



Standard Operating Procedure: Submission Standards for Right of Way (ROW) Mapping Data in the ArcGIS Format

General Information

Table 1 General Information

Property	Value
Document owner	ROW GIS Team
Approved by	Survey Section Director
Revision	1
Revision date	9/24/2026
Last review date (must be reviewed annually)	9/24/2026

Printed documents are considered uncontrolled

Purpose

1. This Standard Operating System (SOP) establishes standardized submission requirements for Right of Way (ROW) mapping data in ArcGIS format to the TxDOTCONNECT system. All current and future ROW mapping projects must comply with these standards unless otherwise approved. The objective of this SOP is to:
 - 1.1. Ensure consistency, accuracy, and usability of ROW data across districts
 - 1.2. Support integration with TxDOT's Online Real Property Asset Map (Virtual ROW Map)
 - 1.3. Enable automated workflows, reporting, and downstream systems

References

2. References
 - 2.1. <https://www.txdot.gov/business/resources/surveyor-toolkit.html>
 - 2.2. [ROW Preliminary Procedures for the Authority to Proceed Manual, Chapter 4: Surveying, Maps, and Parcels](#)
 - 2.3. <https://www.txdot.gov/content/dam/docs/division/row/survey/row-geodatabase-template.zip>
 - 2.4. <https://www.txdot.gov/content/dam/docs/division/tpd/txdotconnect/txdotconnect-reference-guide-row-utilities.pdf>

Acronyms and Definitions

3. Acronyms and Definitions

3.1. Acronyms

- 3.1.1. **ROW** – Right of Way
- 3.1.2. **RCSJ** – Right of Way Control Section Job
- 3.1.3. **GDB** – Geodatabase
- 3.1.4. **GIS** – Geospatial Information Systems
- 3.1.5. **TxC** – TxDOTCONNECT System

3.2. Definitions

- 3.2.1. **RCSJ** – An RCSJ is TxDOT's Right of Way naming convention of the ROW acquisition for the construction project
- 3.2.2. **ROW Parcel** – A ROW Parcel is a georeferenced polygon representing a real property acquisition boundary
- 3.2.3. **Geodatabase** – A GIS data structure used to store, manage, and organize spatial data, attributes, and related rules in a centralized system. It supports consistent data management, quality control, and integration of geospatial datasets.
- 3.2.4. **Georeferenced Data** – Spatial data aligned to a defined coordinate system
- 3.2.5. **Submission Package** – Complete set of GIS data, metadata, and supporting documentation provided for review
- 3.2.6. **TxC** – TxDOTCONNECT is TxDOT's custom-built system for managing the delivery of transportation programs, projects, and right of way. Visit TxDOT's website for more [TxDOTCONNECT](#) resources.

Responsibilities

4. Responsibilities

- 4.1. **District /Consultant Submitter (Surveyor)** – The District or Consultant surveyor is responsible for preparing and submitting GIS data in accordance with the procedures outlined in section 6 of this

document. This includes ensuring data accuracy, completeness, and proper formatting. The surveyor must also address review comments and resubmit data as necessary to meet submission requirements until acceptance criteria are met.

4.2. **District and ROW staff** – The District Survey staff and ROW Project Delivery staff with TxC ROW GIS Reviewer roles are responsible for the review of gdb submissions uploaded to the TxDOTCONNECT system in accordance to procedures outlined in the TxC guidance (see section 2.4).

4.3. **ROW Survey Section GIS Team** - ROW Survey Section GIS Team shall provide technical guidance and support to District and Consultant staff for geodatabase submissions. The GIS team is responsible for validating schema compliance, spatial accuracy, and attribute completeness, managing data integration into enterprise GIS systems, and performing QA/QC reviews of submissions. They also maintain and approve submission standards and coordinate updates to ensure consistency and alignment with enterprise requirements.

Flowchart

5. Flowchart - none

Procedure

6. Procedure

6.1. The Surveyor shall submit georeferenced parcel data using the current TxDOT-supported ArcGIS version and the official ROW geodatabase template. They are responsible for downloading the current template from the ROW Division Surveyor's Toolkit (see section 2.1).

6.2. Surveyor shall ensure that data created outside the TxDOT ROW geodatabase template (e.g., GeoPak, MicroStation, CAD) is converted to match the template structure prior to submission.

6.3. The Surveyor shall provide data for the following required feature classes contained in the TxDOT gdb template:

- 6.3.1. ROW Proposed Parcels
- 6.3.2. Proposed Access Control Lines
- 6.3.3. ROW Parent Tract
- 6.3.4. Existing Access Control Lines
- 6.3.5. Existing ROW Polygons
- 6.3.6. Existing ROW Lines
- 6.3.7. Existing ROW Points
- 6.3.8. ROW Centerline

6.4. The Surveyor shall ensure all data is properly georeferenced to the required coordinate system. The template's XY Coordinate System is Geographic coordinates (longitude and latitude), North American Datum of 1983 in Decimal Degrees (8 or more place after the decimal point).

6.5. The Surveyor is responsible for populating required attributes using approved domains and formats ensuring attribute accuracy and consistency and assign correct Parcel IDs (PIDs), where applicable. Each feature (point, line, polygon) has a unique table comprised of some common attributes or fields. (See section 2.2 for feature attribute information).

6.6. The Surveyor shall perform internal quality control by validating spatial data (no gaps, overlaps, or duplicates), confirming all required attributes are populated, ensure compliance with schema and template requirements, and verify the dataset aligns with the correct project stage.

6.7. The Surveyor shall rename the geodatabase using the (RCSJ) number prior to submission and add sequential lettering to each resubmitted gdb file.

6.7.1. **Format:** ROW_Parcels_<RCSJ>_v3.gdb

6.7.2. **Examples:**

6.7.2.1. Initial: ROW_Parcels_255204041_v3.gdb

6.7.2.2. Resubmittals: ROW_Parcels_255204041**a**_v3.gdb and
ROW_Parcels_255204041**b**_v3.gdb

6.8. The Surveyor shall submit data by uploading a compressed (zipped) file containing the gdb to TxC for each stage of the project. (See section 2.4 for bulk upload guidance)

6.9. The Surveyor shall notify appropriate TxDOT staff after upload to initiate the review process.

6.10. The District and ROW Staff shall use the TxC system to review, deny, or approve the gdb submissions.

6.11. The ROW Survey Section GIS Team shall provide guidance and assistance to TxDOT Districts and Consultants for gdb submissions.

6.12. The Surveyor shall address feedback comments provided by the TxDOTCONNECT automatic replies by revising data to resolve identified issues and resubmitting the updated files until acceptance criteria are met. Updated gdb files should only include features that have been changed.

Forms/Records

7. Forms/Records

Table 2 Forms and Records

Form number	Form name	Record administrator	Storage location	Retention period
n/a	n/a	n/a	n/a	n/a

Revision History

8. Revision History

Table 3 Revisions

Revision	Originator	Revision date	Description of change
1	ROW GIS Team	9/24/2026	Updating Original Submission Standards to new ROW SOP formatting.

Training

9. Training

Table 4 Training

Training date	Trainer	Training location (insert link)
n/a	n/a	n/a