



Real Estate Department As-Built Survey Specifications

Real Estate Department

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A. Overview:

To protect the rights and interests of the Alaska Railroad Corporation (ARRC) and its lessees, licensees and permittees, and to promote the safety of ARRC's lessees, licensees, permittees, passengers, employees and contractors and the general public, it is necessary to document the locations of all improvements constructed on ARRC land pursuant to contracts issued by ARRC. It is equally important to define the limits of the corresponding contractual interests in ARRC's real property. The purpose of these Real Estate Contract As-Built Survey Specifications (Survey Specifications) is to provide uniform requirements for the survey of such improvements and interests so that they are accurately defined relative to the boundaries of ARRC's land and can be physically located or reestablished on the ground.

These Survey Specifications are generally applicable to minor projects such as utility and local road crossings and improvements running longitudinally through ARRC land for up to a nominal 5,000 feet. Major projects may require additional instructions.

These Survey Specifications supplement ARRC's Standard Specifications for Work on Railroad Property (Standard Specifications), which also must be complied with in conjunction with any work, including surveying work, performed by third parties on ARRC property. If any provision of these Survey Specifications conflicts with the Standard Specifications, the latter will govern.

All entry onto ARRC land must be coordinated with ARRC by contacting its Manager of Real Estate Contracts and Billing. (ARRC Real Estate Department – 907-265-2670 or see AlaskaRailroad.com).

B. General Survey Standards:

1. Land surveys affecting the real property rights of ARRC, adjoining landowners, or both, shall be performed in accordance with applicable laws, regulations, rules of procedure and acceptable professional practices. They shall be performed under the direct supervision of a Land Surveyor licensed to practice in the State of Alaska.
2. As-Built surveys performed for ARRC may be recorded and are considered Records of Survey under AS 34.65.030 and as such must be prepared in accordance with 11 AAC 06.080.

C. Limits of Work:

1. Boundary Survey: Where ARRC boundaries are crossed by improvements and where improvements on ARRC land lie within 100 feet of any ARRC boundary, said boundary or boundaries must be surveyed. If no ARRC boundary is within 100 feet of the improvements, at least one nearby ARRC boundary must be surveyed. The location of at least two reliable monuments (or sufficient accessories) is required to define any one boundary. In other words, the boundary survey will extend to the next found monument beyond the improvement or crossing.
2. Physical Features: The limits of the survey of physical features will extend 50 feet beyond all improvements.

D. Control:

1. The basis of bearings will be the Alaska State Plane Coordinate System, Zone 4, NAD83 (2011) epoch 2010.00.
2. All distances will be ground distances (no scale factor or reduction to sea level).
3. The vertical datum will be NAVD 1988, using a current geoid model.
4. Accuracy will be in accordance with 11 AAC 53.110 (1) Class I Surveys within developed areas and otherwise will be in accordance with 11 AAC 53.110 (3) Class III Surveys.

E. Detailed Standards:

1. Research: The surveyor will obtain copies of available relevant documents, including but not limited to:
 - a. The ARRC contract under which the improvements are authorized (ARRC Contract).
 - b. Recorded documents affecting ownership, including the document by which ARRC and adjoining landowners own or control the land.
 - c. Recorded documents regarding other interests, leases or permits which abut or cross the subject improvements (excluding state section line easements).
 - d. All available surveys including USS, USRS, SOA and other nearby recorded plats.
 - e. ARRC horizontal and vertical control data. This is available through the ARRC Manager, Land Services (Douglas A. Stephens, PLS - stephensd@akrr.com)

Please note that, with the exception of land in Denali National Park and certain other minor exceptions, ARRC received or shall receive the entire interest the United States had in Alaska Railroad lands by operation of the Alaska Railroad Transfer Act of 1982 (ARTA), effective date Jan. 14, 1983. ARTA guaranteed, however, that the United States would transfer to ARRC no less than an

exclusive use easement, as that property interest is defined in ARTA, in all portions of its right-of-way. Pursuant to these statutory requirements, ARRC received a fee simple estate from the United States with respect to a large majority of the Alaska Railroad lands. Even with respect to lands where third parties held valid claims of prior right, ARRC still received no less than an exclusive use easement.

2. Control: The surveyor will establish control on the site by either:
 - a. Recovering ARRC control and extending it to the site by appropriate means, or,
 - b. Two independent post-processed static GPS solutions using CORS or OPUS.

3. Field Survey: The surveyor will:
 - a. Recover and locate sufficient monuments to define the ARRC boundaries.
 - b. Locate all physical improvements associated with the ARRC Contract.
 - c. Locate the centerline of the tracks and ARRC signage, switching gear, mileposts, and other similar features within the limits of the survey.
 - d. Measure the low wire and track elevation wherever overhead wires cross the tracks to compute the minimum clearance.
 - e. Locate major topographic or cultural features within the limits of the survey, such as edges of pavement, other utility structures and poles, culverts and waterways.

4. Drafting Requirements: ARRC may record the plat and therefore it must be prepared in accordance with 11 AAC 06.040 and 11 AAC 06.080. The final plat will also include:
 - a. A reference to the ARRC Contract.
 - b. A reference to all other documents used in preparing the survey.
 - c. A Control Statement indicating:
 - i. What methods and points were used to establish survey control.
 - ii. State plane coordinates and Geodetic Coordinates for a single on-site physical control point (this can also be a boundary monument).
 - iii. Specific information on the reference frames used, including the year of the geoid model, the realization of NAD83 and the geodetic datum used.
 - d. An appropriate vicinity map, legend, notes, graphic scale, north arrow and surveyor's seal and signature.
 - e. Bearings and distances fully defining the surveyed ARRC boundaries along with the monuments used to establish them.
 - f. Descriptions and cap sketches of all monuments on the plat.
 - g. Bearings and distances defining the centerline of the improvements, their relationship to the ARRC boundaries, the width if stated in the ARRC Contract, and the limits of all other areas defined in the ARRC Contract.

- h. The location of all relevant physical features within the limit of survey.
- i. The location of other interests within the limits of survey.
- j. An ARRC Milepost designation of the primary improvement (this will be provided by ARRC).
- k. Elevations and computed minimum clearances between the top of track and all improvements crossing the tracks.
- l. Depths of buried utilities, preferably from actual field measurements. It is acceptable to include depths provided by a third party who took them during construction. If unavailable, the proposed depths from design drawings will be included.

F. Deliverables:

The Surveyor shall submit a draft of the plat to the ARRC for review prior to delivery of the final submittals. After incorporating the results of the ARRC review, the surveyor will submit:

- 1. A final signed sealed mylar plat suitable for recording.
- 2. A *.pdf of the signed sealed final plat.
- 3. A digital copy of the drawing in a format useable by ARRC (currently autocad *.dwg).
- 4. A text file including all survey points in "PNEZD Lat Long" format.

Technical questions regarding these Survey Specifications in general or as related to a specific project can be addressed to the ARRC Land Services Manager 907-265-2670.