

# NEW MEXICO DEPARTMENT OF TRANSPORTATION



**NMDOT**

## RIGHT OF WAY MAPPING DEVELOPMENT PROCEDURES HANDBOOK

SURVEY & LANDS ENGINEERING DIVISION

June 2017

## **1.0 INTRODUCTION**

The acquisition of Rights-of-Way (R/W) required for construction projects is one of the most critical activities that needs to be accomplished. Early completion of R/W maps in the project development process will allow sufficient time to carry out all R/W Appraisal and Acquisition activities in support of the project letting schedule. All R/W surveying and mapping activities must be performed by or under the direct supervision of a qualified New Mexico Professional Surveyor and shall also be in accordance with the Minimum Standards for Surveying in New Mexico [12.8.2 NMAC]. It is therefore extremely important that final R/W requirements be determined early in the project development process in order for R/W mapping to be completed in a timely manner.

It is critical that once the R/W maps are complete for acquisition that design revisions impacting R/W be constrained to support and maintain project schedules. Factors to consider that have historically delayed the R/W mapping process; 1) Deficiency of communication between Project Development, Design, Surveying & Lands Engineering, and Right of Way; 2) Revisions associated with Environmental and Archaeological issues, adjacent property owner issues, Utility concerns, and design/scope changes. A delay in completing the R/W Mapping affects the time allowed for carrying out R/W Appraisal and Acquisition activities, and often results in projects being delayed.

## **2.0 SCOPING STAGE**

The need for R/W on a project shall be addressed by the Design Team and shall be addressed in the Final Scoping Report. The Scoping Report shall identify approximate locations (Station to Station) and approximate widths of R/W requirements. Since Survey information is not available at this stage, this determination will be based on the Field Reviews, the use of available Aerial Photos and As-Built Plans, Design Criteria, etc., as well as on input from the Design Team. A determination of types of property ownership (i.e. Private, State, Federal, Indian, etc.) shall also be shown on Preliminary Property Ownership Layout Maps. These maps may be prepared and developed by research/investigation of county records through County Assessor map/info and GIS shapefiles. This information should be acquired and shown from the sources mentioned. Preliminary property ownership maps are for informational purposes only and do not require boundary retracement efforts to identify assessor information on a clearly illustrated map.

The Project Development Engineer (PDE) and or Engineer shall determine who needs to attend the Preliminary Field Reviews. The Right of Way personnel assigned to the project (including the Right of Way Agent in charge of Government Lands) should participate in the Preliminary Field Reviews as required.

### **2.1 Preliminary Right-of-Way**

After the project is scoped, and the Location and Design Survey has been completed, the Design will prepare alternative alignment studies (horizontal and vertical) as required. The Plan & Profile Sheets shall delineate the Existing R/W limits determined by the surveyor as part of the Location and Design Survey. Design will determine preliminary R/W requirements (roadway slope limits, drainage easements, etc.) for the preferred alignment, based on the direction provided by the PDE and or Engineer. On areas requiring R/W acquisition, the R/W Lines shall

extend at least ten (10) feet beyond the slope limits or pertinent construction feature unless there are circumstances that will not make this feasible; this may be the case in highly developed areas. Design will work closely with the PDE and or Engineer to provide the Plan & Profile (P&P) sheets with the proposed Preliminary R/W requirements for review.

The PDE and or Engineer will review R/W requirements developed by the Design and will obtain input as required in assessing R/W needs. A Field Review may be required to discuss the impacts of the project; those attending the Field Review should include the PDE and or Engineer, Highway Designer, District Construction Engineer or representative, Right of Way personnel, and Environmental and/or Archaeological personnel. Environmental/Archaeological input will include location of any Wetlands and Cultural Resource areas that may need to be avoided. After the Field Review (if required) the PDE and or Engineer will finalize the preliminary R/W requirements. Design will revise the P&P sheets if necessary. The PDE and or Engineer, Highway Designer, and Right of Way Agents (including Right of Way Agent in charge of Government Lands if required), will review the conceptual plans and agree upon the Preliminary R/W requirements.

The PDE and or Engineer will then set up a meeting with Survey & Lands Engineering and Right of Way to present the R/W requirements. The PDE and or Engineer will request Right-of-Way Mapping for the impacted land areas needed on the project. A copy of the Field Design Inspection package P&P sheets highlighted or redlined with areas denoting the preliminary R/W requirements and slope limits should accompany the request for R/W survey. A copy of the final scoping report shall also be submitted with the request for R/W survey. Right-of-Way Mapping will not be performed for the entire project limits, unless; the project is on a new alignment, or will require R/W acquisition along the entire project limits, or it is determined to be practical by Survey & Lands Engineering to update the current R/W maps within the project corridor. The Request for R/W Mapping will be made prior to the Field Design Inspection (FDI).

On **District Lead** projects requiring R/W, the District Technical Support Engineer (TSE) shall provide written correspondence to the Survey & Lands Engineering Division Manager of the needs for R/W Surveying/Mapping. Close and early coordination is necessary in order to avoid project development delays or rescheduling. The information forwarded shall be as detailed as possible and will conform to the **SAME REQUIREMENTS** as projects being developed at the General Office. The TSE shall coordinate these projects with the PS&E Division as required.

## **2.2 Field Design Inspection**

During the FDI, the preliminary R/W requirements for the project will be discussed and verified. A sheet by sheet review/analysis of the proposed R/W requirements shall be done by the Design Team. A constructability review of the project shall also be done, taking into account R/W requirements. Turnouts and driveway grades will be discussed to assure that sufficient R/W is being provided for and to assure that there are no adverse impacts with respect to accessibility. Drainage structure requirements will be assessed. Appropriate representatives from the Right of Way Division shall be in attendance to provide input. If it is determined that R/W is required (or major changes are made) at the FDI, the process will be backed up to the reanalysis of alternatives stage for further analysis and the project schedule will be adjusted as required. If there is disagreement on the R/W requirements, the PDE and or Engineer as the Design Team Leader, will have the authority to make the final decisions on R/W requirements.

If there is disagreement on a major R/W issue, the PDE and or Engineer shall document his decision and reasons for that decision in the FDI Report.

### 2.3 Post Field Design Inspection

The PDE and or Engineer will request Title Reports from the Lands Abstracting Unit of the Right of Way Division or from approved Title Companies for all new R/W impacted areas. The Lands Abstracting Unit will forward the completed and or received Title Reports to the Lands Engineering Verifications Unit as soon as available.

The Survey & Lands Engineering Division and or Consultant Surveyor will proceed with:

- Completing preliminary property ownership map/layout of impacted lands based on current ownership deeds/records.
  - Preliminary Property Ownership Layout Maps shall be prepared at an appropriate scale. Provide one (1) hard copy or .pdf of the Preliminary Property Ownership Layout Maps to the NMDOT Lands Engineering Section.
- Finalizing R/W Field Survey.
- Finalizing R/W Survey Mapping.
- Will transmit R/W Survey/Mapping to the PDE and or Engineer.

The PDE and or Engineer, accompanied by the Right of Way Acquisition Agent shall conduct Property Owner Interviews to explain preliminary R/W requirements and address concerns. The Right of Way Agents will explain R/W acquisition procedures if required. Any proposed changes in access will be discussed with the property owners. The PDE and or Engineer will be responsible for documenting the interviews including any commitments made to the property owners.

The PDE and or Engineer shall also invite the District TSE (or appropriate representative as determined by the District) to the Property Owner Interviews. Notice of upcoming interviews shall be made at least two weeks in advance. The PDE and or Engineer shall make every effort to involve the Right of Way Agent and the District TSE in the Property Owner Interviews; however, it may not always be possible to coordinate times with the Property Owners, Right of Way Agents, and the District TSE.

The PDE and or Engineer will delineate the refined R/W requirements/limits on the design plans that are furnished by Design. The PDE and or Engineer and the Designer will meet with Right of Way personnel as required to discuss any refinements that may be required. The most current Highway Design plans will be transmitted to the Lands Engineering Section with the delineated preliminary R/W parcels, CMEs, and TCPs. R/W requirements will be designated as follows:

**Permanent R/W** - To accommodate all permanent features, including slopes, drainage structures, R/W fencing, etc. R/W shall extend a minimum of ten (10) feet beyond slope limits and pertinent construction features, unless circumstances do not make this possible.

R/W Parcels shall be named as follows:

Sheet Number – Parcel Number(s)

2-1 denotes sheet 2, 1<sup>st</sup> parcel

2-2 denotes sheet 2, 2<sup>nd</sup> parcel

7-1A denotes sheet 7, 1A

7-1B denotes sheet 7, 1B

“A” and “B” denotes multiple parcels with same owner on sheet 7

**Non-R/W (NRW)** – Parcels determined to be non-right of way remnants.

NRW Parcels shall be named as follows:

Sheet Number – Parcel Number(s)

2-NRW-1 denotes sheet 2, 1<sup>st</sup> parcel

2-NRW-2 denotes sheet 2, 2<sup>nd</sup> parcel

7-NRW-1A denotes sheet 7, 1A

7-NRW-1B denotes sheet 7, 1B

“A” and “B” denotes multiple parcels with same owner on sheet 7

**Construction Maintenance Easements (CMEs)** - to be used in all cases where there is a need for construction and/or ongoing maintenance, i.e., drainage channels, certain drainage structure fences, etc. The property owner receives compensation for use.

CME Parcels shall be named as follows:

Sheet Number – CME – Number(s)

2-CME-1 denotes sheet 2, 1<sup>st</sup> parcel

2-CME-2 denotes sheet 2, 2<sup>nd</sup> parcel

7-CME-1A denotes sheet 7, 1A

7-CME-1B denotes sheet 7, 1B

“A” and “B” denotes multiple parcels with same owner on sheet 7

**Temporary Construction Permits (TCPs)** - to be used in cases where there is a benefit accrued to the NMDOT and there is a temporary need to enter and use a property for construction or maintenance purposes, but not an ongoing need for maintenance, i.e. detours, significant changes to driveway turnouts, etc. The property owner receives compensation for its use. If a project requires no R/W other than TCPs, a R/W Map is not prepared and the TCPs are to be shown in the construction plans referenced to centerline of construction stationing, with offset distances. If necessary, TCPs may be accompanied with an exhibit for detailing purposes. Examples can be requested from Lands Engineering, Verifications Unit. TCPs are not to be used for Cut and Fill slopes.

TCP Parcels shall be named as follows:

Sheet Number – TCP – Number(s)

2-TCP-1 denotes sheet 2, 1<sup>st</sup> parcel

2-TCP-2 denotes sheet 2, 2<sup>nd</sup> parcel

7-TCP-1A denotes sheet 7, 1A

7-TCP-1B denotes sheet 7, 1B

“A” and “B” denotes multiple parcels with same owner on sheet 7

**It should be noted that there are minimum time requirements (Up to Six (6) Months) involved for the acquisition of permanent R/W, CMEs, and TCPs.** Often times, the time required to obtain a TCP can take the same amount of time as a permanent take.

The Lands Engineering Section or the Consultant Surveyor will add R/W Parcels, CMEs and TCPs (Parcel Numbers and Ownership) to the R/W maps. Lands Engineering and or Consultant Surveyor prepares the Preliminary R/W maps for review and use at the Grade and Drain (G&D) Inspection.

Lands Engineering and or Consultant Surveyor will print the Preliminary R/W maps and transmit them to the PDE and or Engineer for presentation at the Grade & Drain Inspection and Design Public Hearing (if required).

## **2.4 Grade & Drain Inspection**

During the Grade & Drain (G&D) Inspection, the R/W requirements for the project will be discussed and verified, utilizing the Construction Plans and the Preliminary R/W maps. A sheet by sheet analysis of R/W requirements shall be done. Turnout and driveway grades will be assessed to verify R/W requirements and accessibility. The Right of Way Acquisition Agent shall be in attendance to provide input. If it is determined by the Design Team that a major scope change is required that will significantly affect the R/W Requirements/Maps, the process will be backed up to the reevaluation of alternatives stage for further analysis and the project schedule will be adjusted as required.

## **2.5 Post Grade & Drain Inspection**

Prior to finalizing the G&D Inspection Report, the PDE and or Engineer will coordinate a formal meeting in the office to finalize **all** R/W requirements (including locations of CMEs, and TCPs) the meeting will include personnel from the Right of Way Division (Appraiser and Acquisition Agent), Lands Engineering Section, Highway or District Designer and PS&E. Division (if required). In addition, the team will identify non-Right Of Way Remnants (NRWs) and Access Control Parcels. Any significant changes in access will be communicated and clarified to the Right of Way Agents.

After the G&D Inspection report is finalized (within ten (10) working days of G&D inspection), the PDE and or Engineer will submit prints of the updated design/construction plans furnished by the Highway Designer showing all **the Final Right-of-Way limits and requirements** to the Lands Engineering Section Manager. Transmittal will be done by IDC or Transmittal Letter with accompanying design plans clearly denoting **all** Final R/W requirements.

On a new facility, which will be Access Controlled or one with Limited Access Control, the PDE and or Engineer will meet with the Survey & Lands Engineering management to initiate the development for a Draft Access Control Administrative Determination for the facility. The preparation of the Draft Access Control Administrative Determination will be the responsibility of the Lands Engineering Section representative and or Consultant Surveyor. The PDE and or Engineer will be responsible for presenting the Draft Access Control Administrative Determination to the Department's Access Control Committee.

The Lands Engineering Section and or Consultant Surveyor will compute the areas of take for R/W parcels (Fee acquisitions, CMEs, and TCPs) and will write Property Descriptions for R/W and CME parcels, and will identify and list TCPs. They will assure that all information required by the Appraisal Unit has been included (Remainders, Larger Parcels, Access Control Lines, Access Control Parcel Numbers, etc.) and will **finalize the R/W Maps and Documents**.

The Lands Engineering Verifications Unit will review and verify all R/W maps and Documents for acquisition.

The Lands Engineering Verifications Unit will transmit **R/W MAPS AND DOCUMENTS (PROPERTY LAND DESCRIPTIONS AND TITLE REPORTS)** for acquisition to the Right of Way Division for the initiation of R/W activities (Appraisals, Review Appraisals, Title Review, Acquisition, etc.). Copies of the R/W maps for acquisition will be forwarded to the appropriate District Office, PDE, Right-of-Way & Monumentation Unit, and the Environmental Division. The Final Design Division's PDE and or Engineer and Designer shall assure that the R/W requirements shown on the R/W Maps for acquisition correspond to the requirements shown on the Construction Plans.

**NOTE:** Whenever changes occur that require revisions or new/additional r/w parcels, CMES or TCPS after the R/W maps for acquisition have been transmitted to the Right of Way Division, those changes must be processed in writing by the PDE and or Engineer through the Lands Engineering Verifications Unit with concurrence from the Lands Engineering Section Manager. The PDE and or Engineer shall document the required changes in an IDC or letter of transmittal to the Survey & Lands Engineering Division Manager with copies to the District Office Technical Support Engineer, Lands Engineering Verifications Unit, Environmental Division, Design Region Manager, and Right of Way Bureau.

### **3.0 CONSULTANTS**

It is the responsibility of the Design Consultant Engineer to carry out all **Contract** delegated tasks (Project Control, Location Survey, Design, Alternative Studies, R/W Surveying, Title Searches, Control Mapping, R/W Mapping, Monumentation Mapping, Access Control Meetings, Property Owner Interviews, Coordination, Correspondence, Documentation, etc.) required to produce an acceptable set of Final R/W Maps and Documents. The Engineer, along with the rest of the Design Team, will work closely with the PDE to establish R/W requirements for the specific projects. Participation in the Field Reviews and Design Team meetings will be the same for Consultant projects as it is for internal design projects. **Before initiating any R/W Surveying & Mapping, the Consultant shall schedule a meeting with the Survey & Lands Engineering to discuss the scope of work.** The Survey & Lands Engineering has prepared a Checklist for R/W Mapping Projects to define requirements and to assist the consultants in the preparation of the R/W Maps and Documents.

R/W Mapping prepared by Consultants are required to be reviewed by Lands Engineering Verifications Unit. Projects will go through two formal map reviews and if additional reviews are required, they are subject to being charged to the Consultant in the form of Liquidated Damages. **The Consultant Engineer/Surveyor responsible for the individual projects is responsible for the accuracy of the R/W Survey and Mapping.**

Preliminary Engineering and Final Design R/W Mapping requirements and deadlines are the same for Consultant projects as for internal design projects with all projects having to go through the verifications process; therefore, additional time should be included in the project schedule to allow for this activity. The Consultant is required to meet the submittal dates established in the **Contract**. Unacceptable submittals will be rejected and the date of this submittal will not be accepted. Submittal dates shall be monitored closely by the PDE and Consultant Project Manager and penalties for late submittals shall be strictly enforced.

The Consultant's Project Manager will be responsible for coordinating all submittals, setting up all meetings and field reviews, and providing all associated documentation, as well as assuring that all appropriate Sections/Divisions within the Department are provided copies of all appropriate submittals as required and by the established deadlines in the Project Schedule and Consultant Contract.



NEW MEXICO DEPARTMENT OF TRANSPORTATION  
SURVEYING & LANDS ENGINEERING DIVISION  
1120 CERRILLOS RD. - P.O. BOX 1149  
SANTA FE, NEW MEXICO 87504-1149

GENERAL OFFICE ROOM B-31

PHONE (505)827-5570

(505)827-0659

(505)827-5676

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**The consultant and or surveyor should contact the Lands Engineering Verification Unit Supervisor of the Surveying and Lands Engineering Division as to the appropriate scale, latest standards, policy and procedures, etc. and obtain the latest example of R/W Maps, Land Descriptions and Government Plats before commencing preparation of mapping, documents, etc.**

## **CHECKLIST FOR FINAL R/W MAPPING PROJECTS**

### **(MAP REVIEW SUBMITTALS)**

An appropriate letter of transmittal containing **NMDOT New Mexico Project Number (N.M.P. No.)**, Project Control Number (PCN), Route Name, Mile Post Location, and a list of all items submitted, and what action is requested.

Submittal shall include two sets of R/W Maps for acquisition (100%complete); Preliminary Property Ownership Layout Maps; a list or letter with total number of parcels, CME'S, TCP'S and title reports submitted; a R/W mapping checklist; property descriptions for affected parcels, TCP lists (Electronic Excel Spreadsheet is available if needed); one (1) set of latest construction design plans; an electronic or hard copy of the coordinate system listing for all points pertinent to the R/W Map with point number, descriptor, x, y, z, and station offset; an electronic or hard copy of closure report for each parcel (showing parcel number together with point numbers, distances, and bearings, and with area in acres and square feet); submit all approved to form certified title reports for each affected parcel; KMZ files submitted are to include existing R/W lines, property/boundary/easement lines, and all new parcel lines. **Incomplete submittals will be returned as "Unacceptable for Review."**

R/W mapping checklist boxes provided below following each numerical designation are to be checked off by the professional surveyor in responsible charge when the particular item has been completed.

By signing off on the signature line for all checklist items, the Surveyor is agreeing that each item described in the checklist is complete.

If any portion of the alignment has changed or if substantial changes have occurred after first review, these changes, revisions, etc. should be brought to the attention of the PDE and or Consultant Engineer and Lands Engineering Manager.

**(“APPROVED FOR ACQUISITION” FINAL MAP SUBMITTAL)**

An appropriate letter of transmittal containing **NMDOT New Mexico Project Number (N.M.P. No.)**, project control number (PCN), and a list of all items submitted, and what action is requested.

Submittal shall include one (1) paper set of signed and certified R/W Maps for acquisition (Complete); property descriptions for affected parcels and TCP lists along with electronic Microsoft files; submit all updated approved to form certified title reports for each affected parcel; an electronic CAD file with all associated reference files utilized to prepare and develop the final R/W mapping product. KMZ files submitted are to include existing R/W lines, property/boundary/easement lines, and all new parcel lines.

If necessary, a final checklist with all checklist item boxes provided below following each numerical designation are to be checked off by the professional surveyor in responsible charge when the particular item has been completed.

**By signing off on the following signature line for all checklist items, the Surveyor is agreeing that each item described in the checklist is complete.**

**(Signature)** \_\_\_\_\_

**(Print Name)** \_\_\_\_\_ **(P.S. NO.)** \_\_\_\_\_ **(DATE)** \_\_\_\_\_

After final review comments are completed.

**(FINAL MAP SUBMITTAL “MYLAR”)**

Once all R/W has been acquired and final right of way certification is provided, a final certified Mylar R/W map will be submitted (excluding TCPs) for NMDOT records.

An appropriate letter of transmittal containing **NMDOT New Mexico Project Number (N.M.P. No.)**, project control number (PCN), and a list of all items submitted, and what action is requested.

## TITLE SHEET

1.  VICINITY MAP (see example)
  - a. Use County or State map project number with arrows.
2.  LOCATION MAP
  - a. Use quad map, quadrangle map, or city map if appropriate.
3.  BEGINNING OF PROJECT STATIONS WITH ARROWS (on location map)
4.  END OF PROJECT STATIONS WITH ARROWS (on location map)
5.  LANDS ENGINEER SIGNATURE BLOCK (see example) with "APPROVED FOR ACQUISITION" ABOVE THE TITLE BLOCK.
6.  LENGTH OF PROJECT (miles to three (3) decimals)
7.  LENGTH OF RIGHT-OF-WAY(miles to three (3) decimals)
8.  NORTH ARROW ON TOP CENTER OF SHEET.
9.  CERTIFICATION OF SURVEYOR NOT REQUIRED ON TITLE SHEET
10.  FINAL MAP AND DATE FORMAT (large bold lettering, in lower right hand corner, and above title block)
11.  TITLE BLOCK IN LOWER RIGHT HAND CORNER WITH PROJECT NO. IN LARGE BOLD HEAVY LETTERS AND PROJECT CONTROL NO. ABOVE TITLE BLOCK.
12.  RIGHT OF WAY MAPS PREPARED BY (prime consultant and subcontractor)
  - a. If applicable, name and address or company logo with name and address.
13.  INDEX OF SHEETS IN UPPER RIGHT HAND CORNER. (stations should be to the nearest full station)
14.  REVISION BOX IN LOWER LEFT OR RIGHT CORNER
15.  **ACCESS CONTROLLED**• (in bold letters on lower right corner left of the title block, if applicable)

## PARCEL BLOCK SHEETS

1.  PARCEL NUMBERS
  - a. List each one in order.
  - b. Skip one (1) space between parcel numbers.
  - c. CME's kept together in separate block.
  - d. TCP's kept together in separate block.
2.  OWNER/S NAME
  - a. Use full name as shown on title report (map sheets and description shall match parcel block name).
3.  AREA OF PARCELS, CMEs, and TCPs
  - a. Show square feet to nearest square foot.
  - b. Area in acres shall be shown to four (4) decimal places. Remainder areas should be shown for all parcels and CMEs. For remainder areas greater than 100 acres insert as "> 100 acres."

NOTE: A note should be placed at the bottom of the parcel block sheet noting that larger parcel areas were obtained either from record information, other conveyance documents, or field survey data. A (+/-) symbol is to be placed after parcel areas labeled. Additional calculations for separate area remainders may be requested by Verifications Unit when a tract of land is split by roadway corridor.

4.  RIGHT OF WAY MAPS PREPARED BY
  - a. Consultant name and address or company logo with name and address
5.  TITLE BLOCK IN LOWER RIGHT HAND CORNER (No Exceptions)
  - a. **NEW MEXICO PROJECT NO.** and **PROJECT CONTROL NUMBER (PCN)** left of the title block in large bold heavy letters.
6.  THE PARCEL BLOCK SHEETS ARE NUMBERED 1-A, 1-B, ETC.
7.  FINAL MAP AND DATE FORMAT (large bold lettering, in lower right hand corner, and above title block)
  - a. Do not set date until directed by right of way verification unit supervisor.
8.  REVISION BOX IN LOWER LEFT OR RIGHT CORNER

## MAP SHEETS

1.  All sheets must be 24" x36". Approved for acquisition shall be submitted on paper; Final R/W Maps shall be submitted on Mylar.
2.  Begin with sheet no. 2. Last sheet number should be same as total sheet number.
3.  Crowding in more than one (1) length of centerline per sheet is **not acceptable, unless requested and approved by Survey & Lands Engineering Manager.**
4.  All centerline curve data, centerline bearings and stationing of both R/W map and Construction plans should agree.
5.  All stations should be shown as P.O.C., P.O.T., P.O.S.T., P.R.C., P.C.C., P.C., P.T., P.I., etc. Differentiate when necessary between Survey Centerline and Construction Centerline.
6.  All bearings and curve data should be compatible.
7.  All centerlines - bearings and curve deltas must agree.
8.  Tic marks on all centerlines should be shown and labeled.
9.  Stations shown every 500 feet (1" = 100'), every 250 feet (1" = 50'), Etc. - above major tic marks and towards top of sheet designating Construction centerline and or Survey centerline along with minor tic marks at intervals based on scale. Ramps or frontage road stationing, if applicable, should also be shown but with smaller lettering.
10.  Basis of bearings should be shown on each sheet in the notes and graphically where possible.
11.  Ties to Control Monuments (NMDOT, Section Corners, Etc.) shall be shown using a smaller dashed line style, labeled "TIE" along with bearing and distance.
12.  North Arrow and bar scale on every sheet - arrow oriented in correct direction at top center of sheet.
13.  Certification of surveyor and legend information on every sheet, except parcel block and title sheet (see sheet 7).
14.  Right of Way maps prepared by (consultant name and address) or company logo with name and address.
15.  All centerline curve data shall be shown as follows and in the order given (large bold lettering). Differentiate when necessary between Survey Centerline and Construction Centerline.
  - a. P.I. Station

- b. Delta
- c. D
- d. T
- e. L
- f. R

16.  All R/W curve data shall be shown as follows and in the order given (small lettering):
- a. delta
  - b. l
  - c. r
  - d. ch bearing
  - e. ch distance
17.  Provide for small amount of overlap from sheet to sheet. **Match lines are not acceptable.**
18.  Use of appropriate mapping scale can reduce crowded and cluttered conditions. Tables or boxes may be used for curve data, tangent distance, bearing, etc. only to mitigate these conditions. If tables are used, they shall be shown on sheets to which they pertain.
19.  Title block in lower right hand corner.
20.  Revision box in lower left or right corner (left of title block).
21.  Only the following construction data is to be shown on every sheet: edge of lanes/curb and gutter, drainage structures, turnouts, and slope limits. Build notes and construction information shall be addressed with a note stating "For build notes and other construction information refer to construction plans (PCN #)."
22.  Points of beginning (POB) of new R/W and CME parcels shall be dual stationed to construction centerline & survey centerline. TCPs shall only be stationed to construction centerline.
23.  All centerlines (ramps, survey, location etc.) shall be tied and a mathematical closure must be made.
24.  All centerline and R/W lines must close mathematically.
25.  Dimensions from construction centerline to existing R/W and new R/W should be shown at least twice on each sheet if R/W is parallel to centerline.
26.  Show station and offset from survey centerline to all R/W and CMEs at every change in direction.

27.  All construction features must be secured by R/W (check that all slope limits etc. are secured by permanent R/W).
28.  Ties to control stations should be shown on map using thin dashed lines. Use broken lines if necessary to compensate for distances involved.
29.  All intersecting property lines shall be solid lines and labeled as property lines.
30.  When property lines intersect centerline, show centerline station at intersection.
31.  Identify monuments and points as to material size, significance & inscription. Give a thorough and complete information and description.
32.  Label corners as found (accepted/rejected/used, etc.), set, not found, etc., and use a legend on each sheet.
33.  At bottom of sheet show in bold letters; section, township and range, city, grant, national forest, etc., whichever is applicable.
34.  Right of Way parcels should be numbered according to the sheet numbers on which they are located.
35.  For each R/W, CME, and TCP acquisition, show owner's complete name, parcel number, CME number, and TCP number along with area and deed/plat recording information. The area of remainder shall be shown on the parcel block sheet. **All owner names shall match verbatim per Title Reports.**
36.  Crosshatch and accurately delineate documented existing R/W but do not cover any pertinent information with crosshatching. Use 1/8" spacing for crosshatching. A note stating documentation for existing R/W giving project number, if dedicated street, etc. under which R/W was secured. Note: undocumented or questionable areas which may be subject to Highway Right of Way, fenced, or public use should be brought to the attention of the Surveys and Lands Engineering Manager as early in the project development process as practicable.
37.  All section lines shall be solid lines. All 1/4 and 1/16 lines shall be dashed unless they are property lines, in which case they shall be solid.
38.  All construction maintenance easements (CME's) shall be solid lines.
39.  Centerline of construction shall be labeled and a solid line.
40.  R/W line shall be a solid line and line weight shall clearly stand out.
41.  Access Control line shall be a solid line with three (3) open circles for proposed, three (3) closed for existing. All existing Access Control must be shown and referenced on map sheets.

- 42.  Centerline curve data shall be located radially toward the inside portion of the curve in large bold lettering. Differentiate when necessary between Survey Centerline and Construction Centerline.
- 43.  FINAL MAP AND DATE FORMAT (large bold lettering, in lower right hand corner, and above title block)
- 44.  R/W and CME parcels should be tied to a control monument and the tie shown on the map with a thin dashed line.
- 45.  When applicable, “**ACCESS CONTROLLED**” should be spelled out in large bold letters in lower right hand corner of sheets.
- 46.  All existing improvements (buildings, septic tanks, wells, walls, etc.) within 100 feet of Right of Way shall be shown with set-back distances to the new Right of Way line.
- 47.  Do not show utilities, power lines, light poles, telephone lines, fire hydrants, sewer lines, manholes, mail boxes, etc. Utilities shall be shown in cases that no documented easement(s) of record were located to cover such utilities. Show and reference all easements of record.
- 48.  Cross-reference construction centerline to survey centerline at the BOP and EOP. If the BOP and EOP do not fall within the R/W mapping limits, then show on first and last sheet of R/W Map.
- 49.  The following certification shall be used on all NMDOT Right of Way Maps:  
I CERTIFY THAT I AM A REGISTERED PROFESSIONAL SURVEYOR AND THAT THESE R/W MAPS ARE AN INTERIM PRODUCT OF PROJECT DESIGN DEVELOPMENT AND WERE PREPARED BY ME OR UNDER MY DIRECTION AND ARE BASED ON AN ACTUAL FIELD SURVEY PERFORMED UNDER MY DIRECTION ON \_\_\_\_\_, 20\_\_\_\_. CONFORMANCE WITH THE STATE OF NEW MEXICO'S MINIMUM STANDARDS FOR RIGHT OF WAY SURVEYING WILL OCCUR FOLLOWING ACTUAL ACQUISITION OF RIGHT OF WAY REQUIRED BY PROJECT NUMBER \_\_\_\_\_.

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XXX X. XXXXXXXX  
(ADDRESS)

N.M.P.S. NO. XXXXX

DATE



## DESCRIPTIONS

1.  All calls when referred to in the description shall be shown on map.
2.  Check property description thoroughly.
3.  Each description shall have the project number, parcel number, and if CME, its intended purpose (feature), the name of the property owner exactly as shown on title report, along with seal and certification (see example).
4.  Use complete curve data as on maps, including chord bearing and distance. Follow samples available from Lands Engineering Section.
5.  In preamble, include quarter, section, township, range, land grant, tribal land, county, and/or other information (e.g. subdivision information) along with recording (deed/plat) information referenced.
6.  In preamble, break down the location of a parcel as far as a quarter of a quarter section (where applicable). No further division is necessary. Do not include exceptions.
7.  Ties to control monuments should be shown on map. Use ties to existing (found or set) monuments only.
8.  The point of beginning of all parcels shall be dual stationed to the survey and construction centerline and tied to a section corner, 1/4 corner or other acceptable control monument.
9.  TCP's are to be described on a standard form called out as construction centerline station to station and distance away from R/W. Forms are available from the Lands Engineering Section. When TCP's are located within areas being mapped, the TCP's shall be shown on the maps and on the parcel block sheet.

## GOVERNMENT PLATS

Government plats are used in conjunction with legal documents to make application for the acquisition of Highway Right of Way involving Bureau of Land Management Properties and properties under the jurisdiction of the State Land Office. Samples of both the plat and property descriptions are available through the Lands Engineering Section Manager.

1.  Government application plats (8 ½" x 11") on a scale of 1"=1000' are required when taking R/W through Bureau of Land Management Lands and state land under the jurisdiction of the State Land Office.
2.  The Lands Engineering Section of NMDOT will provide the forms and plat format for drafting the government plats.
3.  On State Land Office Application Plats (8 ½" x 11"), area of take of every 1/16 section shall be shown on plat (see sample).
4.  On State Land Office Application Plats, the length of Right of Way is required in "rods." The Lands Engineering Section Manager shall clarify this information required in order to make appropriate application to the State Land Office.

### NOTE:

- 1) On projects thorough National Forests, new Right of Way Easement Description Applications will be required as per memorandum of understanding dated 9-18-96. Early attention should be given to determining if Forest Lands are involved within the Project Limits and if so, brought to the attention of the Lands Engineering Section Manager.
- 2) This checklist and related sample documents furnished by the Lands Engineering Section of the Surveying and Lands Engineering Division are provided as instruments of assistance to the consultant and are not intended to be an exhaustive or limiting treatise on Right Of Way mapping requirements and serves only as an aid for the user. The consultant remains responsible for the efficient and timely development and completion of the Project Work in accordance with the Contract provisions, applicable professional engineering/surveying principles and practices, regulations, minimum standards for Surveying in New Mexico, manuals, and laws and standards. The user should contact the Research & Verifications Unit Supervisor of the Lands Engineering Section with any questions on Right Of Way mapping component of each Project.