MEMORANDUM OF UNDERSTANDING
Between
STATE CARTOGRAPHER'S OFFICE, UNIVERSITY OF WISCONSIN-MADISON
And
THE DEPARTMENT OF ADMINISTRATION, DIVISION OF INTERGOVERNMENTAL RELATIONS
Regarding V11 Statewide Parcel Map Database Project
January 1, 2025 to December 31, 2025

1. **Purpose**
The purpose of this document is to define the scope of work for the State Cartographer's Office (SCO) role in the "Version 11 Statewide Parcel Map Database Project" (V11 Project). The V11 Project is a joint effort with the Wisconsin Department of Administration (DOA) Division of Intergovernmental Relations (DIR) to run between January 1, 2025 and December 31, 2025. This scope of work refers only to the V11 Project, not to the larger Statewide Digital Parcel Map Initiative (Parcel Initiative) nor subsequent phases of the Parcel Initiative that may be covered by other scope of work documents.

2. **Background**
Wisconsin Act 20, the biennial state budget for 2013-2015, created statutory directives for state and local governments to coordinate on the development of a statewide digital parcel map. As required by state statute 59.72(2)(a), counties are now required to have certain parcel information online in a standardized searchable format. These statutory directives can be grouped together as the Statewide Digital Parcel Map Initiative and will continue to be fulfilled by the V11 Project.

The V11 Project follows successful collaboration between DOA and SCO on similar efforts. DOA and SCO have partnered on projects to create statewide parcel layers for the LinkWISCONSIN Address Point and Parcel Mapping Project and the Version 1-10 Projects. Each iteration of the project has created a statewide parcel database and map layer based on an aggregation of existing local parcel datasets. Counties must submit data according the "Searchable Format," a set of standards for parcel data that followed from the directives in Act 20. Attaining the Searchable Format entails meeting certain benchmarks for county parcel data improvement, which are tied to Wisconsin Land Information Program (WLIP) Strategic Initiative grant requirements. Benchmarks for parcel dataset development were instituted with the 2016 WLIP grant application and continued in the 2017-2025 grant applications. V11 is necessary to continue progress toward and achieve the Searchable Format standard statewide in a way that can be continuously maintained. Because DOA has followed an iterative model that further develops the map with each new annual version, V11 seeks to build on efficiencies, and further improve and enhance the statewide parcel map.

3. **Project Goals**
   - **Meet statutory objectives and track progress.** The statewide parcel layer is built in an iterative fashion. V11 will continue to track the progress made with investments to local governments, specifically on benchmarks for parcel dataset development. A goal is to design an appropriate monitoring and evaluation framework to evaluate progress on the four benchmarks for parcel data:
     - Benchmark 1 – Parcel and Zoning Data Submission
     - Benchmark 2 – Extended Parcel Attribute Set Submission
     - Benchmark 3 – Completion of County Parcel Fabric
     - Benchmark 4 – Completion and Integration of PLSS
   - **Incremental and continuous improvement.** Improvement of the statewide parcel layer itself, as well as the workflow and methods for each step in the aggregation process, with each new version of the layer. Exploration of areas for improvement should be based on research. As with the database, the hosting and display should keep pace with current technology and be continually improved to meet users' needs. Intake and aggregation process should be replicable and become more efficient with time, facilitating other improvements and/or opportunities for value-added products.

- **Outreach and technical assistance to counties.** This may take the form of further development of existing technical tools or the creation of new tools for counties and municipalities to use. It could also involve virtual or site visits and direct assistance.
- **Lean government principles and efficiency.** The V11 Project should seek to create and realize efficiencies in general, eliminate waste, and integrate or collaborate with other state GIS services where possible. An objective for this project is to move toward a more efficient, automated process for data aggregation where the locus of standardization labor is on the data contributors rather than the aggregator. Such a process would require fewer state resources be dedicated to the aggregation process and thereby reduce state costs for sustaining the statewide digital parcel map.
- **Responsiveness to public needs and economic development goals.** Evaluate parcel layer user suggestions and implement improvements where feasible.

4. **Project Deliverables**
   ### Data Request Materials
   - **Data request with submission instructions.** Provide technical and GIS-specific elements of call for data and the submission instructions that counties are to follow in order to prepare and submit data. Include a standard for submission of Building(s), Fixture(s), and/or Improvement(s) records that would allow for display and attribution within the statewide parcel database.
   - **Validation of county data submissions and tools.** For V11, offer an updated tool that validates county data submissions for fitness to submission requirements and data model as well as provides directives on how to rectify errors, which is compatible with most current county mapping software in use (e.g., ArcGIS Pro compatible). For those essential data preparation and standardization functions that cannot be built into the data validation tool, supply up-to-date geoprocessing tools and tool documentation. For V12, provide an automated tool for validation that has been updated appropriately for V12.
   - **Data collection.** Assist in the collection of county data submissions. In addition to parcel data collection, this also entails collection and delivery of ancillary data layers to the UW-Madison Arthur H. Robinson Map Library, including county-maintained zoning layers that are not collected and/or aggregated by another government entity.
   - **County data preparation assistance/outreach.** Conduct outreach with and offer assistance to counties that have in the past experienced problems preparing data. Focus should be on a small subset of counties that have encountered recurring problems with data submissions, those that are characteristic of specific types of problems that occur across multiple counties, and those that are representative of the most common tax parcel software vendors in the state. The goal is to better understand what challenges counties face preparing and submitting parcel and tax roll data, provide solutions where possible, and document roadblocks so that they may be targeted in the future.

   ### Data Assessment Materials
   - **Intake assessment data.** Conduct assessment of incoming data submissions, and communicate to DOA the receipt of each adequate county submission. For those submissions that are incomplete or appear to fall short of Searchable Format requirements, provide comments to DOA in a uniform fashion in order to facilitate follow-up with the county. As part of intake, record contemporaneous notes on observations evaluating counties against data submission requirements. For each county, during intake, include checks on values for all attributes called for by s. 59.72(2)(a) and the Searchable Format.
   - **Workflow documentation.** Document the data intake and processing workflow continuously as intake assessment practices and procedures evolve in human-readable format in as few files as possible, with attention to differentiating aspects of workflow that are/are not and can/cannot be automated, any conditions in local government data that comprise legitimate data model exceptions (e.g., from prior years' notes, intake notes, county submission form content, qualifying language/examples in submission documentation, data validation tool programming, et cetera), and other obstacles in local data conditions that could hinder future efforts at

automation. Employ cross-references and hyperlinks to other databases and files as appropriate. Provide current version to DOA as needed upon request and final version.

DOR XML Join Pilot

- **Attempt to join DOR's XML tax roll database with statewide digital parcel layer.** Contingent on obtaining tax roll information from DOR, explore the feasibility of joining the DOR tax roll with the V10 statewide parcel layer. Document obstacles to joins, counties that are successful, those that are not, PIN incompatibilities, and if XML parcel ID modifications can be used to improve the join success rate. In a written summary document, include a crosswalk of parcel schema attributes as compared to the XML schema, with attention to any conflicts in data standards or required fields. Also include identification of options for development of any potential tools or solutions to facilitate joins.

Statewide Parcel Map Database

- **A draft V11 statewide parcel database and map layer** aggregated from existing county and municipal parcel datasets for purposes of internal quality assurance/quality control.
- **A statewide parcel database and map layer** aggregated from existing county and municipal parcel datasets in both GIS and CSV formats, using a documented update process that, at a minimum, includes the parcel attributes required by s. 59.72(2)(a), those listed in the parcel schema and Searchable Format standard detailed by the *Submission Documentation* and recommended in the *V10 Final Report,* is aligned as closely as feasible with the property tax bill content prescribed by state statute and the Wisconsin Department of Revenue, and, if statewide benefits clearly outweigh the costs of implementation, enhanced with additional data fields.
- **Database documentation for users.** Make available basic metadata for end-users of the statewide database, as well as schema documentation that includes explanatory notes that aid end user understanding of the dataset.
- **Hosting and display of V11 parcel layers.** Continue to employ a hosting solution for the statewide parcel database and map layer and publicly display the database and map layer and end user schema documentation, with delivery through platform(s) that provide a mechanism for linking to publicly available county land information websites, land information officer contact information, and other publicly available county GIS data layers and web mapping services. Incorporate modern software tools and functionality in an updated web mapping application that takes into account user feedback and implements improvements to the app (e.g., expanded feature availability, custom code, et cetera), while still within the scope of SCO capabilities and project timeline. Offer download/export of data and data subset capabilities, as well as individual county downloads where feasible.

Statewide PLSS Database Sub-Project

- **Edition 7 Statewide PLSS database.** Collection of PLSS corner data as part of V11 call for data, for the purposes of creating an Edition 7 (E7) statewide PLSS database aggregated from current county datasets using a documented process that, at a minimum, has the following characteristics:
    - Builds on and from the Edition 0 through Edition 6 statewide PLSS databases
    - Allows for comparison of improvements in county datasets across time
    - Based on accurate county corner coordinate values where available, incorporating new and updated corner records provided by counties, with the potential for integration of data for section center points where such data is applicable and exists in digital format
    - Includes a "change detection" tool updated for E7 to identify new and modified PLSS corner records from each county
    - Uses an automated update method to add or revise corners within the current layer
    - Contains polygons down to the section level at minimum based on best-available corner coordinate data with incorporation of quarter section corners and meanders in the creation of polygon boundaries.
    - Update polygons (to section level) boundaries based on new data as applicable

- Allows users some option or method to access a representation of quarter section and quarter-quarter section lines that may optionally not be based on section-center points but derived by other methods, along with a disclaimer of spatial accuracy for any interpolated data
- Uses the Wisconsin Department of Natural Resources 1996 PLSS layer (Landnet) corner coordinates where county data is not available
- Accommodates for the inclusion of multiple spatial representations of corner points
- Uses standardized indexing system for corner point identification throughout the state
- Provides mechanism to separate non-PLSS areas
- Based on existing federal PLSS standards tailored to the specific needs of Wisconsin
- Is integrated with other web mapping application services offered by the SCO where appropriate (e.g., *Survey Control Finder*)
- Uses industry-standard format for delivery and distribution

- **Edition 7 Statewide PLSS database publication.** Make the E7 database and metadata publicly available for download and available as a feature service or map service potentially hosted by a third party, in consultation with other relevant entities such as the Wisconsin Department of Natural Resources (compared to DNR's Landnet services and OpenData downloads). Documentation for the E7 PLSS sub-project shall be written by SCO, while allowing for DOA review and comment on draft versions of documents. At a minimum, E7 documentation shall address:
  - Database Overview – Database characteristics, limitations, format and geometric specifications
  - Schema – Attribute definitions
  - Context – E7 versus Landnet and Landnet+ comparison highlighting E5 differences and improvements, crosswalk to Landnet attributes, link to the latest Wisconsin PLSS CadNSDI dataset, purposes of *Survey Control Finder* versus the statewide PLSS database.
  - Progress – Metrics for and display of progress made with the E7 PLSS database at a statewide level, as well as individual county progress toward the completion and integration of PLSS benchmark. Carry over and include any metrics and visualizations utilized in previous years in a manner consistent with and facilitating comparisons over time. Separately, share PLSS end user feedback received with DOA.

Reporting Requirements
- **A final project report,** on the V11 statewide parcel database project, written in collaboration with DOA. At a minimum, the report shall address:
  - Project Background
  - Technical Approach
  - Summary-Level Workflow Documentation
  - Benchmark Progress Assessment
  - Recommendations for V12 – Recommendations for V12, not limited to but addressing parcel project recommendations, outcomes of V11 county outreach, any obstacles to automation encountered for V11, and summarized DOR XML Join Pilot results. Recommendations should include those for a hypothetical subsequent year's parcel aggregation project and data request as well as whether to continue any potential future statewide PLSS aggregation efforts as part of the Parcel Initiative. Provide reasoning and evidence for basis to support funding any future statewide efforts.

5. **Responsibilities and Logistics**
   Responsibilities of the SCO and DIR will be essentially the same as with the V1-V10 Projects. SCO will be responsible for the following logistics:
   - **Data development.** The SCO will perform all data development for the V11 Project including data model, database design, interpretation, ingest, ETL, editing, attribute mapping, spatial manipulation, data assembly, and integration, QA/QC, and data assessment.

- **Standards development and benchmarking data.** Identification of specific standards to improve the efficiency of data integration, data submission standards, timetables, and benchmarks for counties. SCO to generate benchmark data by county and document benchmark progress.
- **Public access to data.** SCO will be responsible for working to locate and configure an appropriate solution and technology for visualization of and access to the final statewide parcel map database. Features such as data hosting, tiered governmental and public access, and other features beyond simple display, search, and query functions are beyond the scope of the SCO's responsibilities. Execute removal/redaction of judicial owner names (and addresses if also required) to comply with 2023 Wisconsin Act 235.
- **Project management.** Project management and administration will reside primarily in the SCO for the V11 Project. This includes hiring, managing, and oversight of GIS staff and students.
- **Technical assistance for statewide parcel map layer hosting and display.** The SCO will provide technical assistance for maintaining a functional statewide parcel layer application online.
- **Final deliverables.** The SCO will deliver the final V11 database, E7 PLSS database, and other deliverables. In the event of a conflict in executing the scheduled creation of deliverables, those deliverables specifically related to the statewide parcel layer database shall take precedence over the PLSS sub-project deliverables.

DIR will be responsible for the following logistics:
- **Data acquisition.** The DIR will be responsible for making formal data requests to county and/or municipal GIS offices, including follow-up steps such as open records requests.
- **Data sharing.** The DIR will review and implement licensing agreements as needed and document data sharing issues.
- **Software and hosting/display technology.** Provide access to commercially-licensed desktop GIS software. DOA will provide access to three basic desktop ArcGIS licenses for the SCO use on the project, access to ArcGIS Online, and all necessary credits for ArcGIS Online.

Both the SCO and DIR will participate in community outreach efforts. In consultation with DIR, the SCO will conduct outreach and publicize project goals and status. Both the SCO and DIR will provide project liaisons to facilitate collaboration.

6. **Project Timeline**

Date	Milestone
November 29, 2024	V11 call for data ready
January 1, 2025	V11 Project formal expenditure period start
January 2, 2025	Begin county data preparation assistance/outreach
January 31, 2025	Summary document on DOR XML Pilot Join
March 31, 2025	V11 data submissions due
March 31, 2025	Solution(s) in place for Act 235 judicial privacy redaction
June 11, 2025	Draft V11 database for purposes of QA/QC
June 23, 2025	V11 web app updates with custom edits based on user feedback complete
June 30, 2025	V11 parcel map available online
July 31, 2025	V11 final report with final V11 workflow documentation
October 15, 2025	Final E7 PLSS database
October 31, 2025	E7 PLSS documentation and publication ready
November 3, 2025	Draft V12 data validation tool ready
November 17, 2025	V12 data validation tool finalized
November 28, 2025	V12 call for data ready
December 31, 2025	County outreach for V12 conducted

7. **Payments to SCO**

   SCO shall receive, during the term of this scope of work, reimbursement of expenses up to the amount of $158,938.15 for staff time, materials and incidental expenses in executing the V11 Project. SCO shall submit invoices to the DOA on a quarterly basis. Such invoices will include major budget category detail, e.g., salary, fringe, supplies, travel, etc. The final invoice shall be submitted to the DOA within 60 days of contract end date.

Item	Description	Amount
Staff salary and fringe	Ana Wells, 50%; Thomas Kazmierczak, 100%; 36.5% fringe	$125,812.84
Student assistant(s) and fringe	667 hours@ $16/hour + 1.5% fringe	$10,832.08
Travel and supplies	Travel to WLIA (presentation, outreach)	$1,400.00
Total Direct		$138,044.92
Indirect	15%	$20,706.44
TOTAL		$158,751.66

8. **Primary Project Contacts**

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   Department of Administration:
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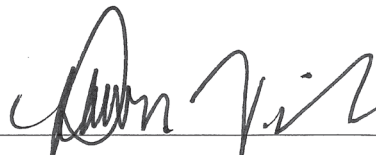
   For the University of Wisconsin-Madison

   Signed by:
   Robert Gratzl
   A70994E5D1B5402...

   Assistant Director of Contracts

   Title

   11/29/2024 | 15:16:18 CST

   Date

   For the Department of Administration

   Administrator

   Title

   10/16/24

   Date