

**Great Lakes Air Deposition (GLAD) Program
Quality Assurance Project Plan Review Checklist
Primary Data Collection Projects**

This checklist is based on the U.S. EPA's *Requirements for Quality Assurance Project Plans* (EPA/240/R-02/009, 2001). This checklist will be used to review QAPPs for GLAD-sponsored projects involving primarily field sampling and laboratory analyses or other primary data collection activities. Preparers of QAPPs for such projects are encouraged to refer to this checklist to ensure all elements are included and adequately addressed. The above mentioned document should be referred to for detailed explanations of the requirements of each component. For projects involving both primary data collection and model creation/application, the requirements of both this checklist and the Modeling Projects checklist must be addressed.

PROJECT TITLE:

QAPP version:

Preparer:

Reviewer:

Date Submitted for Review:

Organization:

Organization: Great Lakes Commission

Date of Review:

<input type="checkbox"/> Accepted as is	<input type="checkbox"/> Accepted, if minor issues addressed	<input type="checkbox"/> Major revision needed
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Element	Acceptable	Section	Comments
A1. Title and Approval Sheet			
Contains project title	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Indicates revision number, if applicable	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Indicates organization's name	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Date signature of organization's project manager	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Dated signature of organization's QA manager present	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Other signatures, as needed	<input type="checkbox"/> Yes <input type="checkbox"/> No		
A2. Table of Contents			
Lists QA Project Plan information sections	<input type="checkbox"/> Yes <input type="checkbox"/> No		

Element	Acceptable	Section	Comments
Document control information indicated	<input type="checkbox"/> Yes <input type="checkbox"/> No		
A3. Distribution List			
Includes all individuals who are to receive a copy of the QA Project Plan and identifies their organization	<input type="checkbox"/> Yes <input type="checkbox"/> No		
A4. Project/Task Organization			
Identifies key individuals involved in all major aspects of the project, including contractors	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Discusses their responsibilities	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Project QA Manager position indicates independence from unit generating data	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Identifies individual responsible for maintaining the official, approved QA Project Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Organizational chart shows lines of authority and reporting responsibilities	<input type="checkbox"/> Yes <input type="checkbox"/> No		
A5. Problem Definition/Background			
States decision(s) to be made, actions to be taken, or outcomes expected from the information to be obtained	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Clearly explains the reason (site background or historical context) for initiating this project	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Identifies regulatory information, applicable criteria, action limits, etc. necessary to the project	<input type="checkbox"/> Yes <input type="checkbox"/> No		
A6. Project/Task Description			
Summarizes work to be performed, for example, measurements to be made, data files to be obtained, etc., that support the project's goals	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Provides work schedule indicating critical project points, e.g., start and completion dates for activities such as sampling, analysis, data or file reviews, and assessments	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Details geographical locations to be studied, including maps where possible	<input type="checkbox"/> Yes <input type="checkbox"/> No		

Element	Acceptable	Section	Comments
Discusses resource and time constraints, if applicable	<input type="checkbox"/> Yes <input type="checkbox"/> No		
A7. Quality Objectives and Criteria			
Identifies performance/measurement criteria for all information to be collected and acceptance criteria for information obtained from previous studies, including project action limits and laboratory detection limits and range of anticipated concentrations of each parameter of interest	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Discusses precision	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Addresses bias	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Discusses representativeness	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Identifies the need for completeness	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Describes the need for comparability	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Discusses desired method sensitivity	<input type="checkbox"/> Yes <input type="checkbox"/> No		
A8. Special Training/Certifications			
Identifies any project personnel specialized training or certifications	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Discusses how this training will be provided	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Indicates personnel responsible for assuring these are satisfied	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Identifies where this information is documented	<input type="checkbox"/> Yes <input type="checkbox"/> No		
A.9 Documentation and Records			
Identifies report format and summarizes all data report package information	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Lists all other project documents, records, and electronic files that will be produced	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Identifies where project information should be kept and for how long	<input type="checkbox"/> Yes <input type="checkbox"/> No		

Element	Acceptable	Section	Comments
Discusses back up plans for records stored electronically	<input type="checkbox"/> Yes <input type="checkbox"/> No		
States how individuals identified in A3 will receive the most current copy of the approved QA Project Plan, identifying the individual responsible for this	<input type="checkbox"/> Yes <input type="checkbox"/> No		
B1. Sampling Process Design (Experimental Design)			
Describes and justifies design strategy, indicating size of the area, volume, or time period to be represented by a sample	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Details the type and total number of sample types/matrix or test runs/trials expected and needed	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Indicates where samples should be taken, how sites will be identified/located	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Discusses what to do if sampling sites become inaccessible	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Identifies project activity schedules such as each sampling event, times samples should be sent to the laboratory, etc.	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Specifies what information is critical and what is for informational purposes only	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Identifies sources of variability and how this variability should be reconciled with project information	<input type="checkbox"/> Yes <input type="checkbox"/> No		
B2. Sampling Methods			
Identifies all sampling SOPs by number, date, and regulatory citation, indicating sampling options or modifications to be taken	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Indicates how each sample/matrix type should be collected	<input type="checkbox"/> Yes <input type="checkbox"/> No		
If in-situ monitoring, indicates how instruments should be deployed and operated to avoid contamination and ensure maintenance of proper data	<input type="checkbox"/> Yes <input type="checkbox"/> No		
If continuous monitoring, indicates averaging time and how instruments should store and maintain raw data, or data averages	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Indicates how samples are to be homogenized, composited, split, or filtered, if needed	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Indicates what sample containers and sample volumes should be used	<input type="checkbox"/> Yes <input type="checkbox"/> No		

Element	Acceptable	Section	Comments
Identifies whether samples should be preserved and indicates methods that should be followed	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Indicates whether sampling equipment and samplers should be cleaned and/or decontaminated, identifying how this should be done and by-products disposed of	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Identifies any equipment and support facilities needed	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Addresses actions to be taken when problems occur, identifying individual(s) responsible for corrective action and how this should be documented	<input type="checkbox"/> Yes <input type="checkbox"/> No		
B3. Sample Handling and Custody			
States maximum holding times allowed from sample collection to extraction and/or analysis for each sample type and, for in-situ or continuous monitoring, the maximum time before retrieval of information	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Identifies how samples or information should be physically handled, transported, and then received and held in the laboratory or office (including temperature upon receipt)	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Indicates how sample or information handling and custody information should be documented, such as in field notebooks and forms, identifying individual responsible	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Discusses system for identifying samples, for example, numbering system, sample tags and labels, and attaches forms to the plan	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Identifies chain-of-custody procedures and includes form to track custody	<input type="checkbox"/> Yes <input type="checkbox"/> No		
B4. Analytical Methods			
Identifies all analytical SOPs (field, laboratory and/or office) that should be followed by number, date, and regulatory citation, indicating options or modifications to be taken, such as sub-sampling and extraction procedures	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Identifies equipment or instrumentation needed	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Specifies any specific method performance criteria	<input type="checkbox"/> Yes <input type="checkbox"/> No		

Element	Acceptable	Section	Comments
Identifies procedures to follow when failures occur, identifying individual responsible for corrective action and appropriate documentation	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Identifies sample disposal procedures	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Specifies laboratory turnaround times needed	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Provides method validation information and SOPs for nonstandard methods	<input type="checkbox"/> Yes <input type="checkbox"/> No		
B5. Quality Control			
For each type of sampling, analysis, or measurement technique, identifies QC activities which should be used, for example, blanks, spikes, duplicates, etc., and at what frequency	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Details what should be done when control limits are exceeded, and how effectiveness of control actions will be determined and documented	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Identifies procedures and formulas for calculating applicable QC statistics, for example, for precision, bias, outliers and missing data	<input type="checkbox"/> Yes <input type="checkbox"/> No		
B6. Instrument/Equipment Testing, Inspection, and Maintenance			
Identifies field and laboratory equipment needing periodic maintenance, and the schedule for this	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Identifies testing criteria	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Notes availability and location of spare parts	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Indicates procedures in place for inspecting equipment before usage	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Identifies individual(s) responsible for testing, inspection and maintenance	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Indicates how deficiencies found should be resolved, re-inspections performed, and effectiveness of corrective action determined and documented	<input type="checkbox"/> Yes <input type="checkbox"/> No		
B7. Instrument/Equipment Calibration and Frequency			
Identifies equipment, tools, and instruments that should be calibrated and the frequency for this calibration	<input type="checkbox"/> Yes <input type="checkbox"/> No		

Element	Acceptable	Section	Comments
Describes how calibrations should be performed and documented, indicating test criteria and standards or certified equipment	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Identifies how deficiencies should be resolved and documented	<input type="checkbox"/> Yes <input type="checkbox"/> No		
B8. Inspection/Acceptance for Supplies and Consumables			
Identifies critical supplies and consumables for field and laboratory, noting supply source, acceptance criteria, and procedures for tracking, storing and retrieving these materials	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Identifies the individual(s) responsible for this	<input type="checkbox"/> Yes <input type="checkbox"/> No		
B9. Non-direct Measurements			
Identifies data sources, for example, computer databases or literature files, or models that should be accessed and used	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Describes the intended use of this information and the rationale for their selection, i.e., its relevance to project	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Indicates the acceptance criteria for these data sources and/or models	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Identifies key resources/support facilities needed	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Describes how limits to validity and operating conditions should be determined, for example, internal checks of the program and Beta testing	<input type="checkbox"/> Yes <input type="checkbox"/> No		
B10. Data Management			
Describes data management scheme from field to final use and storage	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Discusses standard record-keeping and tracking practices, and the document control system or cites other written documentation such as SOPs	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Identifies data handling equipment/procedures that should be used to process, compile, analyze, and transmit data reliably and accurately	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Identifies individual(s) responsible for this	<input type="checkbox"/> Yes <input type="checkbox"/> No		

Element	Acceptable	Section	Comments
Describes the process for data archival and retrieval	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Describes procedures to demonstrate acceptability of hardware and software configurations	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Attaches checklists and forms that should be used	<input type="checkbox"/> Yes <input type="checkbox"/> No		
C1. Assessments and Response Actions			
Lists the number, frequency, and type of assessment activities that should be conducted, with the approximate dates	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Identifies individual(s) responsible for conducting assessments, indicating their authority to issue stop work orders, and any other possible participants in the assessment process	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Describes how and to whom assessment information should be reported	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Identifies how corrective actions should be addressed and by whom, and how they should be verified and documented	<input type="checkbox"/> Yes <input type="checkbox"/> No		
C2. Reports to Management			
Identifies what project QA status reports are needed and how frequently	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Identifies who should write these reports and who should receive this information	<input type="checkbox"/> Yes <input type="checkbox"/> No		
D1. Data Review, Verification, and Validation			
Describes criteria that should be used for accepting, rejecting, or qualifying project data	<input type="checkbox"/> Yes <input type="checkbox"/> No		
D2. Verification and Validation Methods			
Describes process for data verification and validation, providing SOPs and indicating what data validation software should be used, if any	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Identifies who is responsible for verifying and validating different components of the project data/information, for example, chain-of-custody forms, receipt logs, calibration information, etc.	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Identifies issue resolution process, and method and	<input type="checkbox"/> Yes <input type="checkbox"/> No		

Element	Acceptable	Section	Comments
individual responsible for conveying these results to data users			
Attaches checklists, forms, and calculations	<input type="checkbox"/> Yes <input type="checkbox"/> No		
D3. Reconciliation with User Requirements			
Describes procedures to evaluate the uncertainty of the validated data	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Describes how limitations on data use should be reported to the data users	<input type="checkbox"/> Yes <input type="checkbox"/> No		