

Memorandum

To: e-distribution
see listing below

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Highways Design Engineer

Date: September 28, 2026

Subject: Project Linear Referencing

Objective

This memo establishes a process for Preconstruction to communicate construction project feature location information to other areas within MDT.

The purpose of this memo is to:

1. Provide guidance clarifying the project features that need to be reconciled and documented in the SOW report.
2. Establish a single point of truth for project linear referencing data.
3. Establish a process for providing consistent and accurate project location information.
4. Provide implementation guidance for current projects.

Reference points on project title sheets are intended to provide MDT Construction and contractors with a simple, low accuracy means to approximately locate a project. Title sheet reference points should not be used as a source for project linear referencing data because of their low level of accuracy.

Route ID and accumulated mileage is the linear referencing method required for the reporting performed by Fiscal Programming. Preconstruction applications use department route and reference points as the linear referencing method. Both methods can be used to identify the same spatial locations.

The MDT Intranet “ALTIS – Advanced Linear Transportation Information System” webpage and the “ALTIS Foundation” webpage [Foundation - Advanced Linear Transportation Information System \(ALTIS\) \(mt.gov\)](#) provide detailed definitions and explanations of the different linear referencing methods and the associated terminology.

Guidance

The SOW or combined PFR/SOW report has replaced the title sheet as the sole reference for the true source of preconstruction linear referencing data. All changes to project feature locations that occur after SOW must be documented in a SOW addendum or amendment signed by the appropriate SOW signatory Engineer and distributed to the design team.

The SOW and combined PFR/SOW report templates have been modified to include a table in the “Project Location and Limits” Section that will function as the true source of project linear referencing data. The table will reconcile linear referencing methods at critical locations. Columns are provided to enter description, signed route(s), department route(s), route ID(s), reference post + offset and accumulated mileage.

Description, signed route(s), department route(s), route ID(s), reference post + offset and accumulated mileage must be entered in the table for all on and off-system project corridors where permanent features are planned on one or more roadways. Department route and reference post at the department route project limits should be included in the table on all projects, including those whose scope of work is off the roadway. Reference points and accumulated mileage should be reported in the SOW report table to the same level of precision provided by the Geospatial Spatial Specialist.

Locations that need to be denoted in the table are project limits for on-system and off system roadwork (including Interstate ramps) and urban and reservation boundaries within the project limits. Permanent work off the roadway and connections need to be included in the table. Structures within the project limits need to be included in the table.

Procedure

The Geospatial Information Section of the Data and Analytics Bureau will provide the Project Manager with linear referencing data for inclusion in the SOW report and any subsequent SOW amendments or addenda.

The Project Manager will determine what linear referencing data needs to be included in the SOW table based on the guidance provided above. Consult with the Fiscal Programming Section and Bridge Bureau for assistance as needed.

The Project Manager should submit a request to the Geospatial Spatial Specialist noting description (begin/end locations), signed route(s), department route(s) and route ID(s) and requesting reference post + offset and accumulated mileages.

Provide the information below in the request:

- Project limits: State plane coordinates of roadway(s) are preferred. State plane coordinates should be available in the plans, or they can be found using the “MDT Route Location Finder App” in most instances. The reference post of the roadway is the next alternative if state plane coordinates are unavailable.
- Structures: Provide NBI numbers for structures that are required to be included in the table. Structures data, including National Bridge Index (NBI) numbers, can

be found in the MDT Spatial Data or the Montana Bridge interactive GIS maps. MDT interactive GIS maps can be accessed from the MDT Internet at <https://www.mdt.mt.gov/publications/map-gallery.shtml>.

- Interchange ramps: Each ramp at an Interstate interchange has a unique route ID and should be treated as an individual roadway. Provide interchange exit numbers, mainline direction and identify if the ramp is an entrance or an exit ramp.
- Urban and reservation boundaries: Identify the known presence of urban and reservation boundaries that are within the project limits.

The Geospatial Information Section will return the completed request to the Project Manager and place a pdf of the email on PCMS in the **Road Design (RD)** folder and File Class **Analysis Data (AND)**. The project manager will populate the Project Location and Limits table in the PFR/SOW or SOW report with the data provided.

Project Limits on Plans

All project work, including that not performed on the mainline roadway, must be included in the project limits and project length as described in the SOW or PFR/SOW.

Changes to the project limits after the SOW or PFR/SOW has been approved will require a SOW Addendum or SOW Amendment in addition to an Edoc re-eval and updated right-of-way and utility certifications.

The “Project Limits on Plans” design memo dated 7/19/2023 is hereby rescinded and replaced with this memo.

Implementation

This memo is effective as of September 18, 2026. Complete the Project Location and Limits table as it appears in the PFR/SOW and SOW report templates.