



CONSERVATION EASEMENT BOUNDARY SURVEY SCOPE OF WORK

SCOPE

The State of Minnesota (State) will be securing a permanent conservation easement (Easement) on a property for which a legal boundary survey is needed. The owner of the property, their consultant, or other representative (Landowner) will be working together with the State to secure and monument the Easement boundary. The State or Landowner will be securing the services of a professional land surveyor (Surveyor) licensed and registered in the State of Minnesota to complete the boundary survey. The Surveyor shall perform all related tasks as outlined in this Scope of Work.

Following are specific requirements for boundary surveys being conducted on Board of Water and Soil Resource's (BWSR) program lands:

- For private wetland banks, the local BWSR Wetland Specialist will represent the State.
- For all other BWSR programs, program specific guidelines will address who represents and acts on behalf of the State. In some cases, this may be a local government unit.

STATEMENT OF WORK

The Surveyor will provide a legal boundary survey of each Easement parcel and, when required, an ingress/egress easement route. As set forth in this Scope of Work, the Surveyor shall provide a Certificate of Survey and related documents and shall monument the boundary of the Easement parcel(s). The Surveyor will be provided with the location and/or maps of the intended Easement parcel(s), ingress/egress easement route(s), where required, and other such information as may be necessary and available to complete the work requirements set forth herein.

The work and work product of the Surveyor shall be in accordance with relevant state statutes and administrative rules and any applicable local ordinances.

SUMMARY OF WORK ITEMS

The scope of services includes work in the following major Sections:

Section 1: Pre-Survey Communication

Section 2: Records Research

Section 3: Establishing Conservation Easement Boundary

Section 4: Establishing Route for Ingress/Egress

Section 5: Approval of Proposed Easement Boundary and Ingress/Egress Access Route

Section 6: Certificate of Survey

Section 7: Monumenting Conservation Easement Boundary

APPENDICES

Appendix A. Requirements for Preparing Written Legal Descriptions

Appendix B. Requirements for Preparing Survey Drawings/Maps

Appendix C. Requirements for Monumenting and Signing Easement Boundaries

Appendix D. Addressing Common Boundary Issues

D.1. Property Line Conflicts/Encroachments

D.2. Road Right-of-Ways

D.3. Riparian Barriers/Boundaries

SECTION 1: PRE-SURVEY COMMUNICATION

1.1 Tasks: Prior to starting field work a meeting or other suitable form of communication shall occur between the State, Landowner, and Surveyor. The following items shall be reviewed and/or discussed:

- A. Proposed boundary and area of Easement (**Section 3**).
- B. Proposed ingress/egress route between the Easement area and a public road right-of-way (**Section 4**).
- C. Process for placing temporary markers vs. permanent markers, posts, and signs, considering the projected timing of the Easement recording, interim land-uses, and planned construction or planting activities within Easement area (**Sections 3, 4 and 7**).
- D. Timing of and notification for planned field work to complete the identified work items.

1.2 Deliverables: None.

SECTION 2: RESEARCH OF RECORDS

2.1 Tasks: The Easement survey shall be tied to a corner of a Public Land Survey (PLS) or corner of a recorded property. The Surveyor shall gather existing information relative to property ownership and the Easement area from all available sources. The Surveyor shall obtain from the State or the Landowner the most current deed for the property (including any ingress/egress route area) together with copies of any recorded documents creating easements, servitudes, or covenants that benefit or burden the property, excluding mortgage documents (collectively, Recorded Documents).

2.2 Deliverables: None

SECTION 3: ESTABLISHING CONSERVATION EASEMENT BOUNDARY

3.1 Tasks: This section includes all work required to determine and establish the Easement boundary. The Surveyor shall locate the boundary angle points and record the description using bearings and distances as referenced to the National Spatial Reference System. The Easement boundary survey shall be a complete traverse of the area tied to a corner of a Public Land Survey (PLS) or a corner of a recorded property.

Temporary markers shall be used to define the surveyed Easement boundary until such time that the Easement boundary is ready for permanent monumenting (**Section 7**).

Considerations and procedures for addressing common boundary issues associated with this task are included in **Appendix D** of this Scope of Work document.

3.2 Deliverables: Upon completion of this task, the following deliverables shall be provided by the Surveyor to the State and Landowner.

- A. Temporary marking of the Easement boundary.
- B. Air photo or other appropriate map clearly showing the established Easement boundary. Photo or map shall include scale and show easement size to the nearest tenth of an acre.
- C. Written description of any identified ownership or boundary issues or conflicts associated with the planned Easement, whether created by a Recorded Document or otherwise.

SECTION 4: ESTABLISHING ROUTE FOR INGRESS/EGRESS

4.1 Tasks: The Survey must identify how the Easement parcel(s) will be accessed from a physically open and publicly maintained road right-of-way (Public Road). This section describes the work required to determine and establish a non-exclusive ingress/egress route between an Easement parcel and a Public Road.

If the Easement boundary abuts a Public Road and there is direct vehicular access between the Easement and the Public Road, then no separate ingress/egress route needs to be shown on the Survey. The Survey needs only to identify the area of abutment and access.

If, however, either (i) the Easement area does not abut a Public Road or (ii) the Easement area does not have direct vehicular access to a Public Road, then an ingress/egress easement between the Easement boundary and a Public Road must be identified and shown on the Survey.

The ingress/egress easement shall be no less than 20 feet in width, unless written exception otherwise has been provided by the State. The Surveyor shall locate and describe an ingress/egress easement centerline angle points using bearings and distances as referenced to the National Spatial Reference System, or alternatively shall locate the boundaries of the ingress/egress easement in the same manner that the Easement boundaries were located. Temporary markers shall be used to identify the surveyed centerline route or ingress/egress easement boundaries until the ingress/egress route is approved by the State and Landowner (**Section 5**).

If any part of the ingress/egress easement runs across parcel(s) of land owned by a party other than the landowner granting the Easement, the Survey shall identify each separately owned parcel that comprises the ingress/egress route. If the ingress/egress route utilizes an existing recorded access easement, the Survey shall identify such existing easement by its recording information and shall show its location.

In instances where access to a Public Road could be established across land owned by the State or other public body, the State shall be consulted and provide written authorization if it is desired to use such public land as part of the ingress/egress route. In the case of a project that involves multiple adjacent Easements being established concurrently, access may be established jointly among the different Easement parcels.

4.2 Deliverables: Upon completion of this task, the following deliverables shall be provided by the Surveyor to the State and Landowner.

- A. Temporary marking of the ingress/egress easement route.
- B. Air photo or other appropriate map clearly showing the location of the ingress/egress easement. Photo or map shall include scale, boundary of the associated Easement, and the location and name of the Public Road from which the ingress/egress easement begins.
- C. Written description of identified ownership or boundary issues or conflicts associated with the planned ingress/egress easement area, whether created by a Recorded Document or otherwise.

SECTION 5: APPROVAL OF PROPOSED EASEMENT BOUNDARY AND INGRESS/EGRESS ROUTE

5.1 Tasks: Upon completion of the work identified in **Sections 3 and 4**, the Surveyor shall seek concurrence from the State of the proposed boundary for each Easement parcel and, where required, for each ingress/egress easement. This may occur through an on-site meeting, conference call, e-mails, or other appropriate means of communication. Prior to proceeding to the next section, the following items shall be discussed and agreed upon:

- A. The boundary identified for each Easement parcel. Includes discussion of boundary or ownership discrepancies, conflicts created by Recorded Documents, and review of proposed methods to resolve any such issues.
- B. When required, easement route(s) for ingress/egress. Includes discussion of boundary or ownership discrepancies, conflicts created by Recorded Documents, and review of proposed methods to resolve any such issues.
- C. Discussion of the need and methods to remove temporary markings of the Easement boundary and, where required, the ingress/egress route.

5.2 Deliverables: The Surveyor shall provide to the State and Landowner written findings or report of the items discussed and agreed to as part of **Section 5.1**.

SECTION 6: CERTIFICATE OF SURVEY

6.1 Tasks: Upon completion of the work identified in **Section 5**, the Surveyor shall prepare a Certificate of Survey and other required information. The Certificate of Survey as prepared and provided by the Surveyor will be attached to and made part of the State's recorded Easement document.

6.2 Specifications: The Certificate of Survey shall include a written legal description and drawings for each Easement parcel and, where required, for each ingress/egress easement route. In addition to complying with those parts of the ALTA Standards as defined in the **Statement of Work**, the Certificate of Survey shall also comply with the following:

- A. Be legibly printed or reproduced by a process guaranteeing a permanent record.
- B. Be on letter (8 ½ inches x 11 inches) sized paper with a one-half inch minimum margins on all sides.
- C. Be in two parts described as follows:
 - C1. The first part, commencing on page 1, shall contain the written legal descriptions for the Easement and ingress/egress easement routes, if needed. The formatting and other requirements for the written legal description are provided in **Appendix A**.*
 - C2. The second part shall contain the survey drawings/maps for the Easement and when needed, the ingress/egress easement routes. The formatting and other requirements for the survey drawings/maps are provided in **Appendix B**.*
- D. The written legal descriptions and survey drawings/maps shall not be combined on the same sheet. They shall instead be presented on separate sheets within the certificate survey document.
- E. Each sheet shall show the number of that sheet and the total number of sheets included (ex. Sheet 1 of 2).
- F. Each sheet shall be titled – "CERTIFICATE OF SURVEY". This title shall be centered and appear across the top of each sheet, shall be in CAPITAL LETTERS, and shall not be underlined.

- G. Each sheet shall include reference to the unique easement number that has been assigned to the Easement by the State. The easement number shall appear in the upper right-hand corner of each sheet and shall be expressed as “**Easement No: (number)**”. The Surveyor shall obtain the easement number from the State.
- H. Each sheet shall be certified and signed as required by MN Administrative Rule 1800.4200.
- I. Each sheet shall include a border with the border line placed one-half inch inside the outer edge of the sheet.
- J. Each sheet shall include a title block containing the following information:
Surveyor’s information including; the Surveyor’s name or company name, address, contact information. Project identification (ex. job no.), the date the survey was completed and any revision data, the name(s) of the owner(s) of the land surveyed, other information as desired by the Surveyor.

6.3 Deliverables: Upon completion of the Certificate of Survey, the Surveyor shall submit the following items via e-mail to the State:

- A. PDF file of the signed Certificate of Survey formatted for printing on letter paper (8 ½ inches x 11 inches).
- B. Digital geospatial data layer of the conservation easement(s) boundary using UTM Zone 15 North (NAD83 meters) coordinate system. The data shall be of polygon feature type, and the format shall be in the form of a file geodatabase (.gdb). Include the data field “Easement Number” as data type string in the spatial data table, and attribute the polygon(s) with the correct easement number (in the format XX-XX-XX-XX). The file geodatabase should be placed in a folder that should then be delivered as a zipped (.zip) file.

SECTION 7: MONUMENTING CONSERVATION EASEMENT BOUNDARY

7.1 Tasks: This section describes the process of setting monuments for the Easement boundary. Monumenting will occur only after approval of the proposed easement boundary and ingress/egress route, as discussed in **Section 5** above.

The timing for setting permanent monuments will depend on when any farming or other land use practices, with which permanent monuments may interfere, are scheduled to cease within the Easement area as per the following guidance:

- A. If farming practices and other land uses are not an issue and will be unaffected by the monumenting of the Easement, then the Surveyor shall set the permanent monuments as soon as reasonably practical after the approval of the proposed easement boundary and ingress/egress route, as discussed in **Section 5** above.
- B. If farming and other land use activities will continue within the Easement boundary for an extended period and the monumenting of all or portions of the Easement will affect those activities, then all or portions of the Easement boundary shall be marked with temporary markers until the relevant land use activities have ceased. Such temporary markers shall be of a kind that they do not cause damage to farm equipment, livestock, construction equipment, etc. Upon termination or completion of these activities, the Surveyor shall return to the site to set any remaining permanent monuments.

Unless the State advises otherwise, monumenting of any ingress/egress easement route is not required.

7.2 Specifications:

Monumenting of the Easement boundary shall comply with the following specifications and as provided in **Appendices C and D**:

- A. Monuments shall be located at each corner, angle point, approximately every 500 feet along a tangent and at each intersection between the Easement boundary and existing property lines. An exception to this specification may be for Easement boundaries that are described as abutting and following a meandering riparian edge where permanent monumenting would be impracticable.
- B. All monuments must be thoroughly described and specifically identified as either found, set, or to be set, whenever shown on maps or referred to in documents prepared by the Surveyor.
- C. Descriptions of monuments must be sufficient in detail to readily facilitate future recovery by other Surveyors and to enable positive identification.
- D. Monuments shall be a 5/8-inch outside diameter steel pipe or rod with a minimum length of 24 inches. The pipe or rod shall be set flush with ground and capped as per requirements of state law.
- E. For recovery of damaged or compromised monuments, each monument that is set shall include a secondary, sub-surface monument. The sub-surface monument shall be a 5/8-inch outside diameter steel pipe or rod with a minimum length of 8 inches, placed directly below the primary monument.
- F. Witness post(s) shall be placed at each monument location. Two witness posts, facing away from easement area, shall be installed at each angle point, one on the back tangent and one on the forward tangent to represent the direction of the easement line. Single witness post facing away from easement area will be installed at each straight line monument location and at all property line intersection monuments.
- G. Witness posts shall consist of steel "U" channel posts, minimum length of seventy-eight (78) inches, with a minimum weight of 1.33 lbs. per foot.
- H. Witness posts shall be of natural color, preferably green.
- I. The Surveyor shall attach the appropriate Easement boundary sign to the top of each witness post.

7.3 Deliverables: The deliverables for this section of work is a monumented Easement boundary, along with the installation of witness posts and Easement signs as specified above in **Section 7.2**.

APPENDICES

APPENDIX A: Requirements for Preparing Written Legal Descriptions

The Certificate of Survey shall contain a separate, complete and accurate written legal description of each Easement parcel surveyed and for the ingress/egress easement, where needed.

The written legal description shall comply with the following requirements:

- A. It shall include a clear statement of the relationship between the described Easement(s) and the survey control or the basis of the unique location.
- B. Each Easement parcel shall be separately identified and described using the same label as used on the Survey Drawing/Map (e.g., "Easement Parcel A", "Easement Parcel B", etc.).
- C. It shall include the basis of bearings when bearings are used.
- D. Metes and bounds descriptions shall include bearings or angles and distances in order to allow for the computation of a mathematical closure.
- E. It shall include detailed descriptions of any natural or artificial monument referenced.
- F. It shall have the words degrees, minutes, seconds, and references to fractions spelled out and not abbreviated.
- G. It shall not contain any reference to the computed size of the Easement parcel.
- H. It shall use Arabic numerals to designate distances, degrees, minutes, seconds, government lots, sections, townships, ranges, etc.
- I. The font and text font size shall be clearly legible with a text font size of no smaller than 8 point used.

Additional format requirements for the written legal description shall be as provided in the following template.

CERTIFICATE OF SURVEY

Legal Description

Easement Parcel [A]

<Insert - Legal Description Text for the "Easement Parcel" [or "Easement Parcel A", if more than one Easement parcel]>

and shown as the "Easement Parcel [A]" on the survey map attached hereto and made a part hereof.

Easement Parcel [B] (if more than one Easement parcel)

<Insert - Legal Description Text for "Easement Parcel B" >

and shown as the "Easement Parcel [B]" on the survey map attached hereto and made a part hereof.

[repeat as necessary for the number of Easement parcels]

Ingress/Egress Easement [if applicable]

Together with a non-exclusive easement for ingress/egress over and across the following described land:

<Insert - Ingress/Egress Legal Description>

and shown as the "Ingress/Egress Easement" on the survey map attached hereto and made a part hereof.

[End of Text Requirements]

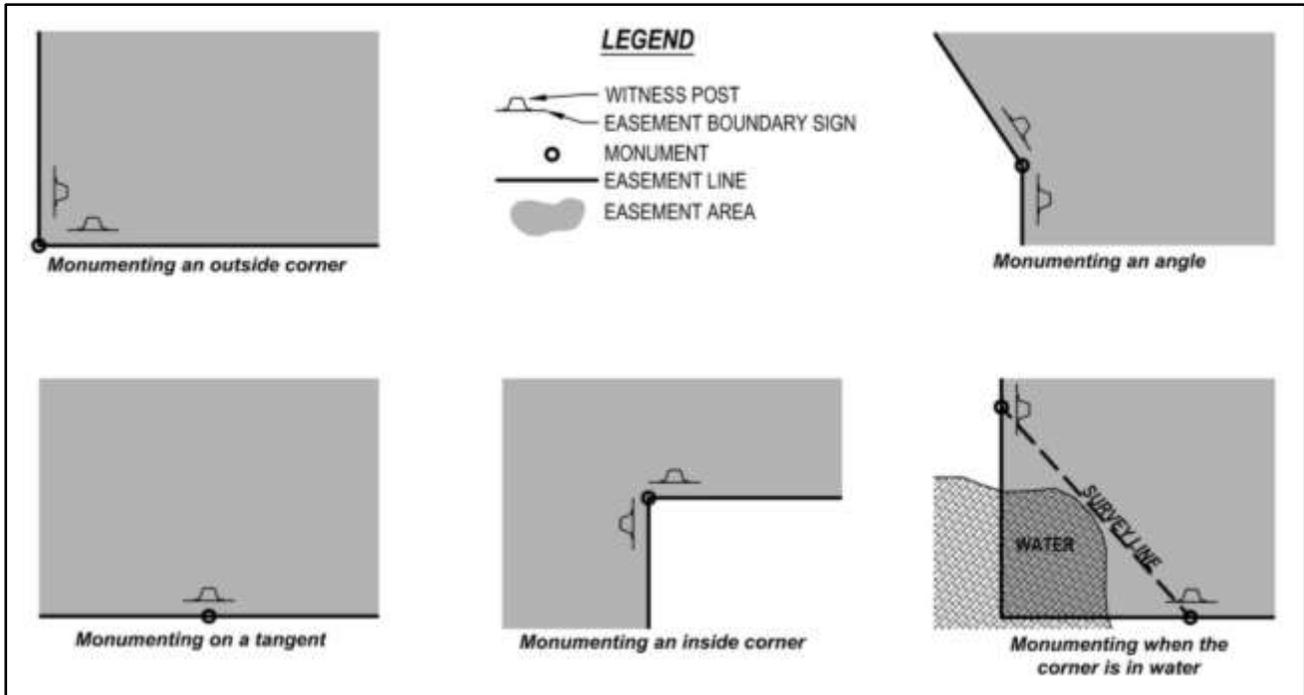
APPENDIX B: Requirements for Preparing Survey Drawings/Maps

Each sheet of the Certificate of Survey representing the survey drawings/maps must show or contain the following information:

- A. The scale of the drawing must be sufficient to legibly represent the required information. Either a portrait or landscape orientation may be used, with a portrait orientation is preferred.
- B. The North arrow shall be orientated towards the top of the drawing. If that is not practicable, then North should be orientated toward the left side.
- C. All numeric dimensions and narrative designations shall be oriented so they can be read from the bottom or right-hand side of the drawing.
- D. Any locatable encumbrance created by a Recorded Document (e.g., drainage, utility, or conservation easement) on the property being surveyed shall be shown on the drawing with reference to the source information. Blanket encumbrances created by a Recorded Document shall be identified in a note section on the drawing identifying the geographic scope of the encumbrance.
- E. If additional monuments are to be set after preparation and delivery of the Certificate of Survey, the location of these monuments must be shown using a distinct symbol.
- F. Basis of bearings and azimuth.
- G. All bearings or azimuths shall be expressed to the nearest second.
- H. With the exception of right-of-ways or easements with fixed widths, all other distances shall be expressed in feet and hundredths of a foot.
- I. Ditto marks and foot and inch symbols shall not be used.
- J. All curved lines shall show the central angle expressed to the nearest second, and radius and arc lengths expressed to the nearest hundredth of a foot.
- K. All separate non-connected Easement parcels and all Easement parcels under separate ownership included in the Certificate of Survey shall be lettered consecutively beginning with the letter "A" and labeled as "Easement Parcel A", "Easement Parcel B", etc.
- L. The total Easement area to the nearest TENTH of an acre shall be clearly shown on each sheet containing the survey drawings. If more than one Easement parcel is described, the area of each Easement parcel shall also be shown to the nearest TENTH of an acre.
- M. If applicable, the ingress/egress easement area shall be labelled the "Ingress/Egress Easement".
- N. Details of small congested areas may be needed. If more than one detail is necessary, label each detail consecutively beginning with the number "1".
- O. Considering the required drawing size, it may be necessary to separate the drawing portion of the Certificate of Survey with match lines. Match lines shall be appropriately chosen, each one labeled consecutively by a letter beginning with the letter "A". Example: Match Line A, etc.
- P. When any parcel depicted on the drawings includes a water feature as a boundary, a dashed survey line shall be used and labeled to represent the boundary line.
- Q. Observed evidence of possession or use by others in the parcel or across any perimeter lines of the Easement.
- R. Sufficient data to indicate the theory of location applied in formulating the opinions as to the probable location of the boundaries and corners of the Easement.

APPENDIX C: Requirements for Monumenting and Signing Easement Boundaries

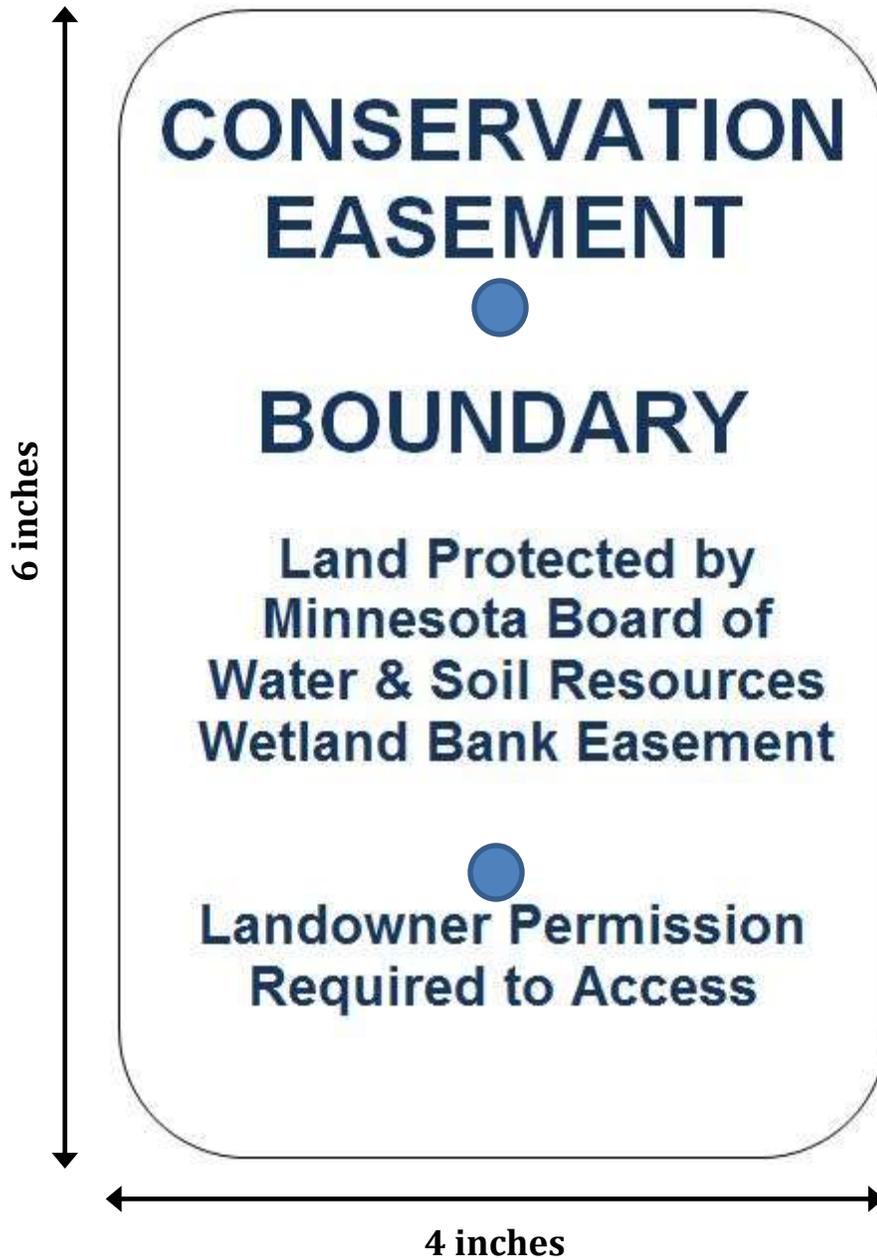
The following figures are examples of common monumenting and easement boundary signing scenarios. The examples shown reflect the most common situations that arise during installation. Refer to **Section 7** and **Appendix D** for further details.



Specific requirements for easement boundary signs vary depending on Board of Water and Soil Resource's (BWSR) program lands:

- **Wetland Banking Easements:** Easement boundary signs shall follow the specifications provided on the following page. The Surveyor is responsible for acquiring Easement boundary signs from a sign manufacturer, with such signs conforming to the specifications provided herein.
- **All other BWSR Easements:** Easement boundary signs shall be in conformance with explicit program specifications (provided separately from this Scope of Work Document).

Signs shall be attached to each monument using a galvanized nut and bolt for each pre-drilled hole in the Easement sign. The Surveyor shall coordinate with the Landowner and the State regarding the appropriate number of Easement signs needed to conform to these requirements.



- Color: white background, no colored border.
- Text: dark blue lettering, centered, Arial font, larger lettering – font size 32, smaller lettering – font size 20.
- Material: aluminum -- new stock, shall conform to the requirements of ASTM B209 for alloy 5052-H38 or 6061-T6 aluminum.
- Thickness: .063 inches.
- Corner radii: ½ inch.
- Hole size: 3/8 inch pre-drilled holes for field post mounting; center of holes shall be approximately 3 inches apart from each other and 1 ½” from top and bottom edges and centered from the left/right edges.
- Paint/ink coating system: white background is an exterior grade enamel capable of withstanding 7-10 years of outdoor exposure; blue text layer is either (i) an exterior grade ink applied via the silk screen printing method or (ii) exterior grade premium vinyl lettering with an estimated outdoor field life of 7-10 years. No UV curable inks and no digital printing (i.e., flatbed inkjet printing) shall be used.

APPENDIX D: Addressing Common Boundary Issues

D.1. Property Line Conflicts/Encroachments

Evidence of possible encroachments of the property being surveyed for an Easement may indicate a disputed or uncertain boundary or potential property ownership conflict. Indications of encroachments include but are not limited to:

- Fence lines, fence posts, sign posts or other physical indications of occupation that conflict with the deeded property's surveyed boundary.
- Evidence of certain land uses, such as cropping that encroach onto or off of the deeded property's surveyed boundary.

In the course of establishing the Easement boundary (**Section 3**), if the Surveyor finds any evidence of encroachments onto or off of the property being surveyed, such evidence shall be brought to the attention of the Landowner and the State. The Surveyor shall provide sufficient detail regarding such encroachments so that the Landowner may appropriately evaluate the issue and decide whether to pursue possible remedies.

Under no circumstances shall the proposed easement area be located on land that is either (a) not owned by the party granting the Easement or (b) for which there is field evidence that the land may be subject to a conflict regarding its ownership.

D.2. Road Right-of-Ways

Neither the Easement, nor any ingress/egress easement area, shall include any land lying within the right-of-way of any public road. In some cases, existing and/or proposed private roads, drives, access lanes, etc. and their associated right-of-ways will also need to be excluded from the Easement. Questionable situations should be brought to the attention of the Landowner and the State for a decision on potential exclusions. When required exclusions for right-of-ways are not already legally established, the Surveyor shall consult with the Landowner and determine a suitable right-of-way for said access feature. The survey map and written legal description shall clearly reflect that any such road right-of-way area is outside both the Easement area and any ingress/egress easement area.

D.3. Riparian Barriers/Boundaries

Natural or manmade barriers, including but not limited to; ditches, streams, creeks, rivers, or other natural water bodies, will occasionally be used as boundary lines in the Easement's description. When riparian features are being used as a boundary line for the Easement, the following general guidance shall be followed when establishing the Easement boundary:

Streams, creeks, rivers, or other natural water bodies - for purposes of defining the Easement boundary, the Surveyor shall create a survey line by traversing along the top bank of such stream, creek, river, or other water body. In the absence of a top bank, the Surveyor shall traverse along a mark left by wave action at the preceding high water elevation, as determined by simple observation or at the ordinary high water mark established by the Minnesota Department of Natural Resources. In cases where the Surveyor is unable to determine the Easement boundary line, the State will be contacted for assistance.

In some instances, corner points for the Easement survey may be submerged. In this event, a mark left on the bank by wave action at the preceding high water, as determined by simple observation, shall be surveyed and the location for the Easement corners shall be mathematically offset from that line. Survey monuments and witness posts shall be set at all locations where the survey line intersects and

easement boundary line or property line, located on dry ground and tied to the computed points. See **Section 7** and **Appendix C** for further information.

Drainage ditches - for purposes of defining the Easement boundary, the Surveyor shall first determine, in consultation with the Landowner and State, if any drainage ditches that border or traverse thru the property are intended to be excluded from the Easement. In many cases, drainage ditches along or thru a planned Easement will be left as is and will continue to function and benefit surrounding properties. In such situations, there may be a desire to not include the drainage ditch or its right-of-way for access and maintenance within the Easement due to a conflict of easement rights.

In such situations, the Surveyor shall determine the legally established right-of-way for the ditch and shall use said right-of-way line for the purposes of describing and establishing the Easement boundary. Where no legally established right-of-way exists, the Surveyor shall determine a right-of-way using the guidance in the following diagram.

