding_Method: coordinate pair
 - Coordinate_Representation:

 - Abscissa_Resolution: 0.5
 - Ordinate_Resolution: 0.5

 - Planar_Distance_Units: survey feet

- Geodetic_Model:

 - Horizontal_Datum_Name: D_North_American_1983_2011
 - Ellipsoid_Name: Geodetic Reference System 80
 - Semi-major_Axis: 6378137.000000
 - Denominator_of_Flattening_Ratio: 298.257222

Vertical_Coordinate_System_Definition:

Altitude_System_Definition:

- Altitude_Datum_Name: North American Vertical Datum of 1988
- Altitude_Resolution: 0.000500
- Altitude_Distance_Units: feet
- Altitude_Encoding_Method: Explicit elevation coordinate included with horizontal coordinates

Distribution_Information:

Distributor:

Contact_Information:

- Contact_Person_Primary:

 - Contact_Person: Michael J. Hammer
 - Contact_Organization: Cook County Bureau of Technology

- Contact_Position: GIS Coordinator
- Contact_Address:

 - Address_Type: mailing and physical address
 - Address: 69 W. Washington Street
 - Address: Room 2430
 - City: Chicago
 - State_or_Province: Illinois
 - Postal_Code: 60602
 - Country: USA

- Contact_Voice_Telephone: 312-603-1776

Contact_Electronic_Mail_Address: Michael.Hammer@cookcountyil.gov
Hours_of_Service: 09:00 - 17:00, Central Time Zone, Monday - Friday,
except holidays

Contact_Instructions: Please contact during normal business hours.

Resource_Description: Cook County 2019 Aerial Imagery (Contract No.1590-14847), 1:1,200-Scale (1" = 100') Tiled 4-band (R, G, B, NIR) Digital Orthoimagery for Cook County, Illinois. Raster Digital Data, Version 1.0. Published July 2019.

Distribution_Liability:

Cook County Government Department of Geographic Information Systems GIS Maps/Data Disclaimer:

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Standard_Order_Process:

Digital_Form:

Digital_Transfer_Information:

Format_Name: GeoTIFF

Format_Version_Number: 10.0

Format_Specification: Each GeoTIFF file will contain the following tags and keys: ModelTiepointTag, ModelPixelScaleTag, GTModelTypeGeoKey, GTRasterTypeGeoKey, ProjectedCSTypeGeoKey, PCSCitationGeoKey and ProjLinearUnitsGeoKey

Format_Information_Content: GeoTiff

File-Decompression_Technique: No compression applied

Transfer_Size: 522000

Digital_Transfer_Option:

Offline_Option:

Offline_Media: DVD-ROM

Recording_Capacity:

Recording_Density: 4.7

Recording_Density_Units: Gigabytes

Recording_Format: DOS-Copy

Compatibility_Information: Accessible on any computer capable of reading a DVD-ROM

Fees: unknown

Turnaround: Order dependent.

Custom_Order_Process: Call the individual listed as the Contact_Person in the Distribution_Information section of this metadata record to find out

how to obtain this data set, the available formats, the available transfer media, compatibility, etc. This person will also be able to provide information about the fees associated with obtaining the data set.

Technical_Prerequisites: Format compatibility is the user's responsibility.

Available_Time_Period:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 201907

Ending_Date: unknown

Metadata_Reference_Information:

Metadata_Date: 201907

Metadata_Contact:

Contact_Information:

Contact_Person_Primary:

Contact_Person: Doug Jacoby

Contact_Organization: Merrick & Company

Contact_Position: Project Manager

Contact_Address:

Address_Type: mailing and physical address

Address: 5970 Greenwood Plaza Blvd

City: Greenwood Village

State_or_Province: Co

Postal_Code: 80111

Country: USA

Contact_Voice_Telephone: 303-353-3903

Contact_Electronic_Mail_Address: doug.jacoby@merrick.com

Hours_of_Service: 08:00 - 17:00, Mountain Time Zone, Monday-Friday, except holidays

Contact_Instructions: Please contact during normal business hours

Metadata_Standard_Name: FGDC Content Standards for Digital Geospatial Metadata

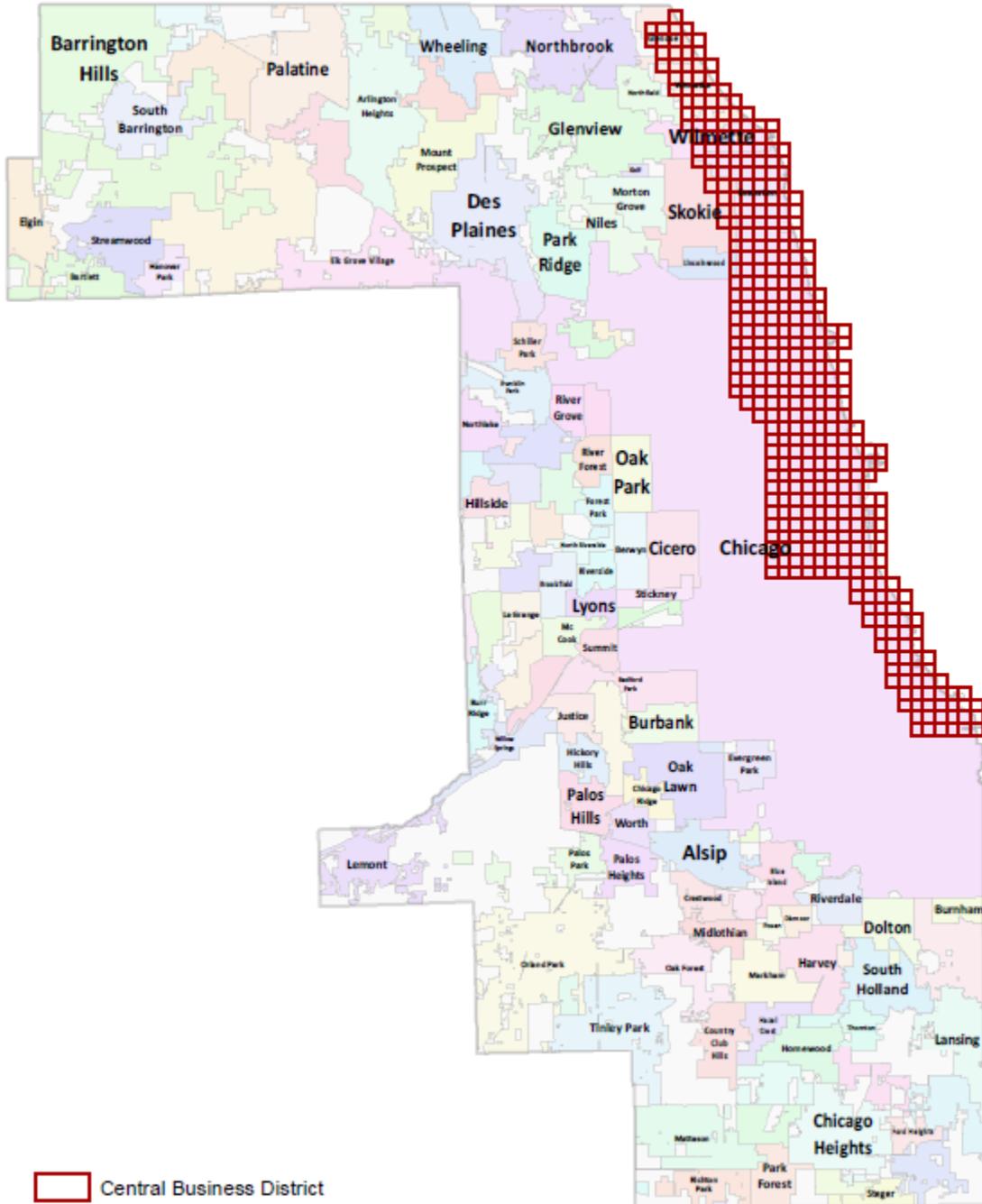
Metadata_Standard_Version: FGDC-STD-001-1998

Metadata_Time_Convention: local time

Metadata_Access_Constraints: None

Metadata_Use_Constraints: This metadata file is intended to accompany the geospatial data set identified and received from Cook County. It is not to be altered or summarized. Cook County does not support secondary distribution. If this geospatial data set was received from anyone besides the Cook County Bureau of Technology, this metadata file and the geospatial data set it describes may lack integrity.

Appendix XII Map of the Central Business District within Cook County



Appendix XIII
Orthotile 2020, Small Area Tile Index & Large Area Tile Index