APPENDIX A

CHECKLIST FOR INSTALLING A NEW SENSOR NETWORK

PRE-INSTALLATION

- ☐ Determine the tier of network/stations you are aspiring for. (Table 8, Chapter 8)
- ☐ Identify local soil experts if you aspire to be Tier II or above. This includes staff at a local National Resources Conservation Service (NRCS) office, university, or a private company. You can also reach out to the National Coordinated Soil Moisture Monitoring Network (NCSMMN) at soil.moisture@noaa.gov and the AASC Mesonet community for recommendations.
- ☐ Complete macro and micro site selection if setting up a brand-new network. If soil moisture sensors are being added to previously installed weather networks, refer only to micro-site selection. (Chapter 4)
- ☐ Ensure long-term access to the site. (Chapter 2)
- ☐ Select soil sensors appropriate for the specific soil conditions at network sites. Refer to Appendix B1 for a quick guide or Tables 3 and 4 for more detail (Chapter 5). If possible, consult with other soil moisture sensor users in the region to verify sensor choice for your soil type.
- ☐ If soil-specific calibration is intended at any time (a requirement for Tier II classification), prepare to collect at least two full shovels of soil from each site at each depth. Note that each soil type will need to be collected separately, and consequently you will require a separate container for each depth at which a sensor will be installed. Soil types will be determined by the soil scientist on site or through laboratory testing at an experienced facility.

DURING INSTALLATION

- ☐ Follow the installation protocol for sensor installation. Directions can be found at: www.drought.gov/drought-research/installation-protocol-situ-soil-moisture-data-collection
- ☐ Request soil characterization from local soil expert for the sensor installation borehole or pit.
- ☐ Provide the list of parameters defined in the metadata document (per the tier your network is aspiring for) to the soil expert to ensure all information is recorded and soil samples necessary for the listed measurements are collected (Metadata Guidance document).
- ☐ Include any additional ancillary data required by both current and potential stakeholders (Chapter 3, Table 2).
- ☐ If the network aims to produce a Tier I dataset, then a general site characterization of the surrounding area must also be requested from the soil scientist to identify similar soil series in the area. Note that this can also be done post installation at any time.

- Collect soils for soil-specific calibration. Label with site ID and date and store under refrigerated conditions to avoid microbial activity.

POST- INSTALLATION

- Establish site maintenance routine and frequency. Document all activities performed onsite.
- Establish and document QA and QC practices. Refer to Appendix C for a quick guide. Maintain a log of QA/QC activities.
- Evaluate the tier of data quality for each station each quarter or at least yearly (Chapter 8).