**Hydromet Monitoring Stations**

**Acceptance Checklist**

**Water-level and Discharge Monitoring Stations**

**Station Name and Location:**

1. The station is installed so that sensitive equipment such as the data logger, batteries, telemetry radios, and antennas are located well above expected high water to ensure that sensitive instruments are not submerged.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
2. The bubbler orifice tube or pressure transducer, if installed at this station, is securely fixed to the streambed such that it will remain submerged during low flows and is not moved or lost during high flows. The last 6-10 inches of the bubbler tube, if applicable, has been installed with a slight downward slope towards the stream to avoid water coming into the tube in between bubble cycles.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
3. Instream sensors have been installed in such a manner as to avoid pileup or drawdown of the water surface in the vicinity of the sensor, thus affecting the accuracy of the data.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
4. Instream sensors or bubbler tube have been installed in a deep pool not subject to sedimentation, turbulence, or wave motion.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
5. The site selected for installation of water-level sensors is in a pool having a stable control at all stages.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
6. Radar or ultrasonic sensors, if installed at this station, are mounted such that they have a direct vertical shot to the water surface with no obstruction of their beams. Beam spread has been determined based on manufacturer’s specification and the maximum expected distance to be measured at low flows.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
7. The radar or ultrasonic mounting structure has been designed and installed to allow for easy access to the instrument and cable for maintenance.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
8. Orifice tubing or instrument cables have been buried in an appropriate conduit for the site conditions (see Installation Guidelines document).

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
9. Is this station at a secure location and if not, have measures been taken to prevent unauthorized access (see Installation Guidance document for suggested measures).

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
10. Have solar panels been oriented to maximize daily sunlight absorption.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
11. If this station employs INSAR telemetry instrumentation has the antenna been installed and oriented towards the appropriate satellite with considerations made to avoid obstructions in the line-of-site between the antenna and the satellite.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
12. Has lightning protection been provided at this station using methods recommended by the instrument manufacturer.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
13. Has the data logger and transmitter, if so equipped, been secured in a NEMA type 4 enclosure or equivalent to prevent access by water, dust, or insects.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
14. Has a locking mechanism been installed on the door of the enclosure to minimize theft or vandalism of the equipment.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
15. If a padlock is used has it been protected by a steel cover to prevent access to the lock by a saw or bolt cutters.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
16. Has datum been established at this gauging station by surveying from an existing benchmark or establishing a new benchmark using DGPS or RTKGPS equipment with at least 2 cm accuracy.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
17. Has a reference gauge such as a staff gauge, wire-weight gauge, or reference mark for tapedown to the water surface been established at this gauging station with the elevation of this reference gauge having been surveyed into gauge datum to a precision of 0.001 ft.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
18. If a staff gauge is installed as a reference gauge, has it been securely attached to an existing structure such as a bridge abutment or pier that will be stationary throughout the expected life of the gauging station.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
19. If a staff gauge is installed as a reference gauge has it been installed so that the lower end is submerged in water at the minimum water level and the upper end can be accessed to provide a water level reading at high flows.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
20. If a staff gauge has been installed as a reference gauge at this station has it been installed in such a manner as to avoid pileup or drawdown of the water surface in the vicinity of the staff plate, thus affecting the accuracy of the reading.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
21. If a wire-weight gauge has been installed at this station has it been mounted to the side of the bridge near the center of the river channel making sure to avoid locations where water levels are affected by piers or other obstructions in the flow.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
22. Have provisions been made for safe and easy access to the instrument shelter and reference gauge during all weather and streamflow conditions. Have ladders, ramps, fencing, and handrails been provided as needed and installed in a secure manner to ensure the safety of field personnel.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
23. Have all instruments been secured in an orderly fashion inside of the instrument shelter with all wiring and cables well organized and clearly labeled and secured.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
24. Has the instrument shelter been sealed with silicone or construction foam to prevent access by rodents, insects, and moisture.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
25. Is the environment where the station is located expected to be humid and if so, has ventilation been provided to prevent moisture buildup.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
26. Is the site readily accessible by motor vehicle during all weather and streamflow conditions.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
27. Have requests for permission to install and access the site been obtained from property owners or managers.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
28. Has the site been cleared of brush and other obstructions that would make access hazardous.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
29. Have provisions been made to maintain the grounds surrounding the station throughout the AMC period.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.

**Station Accepted**

**Yes** \_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **Signature of Accepting Official Date**

**No \_\_ List items that are out of compliance with “Installation Guidance” document
 and require further work.**

**Sediment or Turbidity Monitoring Stations**

**Station Name and Location:**

1. The station been installed so that sensitive equipment such as the data logger, batteries, telemetry radios, and antennas are located well above expected high water to ensure that sensitive instruments are not submerged.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
2. Sensors have been securely fixed to the streambed or rigid structure in the stream such that they remain submerged during low flows and are not moved or lost during high flows.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
3. Sensor cables have been buried in an appropriate conduit for the site conditions.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
4. Mounting structures have been designed and installed so that the sensors can be easily removed for cleaning, servicing, or replacement at all flow conditions.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
5. Is this station at a secure location and if not, have measures been taken to prevent unauthorized access (see Installation Guidance document for suggested measures).

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
6. Have solar panels been oriented to maximize daily sunlight absorption.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
7. If this station employs INSAR telemetry instrumentation has the antenna been installed and oriented towards the appropriate satellite with considerations made to avoid obstructions in the line-of-site between the antenna and the satellite.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
8. Has lightning protection been provided at this station using methods recommended by the instrument manufacturer.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
9. Has the data logger and transmitter, if so equipped, been secured in a NEMA type 4 enclosure or equivalent to prevent access by water, dust, or insects.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
10. Has a locking mechanism been installed on the door of the enclosure to minimize theft or vandalism of the equipment.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
11. If a padlock is used has it been protected by a steel cover to prevent access to the lock by a saw or bolt cutters.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
12. Have provisions been made for safe and easy access to the instrument shelter and reference gauge during all weather and streamflow conditions. Have ladders, ramps, fencing, and handrails been provided as needed and installed in a secure manner to ensure the safety of field personnel.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
13. Have all instruments been secured in an orderly fashion inside of the instrument shelter with all wiring and cables well organized and clearly labeled and secured.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
14. Has the instrument shelter been sealed with silicone or construction foam to prevent access by rodents, insects, and moisture.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
15. Is the environment where the station is located expected to be humid and if so, has ventilation been provided to prevent moisture buildup.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
16. Is the site readily accessible by motor vehicle during all weather and streamflow conditions.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
17. Have requests for permission to install and access the site been obtained from property owners or managers.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
18. Has the site been cleared of brush and other obstructions that would make access hazardous.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
19. Have provisions been made to maintain the grounds surrounding the station throughout the AMC period.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.

**Station Accepted**

**Yes** \_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **Signature of Accepting Official Date**

**No \_\_ List items that are out of compliance with “Installation Guidance” document
 and require further work.**

**Water Quality Monitoring Stations**

**Station Name and Location:**

1. The station is installed so that sensitive equipment such as the data logger, batteries, telemetry radios, and antennas are located well above expected high water to ensure that sensitive instruments are not submerged.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
2. The water-quality sondes andsensors have been securely fixed to the streambed or rigid structure in the stream such that they remain submerged during low flows and are not moved or lost during high flows.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
3. The mounting structures have been designed and installed such that the sensors can be removed for cleaning, servicing, or replacement at all flow conditions.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
4. Sensor cables have been buried in an appropriate conduit for the site conditions.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
5. Is this station at a secure location and if not, have measures been taken to prevent unauthorized access (see Installation Guidance document for suggested measures).

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
6. Have solar panels been oriented to maximize daily sunlight absorption.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
7. If this station employs INSAR telemetry instrumentation has the antenna been installed and oriented towards the appropriate satellite with considerations made to avoid obstructions in the line-of-site between the antenna and the satellite.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
8. Has lightning protection been provided at this station using methods recommended by the instrument manufacturer.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
9. Has the data logger and transmitter, if so equipped, been secured in a NEMA type 4 enclosure or equivalent to prevent access by water, dust, or insects.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
10. Has a locking mechanism been installed on the door of the enclosure to minimize theft or vandalism of the equipment.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
11. If a padlock is used has it been protected by a steel cover to prevent access to the lock by a saw or bolt cutters.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
12. Have provisions been made for safe and easy access to the instrument shelter and reference gauge during all weather and streamflow conditions. Have ladders, ramps, fencing, and handrails been provided as needed and installed in a secure manner to ensure the safety of field personnel.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
13. Have all instruments been secured in an orderly fashion inside of the instrument shelter with all wiring and cables well organized and clearly labeled and secured.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
14. Has the instrument shelter been sealed with silicone or construction foam to prevent access by rodents, insects, and moisture.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
15. Is the environment where the station is located expected to be humid and if so, has ventilation been provided to prevent moisture buildup.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
16. Is the site readily accessible by motor vehicle during all weather and streamflow conditions.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
17. Have requests for permission to install and access the site been obtained from property owners or managers.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
18. Has the site been cleared of brush and other obstructions that would make access hazardous.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
19. Have provisions been made to maintain the grounds surrounding the station throughout the AMC period.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.

**Station Accepted**

**Yes** \_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **Signature of Accepting Official Date**

**No \_\_ List items that are out of compliance with “Installation Guidance” document
 and require further work.**

**Groundwater Monitoring Stations**

**Station Name and Location:**

1. Has datum been established at this monitoring station by surveying from an existing benchmark or establishing a new benchmark using DGPS or RTKGPS equipment with at least 2 cm accuracy.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
2. Has the measuring point and associated elevation been clearly marked on the wellhead or the top of the well casing and noted in the station documentation kept on-site and in the office files.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
3. Is this station at a secure location and if not, have measures been taken to prevent unauthorized access (see Installation Guidance document for suggested measures).

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
4. Have solar panels been oriented to maximize daily sunlight absorption.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
5. If this station employs INSAR telemetry instrumentation has the antenna been installed and oriented towards the appropriate satellite with considerations made to avoid obstructions in the line-of-site between the antenna and the satellite.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
6. Has lightning protection been provided at this station using methods recommended by the instrument manufacturer.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
7. Has the data logger and transmitter, if so equipped, been secured in a NEMA type 4 enclosure or equivalent to prevent access by water, dust, or insects.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
8. Has a locking mechanism been installed on the door of the enclosure to minimize theft or vandalism of the equipment.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
9. If a padlock is used has it been protected by a steel cover to prevent access to the lock by a saw or bolt cutters.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
10. Have provisions been made for safe and easy access to the instrument shelter during all weather and streamflow conditions. Have ladders, ramps, fencing, and handrails been provided as needed and installed in a secure manner to ensure the safety of field personnel.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
11. Have all instruments been secured in an orderly fashion inside of the instrument shelter with all wiring and cables well organized and clearly labeled and secured.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
12. Has the instrument shelter been sealed with silicone or construction foam to prevent access by rodents, insects, and moisture.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
13. Is the environment where the station is located expected to be humid and if so, has ventilation been provided to prevent moisture buildup.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
14. Is the site readily accessible by motor vehicle during all weather and streamflow conditions.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
15. Have requests for permission to install and access the site been obtained from property owners or managers.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
16. Has the site been cleared of brush and other obstructions that would make access hazardous.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.
17. Have provisions been made to maintain the grounds surrounding the station throughout the AMC period.

Yes \_\_ No\_\_

If answered “No” explain why not and what provisions have or will be made to comply with directives provided in the “Installation Guidance” document.

**Station Accepted**

**Yes** \_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **Signature of Accepting Official Date**

**No \_\_ List items that are out of compliance with “Installation Guidance” document
 and require further work.**