ROW MAPPING PROCEDURE MANUAL

Chapter 2 Consultant ROW Mapping Services

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CONSULTANT ROW MAPPING SERVICES

CHAPTER 2

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2.1 Chapter Overview

The purpose of this chapter is to provide guidance for consultants providing Right-of-Way (ROW) mapping services. This chapter shall apply to all consultants who provide ROW Maps to the Department. All survey and mapping work is to be performed under the direction of a currently registered New York State Licensed Land Surveyor who is employed by the consultant firm providing the service. A Consulting Firm providing the service must be authorized by the New York State Education Department to practice Land Surveying in New York State. All acquisition maps and highway boundary plans are to be signed by a currently registered New York State Licensed Land Surveyor who is employed by the consultant firm providing the service. The consultant shall become familiar with all applicable information in this manual before undertaking any work. All consultants performing ROW mapping services shall complete the map preparation tasks according to the procedures as outlined in the following manuals:

- Highway Design Manual
- Design Consultant Manual
- Project Development Manual
- Land Surveying Standards and Procedures Manual

The consultant will follow all CADD requirements, by using the current version of department approved software - see https://www.dot.ny.gov/main/business-center/engineering/cadd-info/cadd-policy/cadd-software-standards. The consultant will refer to all applicable current Consultant Instructions, Engineering Instructions (EI's), Engineering Bulletins (EB's), and Chapter 21 and 22 of the Highway Design Manual and Appendix 14 of the Project Development Manual for CADD standards, policies, procedures, and best practices. The consultant will also conform to applicable map formats as described in Chapters 5, 7 and 8 of this manual.

If the consultant has concerns or needs clarification of particular issues, the consultant shall seek additional guidance from the Regional Land Surveyor.
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2.2 Highway Boundary and Property Line Determinations

Consultants hired to establish highway boundaries and property lines are responsible for performing field surveys and researching pertinent records to determine the locations of abutting property lines, easements and the existing highway boundaries. To determine the width of the ROW, the consultant will be expected to research both NYSDOT and local property records, as necessary, in order to establish the existing boundaries and update the regional history of the highway. NYSDOT may assist by providing the consultant with the Region’s as built plans or other historical records. The consultant must complete an adequate investigation according to the procedures shown in Chapter 4. The consultant must also confer with the Regional Land Surveyor when determining uncertain boundaries and the Regional Land Surveyor will decide whether the consultant has completed an adequate investigation. On projects without ROW acquisitions, the level of accuracy used to depict the highway boundary and property lines shall be determined by the consultant, in consultation with the Regional Land Surveyor. The consultant, however, is always responsible for producing the map product.

When the consultant has determined the locations of property lines, easements and existing highway boundaries, the firm will forward the computerized map data and other files to NYSDOT in a format as outlined in Chapter 21, and 22 of the Highway Design Manual, and Appendix 14 of the Project Development Manual. The consultant will also submit a paper print of the map(s), depicting the various features, with point numbers, to the Regional ROW Mapping Unit. The consultant will supply a point list in a digital form and on paper, with coordinates, for each point depicting the property lines and existing highway boundary and will include all intersecting points between the property lines and the existing highway boundary. The consultant will include with the submission an explanation of the methodology used to substantiate their conclusions about the highway boundary and property line locations and the evidence used to document its boundary determination.

Refer to Chapter 4 for guidance in determining property line and highway boundary locations.

2.3 Establishing ROW Taking Lines

Those responsible for the design of the project will determine the preliminary taking lines from the proposed tops and toes of slope, and/or construction work limits provided by the project designer. The final location of the taking line will be fixed as the result of the Taking Line Review meeting.

(Refer to Section 5.5.3 of Chapter 5 of the Highway Design Manual for guidelines to use in determining the location of proposed taking lines and Section 5.5.4 of Chapter 5 of the Highway Design Manual for guidelines to use in preparing for the Take Line Review Meeting and Section 1.2.3 of this manual that defines the Take Line Review Process)
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2.4 Preparing the Abstract Request Map (ARM)
The Consultant may determine the approximate location of the property lines and existing highway boundaries using such aids as tax maps, aerial photographs, atlases, assessors’ records, town and county records, survey maps, subdivision maps, railroad valuation maps, record plans . . . etc. The consultant will provide the region with the required number of prints of the completed ARM under cover of an explanatory letter. Consultants should refer to Chapter 3 for details on preparing an ARM and to the Project Development Manual, for scheduling ARM preparation. If more acquisitions are subsequently deemed necessary and additional title data is required, the consultant will prepare a supplemental ARM and forward it to DOT in the same manner as the initial submission.

Refer to Chapter 1 for ARM Processing Steps
Refer to Chapter 3 for details on the preparation of Abstract Request Maps.

2.5 Assigning Map and Parcel Numbers

NYSDOT identifies property parcels being acquired, transferred or subject to quit claim by assigning unique, sequential map and parcel numbers to the properties along the ROW of each state highway. The Regional Land Surveyor advises the consultant as to the next available number in the sequence of map and parcel numbers for each state highway within the project area.

Map and parcel numbers for maps depicting maintenance facility sites are also assigned sequentially. The system of sequential numbering is separate from the state highway sequential numbering. Storage site maps are assigned in consecutive order within each county. Maps used in NYSDOT’s residencies headquarters and sub-headquarters are assigned map and parcel numbers according to the headquarters or sub-headquarters own numbering sequence. The consultant must contact the Regional Land Surveyor for the correct map and parcel numbers assigned to each State highway project within the Region.

Refer to Chapter 5 for the process used to assign Map and Parcel numbers within a project.
Refer to Chapter 8 for details on the preparation of Maintenance Site Maps.

2.6 Highway Boundary Plan

The format for the preparation of the Highway Boundary Plan is shown in Chapter 6 of this manual.

The consultant will submit advance prints of the Highway Boundary Plan to the Regional Land Surveyor for review before submitting the final version. The consultant will submit updated prints of the Highway Boundary Plan if changes or additions are made. The preliminary and subsequent revised plans shall be submitted in electronic format as outlined in Chapter 21 and 22 of the Highway Design Manual and Appendix 14 of the Project Development Manual as well as on paper.

A Highway Boundary Plan is required to be completed for all projects for which ROW Maps are prepared by a consultant.
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2.7 Acquisitions Map Submissions

The consultant will, initially, submit to Regional ROW Mapping Unit a draft of the final version of the first two or three maps done for the project. The consultant will submit two prints of each completed map. The ROW Mapping Unit will review the quality of each map regarding its accuracy and compliance with NYSDOT standards. The ROW Mapping Unit will return one copy of each map, with comments and corrections to the consultant. The consultant will continue to work on the remaining portions of the assignment and take into account the comments and corrections from NYSDOT’s review of the first submission.

ROW Mapping Unit may, at the time of the initial submission, require the consultant to submit a Control Report and a preliminary work up, plotted on the project base map, showing the following:

Existing conditions

Proposed improvements, including design features effecting ROW acquisitions.

All taking lines for small and medium projects or taking lines for all the segments of larger projects.

Final highway boundaries with annotation of all existing ROW monumentation.

Oldest centerline of record and subsequent realignment with equalities noted (if the centerline is used to establish the highway boundary).

Existing highway boundaries (previous acquisitions should be shown)

Previous map numbers, with the year each of the maps was prepared.

Base plot of all deeds and final property lines with annotation of all existing monumentation.

2.8 Processing Maps Prepared for Mitigating Permit Projects

When private property owners are improving their property, and the property abuts a State Highway, NYSDOT may require the owner to mitigate the impact of the improvements on the existing highway; especially regarding the highway’s safety-related features. In order to mitigate the impact of the owner’s improvements, the owner may have to convey some of their property and/or acquire additional parcels and, in turn, convey the property to NYSDOT. In these instances, the owner may hire a licensed land surveying firm to do the requisite mapping and surveying, or assign the work to a properly authorized surveyor on the owner’s staff. Regardless if the owner has a staff surveyor do the work or hires a consulting surveying firm, the mapping and surveying work must be performed according to NYSDOT’s procedures and meet NYSDOT standards for surveying and mapping. This stipulation includes the requirement that the surveyor be a licensed land surveyor currently registered to work in New York State; as described in Section 2.1.

If the parcel to be acquired and/or conveyed to NYSDOT has an existing utility line easement running through the parcel and the utility line is not going to be allowed to exist, the developer would be required to extinguish the easement.
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NYSDOT’s Regional Traffic Operations coordinates all aspects of the mapping and surveying process for mitigating permit projects with the Regional Land Surveyor. The process, in part, includes the following:

- Regional Traffic Operations coordinates a Taking Line Meeting, as necessary, before preparing any maps. This meeting should consist of NYSDOT representatives from ROW Mapping Unit, Right of Way, Traffic Operations, Construction, Maintenance, Utilities and the Land Surveying firm preparing the maps.
  
  *(See Chapter 1 of this manual and Section 5.5.4 of Chapter 5 of the Highway Design Manual for guidelines to use in preparing for the Take Line Review Meeting.)*

- The Regional Land Surveyor will determine whether the maps will be prepared in English or Metric units. NYSDOT policy is to prepare the maps using the same units as used on the last Contract Plans encompassing the project area.

- Supplying the map and parcel numbers to be used on the project mapping as determined by the Regional Land Surveyor.

- NYSDOT will provide access to its historical records and documents.

- NYSDOT will give guidance to the consultant for establishing existing highway boundaries.

- The Land Surveying firm’s currently registered New York State Licensed Land Surveyor will sign, seal, and certify the maps.

- Traffic Operation will determine the method used to transmit maps between the surveying firm and Regional ROW Mapping Unit.

- The Regional Director, or a designee, will certify that the maps are required for the project.

Refer to Chapter 4 for determining Highway Boundaries & Property Lines
Refer to Chapter 5 for preparation of Acquisition Maps
Refer to Chapter 7 for preparation of Transfer of Jurisdiction Maps
Refer to Chapter 8 for preparation of Miscellaneous Special Maps

2.9 Map Changes and Revisions

The Consultant shall make all changes to the map necessitated by the discovery of errors on the map, or changes necessitated by the selling or subdividing of one or more parcels, or changes to the project design.

Refer to Chapter 5 for an explanation of the processes used to change maps.
2.10 Additional Information to be supplied to Regional Land Surveyor

The consultant may be required to supply Regional ROW Mapping Unit with all reference materials such as deeds, map computations, survey notes, base plots of property deeds, and previous ROW acquisitions with original final work-ups of the existing highway boundary location used for the project. Regional ROW Mapping Unit will be provided with the material for reference to answer questions regarding the maps' contents. The material to be presented could include the following:

A. A booklet containing deeds, cited easements, survey maps, and highway boundary and property line information necessary for the project. The booklet will have a separate section for each property owner and organized according to the tax map number. The booklet will include:
   - A Table of Contents itemizing material in the booklet
   - Copies of all relevant Tax Maps
   - Sections containing the following information:
     1. appropriate deeds and cited easements
     2. copies of any available survey maps related to the property
   - Two lists of Coordinates
     1. a list corresponding to all the point numbers used on the project plan to show ROW monuments, iron pins and other property line documentation.
     2. a list corresponding to the existing highway boundary and property line locations, noting coordinates of points of intersection.
   - Other information as requested by the Regional Land Surveyor

B. A plan showing the location and point numbers used for ROW monuments, iron pipes, and other property line documentation. (May be used in the preparation of the Highway Boundary Plan)

C. An original, work-up plan used for mapping.

D. Final Survey Control Report (if not submitted earlier, when the control survey was completed).

E. Survey field notes (including code lists)

F. Survey Baseline Diagram (usually obtained from the Survey Control Report)
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G. A copy of the CADD files which relate to the ROW for the entire project, in a format as outlined in Chapter 21 and 22 of the Highway Design Manual and Appendix 14 of the Project Development Manual

H. Feature Codes - in accordance with DOT standards

2.11 Responsibilities of the Consultant

In addition to the responsibilities discussed above, the consultant is responsible for resolving questions pertaining to the mapping they have produced and controlling and assuring the quality of the products delivered to NYSDOT. The consultant shall respond to questions regarding their work not only from NYSDOT but also questions from the Real Property Bureau of the New York State Department of Law and the property owners. Quality control and assurance of accuracy and completeness includes: mathematical checks, grammar and spelling checks, content examinations and standardized format reviews. Quality control will be performed by the consultant on every product, including revised submissions to ensure the products meet all of the requirements of this manual. Chapter 21 and 22 of the Highway Design Manual, Appendix 14 of the Project Development Manual, Surveying Standards and Procedures Manual, and adhere to NYSDOT policies and procedures. Additional reviews shall be performed on all revised maps to ensure consistency and accuracy of the maps regarding such elements as the map and parcel numbers, existing conditions, Right-of-Way widths, type of acquisition, access control, reputed owner’s names, purpose of the acquisition, and mathematical closure. The signature of the consultant’s Licensed Land Surveyor(s) on the acquisition maps, certifies that the consultant has completed and followed these quality control reviews and procedures.

2.12 Responsibilities of Consultant Managers

When a Consultant is preparing mapping products while under a Design Contract with the Department, the project Consultant Manager will coordinate the work between the Consultant and Regional ROW Mapping Unit. The Consultant Managers responsibilities include:

- Coordinate the Taking Line Review Meeting
- Monitor and assist in resolving mapping quality control issues
- Monitor delivery schedules of mapping products to ensure successful and timely delivery of capital projects.

Under Term Agreements for Surveying Services (TASS), the TASS Consultant Manager shall have similar responsibilities as those stated above.
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2.13 Responsibilities of NYSDOT Regional ROW Mapping Unit

When a consultant is preparing mapping products for a project, the Regional ROW Mapping Unit Group will be responsible for the following:

- Process all Consultant prepared products as needed to secure approvals and certifications for the successful delivery of the project.

- Perform Quality Review on Consultant prepared products. This is a general check and may include random sampling (i.e., 2 acquisition maps out of groups of 20 maps or 1 or 2 sheets of a multi sheet Highway Boundary Plan or Abstract Request Map) to ensure conformance with the requirements of this manual. These random samples will be returned if significant shortcomings are discovered. The Consultant will be required to correct the returned maps.

- If an entire group of maps are submitted and similar significant failings are discovered on random samples, the entire group of maps will be returned without further review.

- Quality Review by NYSDOT shall be defined as checking to ensure the product conforms to the format and standards set forth by the Department, and verifying that the map appropriately portrays the property to be conveyed. No mathematical review will be required.