**Introduction**

This table details the minimum requirements for a Quality Assurance Project Plan (QAPP), a formal planning document which describes how environmental information operations are planned, implemented, documented, and assessed during the life cycle of a project. Per EPA, all elements and sub elements must be presented in your final QAPP and should not be deleted. If a section of the QAPP Template is not applicable to your specific project, indicate that the section is not applicable and include an explanation as to why the section is not applicable.

| **Element**  | **Description** | **Notes & Hints** |
| --- | --- | --- |
| **A** | **GROUP A ELEMENTS: Project Management and Information/Data Quality Objectives** | **Organizing and running project activities** |
| **A1** | **Title Page** |  |
| **A2** | **Approval Page** |  |
|   | Include, at a minimum:* Author and organization
* Date prepared or revised
* Approval signatures of key individuals, including EPA
 |   |
| **A3** | **Table of Contents**  |  |
|   | Include, at a minimum:* Period of applicability
* Revision / version control information
* Grant number
 |   |
| **A4** | **Project Purpose, Problem Definition, and Background** | **Describes the purpose of the project’s Environment Information Operations (EIO) (e.g., research, monitoring, environmental technology, use of existing information).** |
|   | Include, at a minimum:* Project goals and objectives
 |   |
| **A5** | **Project Task Description** | **Work to be performed and the work product to be produced** |
|   | Include, at a minimum:* Regulatory criteria or standards
 |   |
| **A6** | **Information/Data Quality Objectives and Performance/Acceptance Criteria** | **The Data Quality Objectives (DQO) process is used to establish the criteria that serve as the basis for designing a plan for collecting information/data of sufficient quality and quantity to support the goals of the project and achieve the stated outcomes. The seven (7) DQO steps guide the project team to plan for their project and meet their project goals.****1.     State the Problem2.     Identify the Study Goals3.     Identify Information Inputs4.     Define the Study Boundaries5.     Develop the Analytic Approach6.     Specify Performance and Acceptance Criteria7.     Develop Plan for Obtaining Data**  |
|   | Include, at a minimum:* Information needs and sources
* Study area and surroundings
* History of study area
* Summary of previous studies and existing data
* Performance acceptance criteria
* Targets for precision, accuracy (bias) and sensitivity
* Targets for comparability, representativeness, and completeness
* Acceptance criteria for quality of existing data
* Model quality objectives
 |   |
| **A7** | **Distribution List** | **List of individuals receiving a copy of the approved QAPP and any subsequent revisions** |
| **A8** | **Project Organization** | **Identify the individuals and organizations participating in the project or EIO and describe their roles and responsibilities.** |
| **A9** | **Project Quality Assurance Manager (QAM) Independence** | **Describe how the project QAM’s independence from EIO is ensured. For example:*** Establish Separate Reporting Lines: The QAM should report directly to senior management or an oversight body that is not involved in the day-to-day operations of the project.
* Clearly Define Roles and Responsibilities: The QAM's duties should focus exclusively on quality assurance activities, such as auditing, oversight, and verifying compliance with the QAPP. These responsibilities should be explicitly separated from operational tasks like data collection, analysis, or reporting.
* Conflict-of-Interest Policies: Implement policies that prohibit the QAM from participating in activities they are responsible for auditing or reviewing.
* Independent Oversight Authority: Assign the QAM authority to oversee quality-related matters independently, with the ability to escalate concerns or discrepancies directly to decision-makers without interference from project operations personnel.
* Regular Training and Documentation: Provide training to all team members emphasizing the QAM’s independent role and the importance of adhering to quality assurance principles. Document this structure within the QAPP to ensure transparency and clarity.
 |
| **A10** | **Project Organization Chart and Communications** | **Show lines of authority and lines of communication.** |
|   | Include, at a minimum:* Key individuals and their responsibilities
* Describe communication procedures to EPA to include elevating discrepancies and QAPP non-conformances.
 | Describes the organization’s project roles and responsibilities, including:* Project manager
* Project QAM
* Individual responsible for QAPP management
* Titles, roles, and names (if determined during planning) of operations and quality individuals within the organization conducting or supporting EIO and their reporting relationships
 |
| **A11** | **Training and Certifications** | **Identify and describe any specialized training or certifications needed by personnel doing EIO. Include system to document training**  |
| **A12** | **Documents and Records** | **Describes or references processes for management of documents and records, including the QAPP** |
| **B** | **GROUP B ELEMENTS - Implementing Environmental Information Operations** | **How you will collect and report data** |
| **B1** | **Identification of Project Environmental Information Operations** |  |
| **B2** | **Methods for Environmental Information Acquisition** |  |
|   | Field Activities Environmental Measurements | Describe field activities, Standard Operating Procedures (SOPs):* Collection, production, evaluation and/or use + design, construction, operation, or application of environmental technology
* Sampling approach: methods, containers, preservation, holding times
* Field parameters and lab analytes to be measured
* Field log requirements: decontamination, sample ID, chain of custody
* Modeling and analysis design, set up and data needs
* Describe or reference SOPs
 |
|   | Laboratory Analysis and Accreditation | * Identifies laboratory methods or SOPs by number, version/revision date, and regulatory citation
* Where applicable, indicates modifications to the method or SOP
 |
|   | Existing Information – intended use, suitability and acceptance criteria | Data obtained from databases, literature, software, websites and how it will be determined suitable |
|  | Environmental Technology | * Identify whether the technology is primarily for pollution prevention, contamination containment, storage, or remediation.
* Describe physical parameters or processes collected using environmental technologies, and specific systems, devices and components applicable to both hardware and methods or techniques that measure and/or remove pollutants or contaminants and/or prevent them from entering the environment.
 |
| **B3** | **Integrity of Environmental Information** | **Describe or cite the procedures for ensuring the integrity of the environmental information operations.**  |
| **B4** | **Quality Control** | **Complete a table of field and lab quality controls.** |
|   | Include, at a minimum:* Corrective action processes and determination of effectiveness
* For existing data: systematic review, independent secondary review of literature studies, quality control of databases or spreadsheets
* Model calibration and validation
 |   |
| **B5** | **Instruments/ Equipment Calibration, Testing, Inspection and Maintenance** |  |
| **B6**  | **Inspection/Acceptance of Supplies and Services** |  |
| **B7** | **Environmental Information Management** |  |
|   | Include, at a minimum:* Controls for detecting and correction errors
* Procedures to process, compile and analyze information
* Required computer hardware/software
 |   |
| **C** | **GROUP C ELEMENTS:**  **Assessment and Oversight** | **Management of Data Generated** |
| **C1** | **Assessments and Response Actions** | **QAPP implemented as approved?** |
|   | Assessments | Assessment activities may include audits, performance evaluations, management reviews, peer reviews, inspections, surveillance, or readiness reviews, peer consultations, product reviews (e.g., data inspection, software testing, pre-dissemination reviews, or review of contractor deliverables). |
|   | Response Actions | Describe how response actions associated with assessment findings, non-conformances, and corrective actions will be developed, documented and tracked to ensure completion. |
| **C2** | **Oversight and Reports to Management** | **Identify the individual(s) responsible for oversight activities and describe management reports.** |
| **D** | **GROUP D ELEMENTS:**  **Environmental Information Review and Usability Determination** | **How to Review and Interpret the Information** |
| **D1** | **Environmental Information Review** | **Describe or cite the procedures for the information/data verification and information/data validation activities and who will conduct these activities.** |
| **D2** | **Useability Determination**  | **Qualitative and quantitative evaluation of the project type, quality and quantity to support its intended use** |

**Quality Assurance Project Plan (QAPP) for**

**Project Title**

Grant Number

Date of the QAPP

QAPP Revision Number

# **A1. Title Page**

**Quality Assurance Project Plan for**

**Project Title:**

**QAPP Preparation Date:**

**Organization Conducting**

**Environmental Information Operations:**

**Organization that Developed the QAPP:**

**(if different from organization**

**conducting the work)**

**Period of Applicability:**

**Revision Number:**

**Grant Number:**

# **A2. Approval Page**

**Subgrantee Approvals:**

Quality Assurance Officer (QAO)

Printed Name & Title:

Signature & Date:

Project Manager:

Printed Name & Title:

Signature & Date:

**JSI Approvals:**

Quality Assurance Manager (QAM)

Printed Name & Title:

Signature & Date:

Grant Manager:

Printed Name & Title:

Signature & Date:

**EPA Approvals:**

EPA Region 8 Project Officer:

Printed Name & Title:

Signature & Date:

EPA Regional Quality Assurance Manager (RQAM)

or Region 8 Delegated Approving Official (DAO):

Printed Name & Title:

Signature & Date\*:

\*The effective date of this QAPP is the date the EPA Region RQAM or DAO signs the QAPP.

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Figure 1 Project Organization Chart

**Appendices**

# **Acronyms**

DAO Delegated Approving Official

DCN Document Control Number

DQI Data Quality Indicator

DQO Data Quality Objective

EIO Environmental Information Operations

EPA U.S. Environmental Protection Agency

PAL Project Action Level

PM Project Manager

QA Quality Assurance

QAM Quality Assurance Manager

QAO Quality Assurance Officer

QAPP Quality Assurance Project Plan

QC Quality Control

RQAM Regional Quality Assurance Manager

SOP Standard Operating Procedure

TCGM Thriving Communities Grantmaker

# **A4. Project Purpose, Problem Definition, and Background**

# **A5. Project Task Description**

**Project Schedule Timeline**

|  |  |  |  |
| --- | --- | --- | --- |
| **Activity** | **Date (MM/DD/YYYY)** | **Deliverable/Document Generated** | **Deliverable/Document Due Date** |
| **Anticipated Start Date** | **Anticipated End Date** |
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# **A6. Information/Data Quality Objectives and Performance/Acceptance Criteria**

**Step 1: State the Problem**

**Step 2: Identify the Goals of the Study/Project**

**Step 3: Identify Information Inputs**

**Step 4: Define the Boundaries of the Study/Project**

**Step 5: Develop the Analytic Approach**

**Step 6: Specify Performance or Acceptance Criteria**

**Step 7: Develop the Plan for Obtaining Data**

# **A7. Distribution List**

The following individuals will receive a copy of the approved QAPP and any subsequent revisions.

|  |  |  |  |
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| **Name** | **Title** | **Organization** | **Phone Number and Email Address** |
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# **A8. Project Organization**

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| --- | --- | --- | --- |
| **Name** | **Title** | **Organization** | **Responsibilities** |
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# **A9. Project Quality Assurance Manager Independence**

# **A10. Project Organization Chart and Communications**

Figure 1 presents the key personnel participating in this project. Quality assurance (QA) personnel are independent of all environmental information operations, as shown by lines of communication, rather than lines of reporting.

**Figure 1 Project Organization Chart**

EPA Region

Project Officer

EPA Region

RQAM or DAO

National Grantmaker

Individual Name

QA Manager

Individual Name

Grantmaking Director

Individual Name

Grant Manager

Partnering Organizations

Individual Name

Subgrantee Organization

QA Officer

Individual Name

Subgrantee Organization

Project Manager

Subcontractors

Subgrantee Organization

Project Staff

**Legend**

Lines of reporting 

Lines of communication

**A10. Project Organization Chart and Communications (cont.)**

**Project Communication Procedures**

|  |  |  |  |
| --- | --- | --- | --- |
| **Communication Driver** | **Send Communication to (Name and Organization)** | **Contact Information** | **Procedure (timing, pathway, documentation, etc.)** |
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# **A11. Personnel Training/Certification**

|  |  |  |
| --- | --- | --- |
| **Role** | **Specialized Training/Certification** | **How training will be provided and documented** |
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# **A12. Documents and Records**

QAPP

Monthly Progress Reports

Sample Collection/Field Records

Analytical Records

Assessment Records

Corrective Action Reports

Data Verification and Validation Records

Data Usability Report

Final Project Report

# **B1. Identification of Project Environmental Information Operations**

**Sampling Locations and Sampling Standard Operating Procedures (SOPs)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sample** **Location** | **Sample ID** **Number** | **Sample** **Matrix** | **Analytical Parameter/****Group** | **Sampling** **SOP** | **Rationale** | **Comments** |
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# **B2. Methods for Environmental Information Acquisition**

## **Subsection B2.a – Field Activities Environmental Measurements**

Sampling Methods

Field/Sampling Equipment and Materials

Decontamination

Laboratory (name, sample receipt address, point-of-contact, email, and phone numbers):

List any required accreditations/certifications:

**Sample Container, Volume, Preservation, and Holding Time Requirements**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Analytical Parameter/ Group** | **Analytical****Matrix** | **Method/SOP** | **Accreditation Expiration Date** | **Sample Container(s) (number, size, and type)** | **Preservation****(chemical, temperature, light protected)** | **Maximum Holding Time from Collection to Extraction/ Analysis** | **Data Package Turnaround Time** |
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**B2. Methods for Environmental Information Acquisition (cont.)**

## **Subsection B2.b – Laboratory Analysis**

**Contaminants of Concern and Other Target Analytes**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Analyte** | **Sample Matrix** | **Analytical Method** | **Units** | **Project Action Level (PAL)** | **PAL Source** | **Laboratory-Specific Reporting Limit** |
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**B2. Methods for Environmental Information Acquisition (cont.)**

# **Subsection B2.c – Existing Information**

**B2. Methods for Environmental Information Acquisition (cont.)**

# **Subsection B2.d – Environmental Technology**

# **B3. Integrity of Environmental Information**

Sampling Organization:

Laboratory name and address:

Method of sample delivery (shipper/carrier):

Number of days from reporting until sample disposal:

**Sample Handling System**

|  |  |  |
| --- | --- | --- |
| **Activity** | **Organization and title of person responsible for the activity** | **SOP reference** |
| **Sample Collection, Packaging, and Shipment** |
| Sample labeling |  |  |
| Chain-of-custody form completion |  |  |
| Sample packaging |  |  |
| Sample shipping coordination |  |  |
| **Sample Receipt and Analysis** |
| Sample receipt, inspection, and log-in |  |  |
| Sample custody and storage |  |  |
| **Sample Disposal** |
| Sample disposal |  |  |

# **B4. Quality Control**

**Field and Analytical QC**

|  |  |
| --- | --- |
| **Sample Matrix** |  |
| **Field Sampling SOP** |  |
| **Analytical Parameter** |  |
| **Analytical Method/ Laboratory SOP** |  |
| **QC Sample** | **Frequency/Number** | **QC Acceptance Limits** | **Corrective Action** | **Person Responsible for Corrective Action** | **Data Quality Indicator** |
| Field Duplicate |  |  |  |  |  |
| Method Blank |  |  |  |  |  |
| Laboratory Control Sample |  |  |  |  |  |
| Laboratory Matrix Spike |  |  |  |  |  |
| Laboratory Matrix Spike Duplicate |  |  |  |  |  |
| Surrogates |  |  |  |  |  |
| Internal Standards |  |  |  |  |  |
| Others |  |  |  |  |  |

# **B5. Instruments/Equipment Calibration, Testing, Inspection, and Maintenance**

**Calibration, Testing, Inspection, and Maintenance of Field Sampling Equipment and Laboratory Analytical Instruments**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Equipment/ Instrument** | **Calibration Activity** | **Testing Activity** | **Inspection Activity** | **Maintenance Activity** | **Responsible Person** | **Frequency** | **Acceptance Criteria** | **Corrective Action** | **SOP Reference** |
|  |  |  |  |  |  |  |  |  |  |
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# **B6. Inspection/Acceptance of Supplies and Services**

**Inspection/Acceptance Requirements for Supplies and Services**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Critical Supplies/ Service** | **Inspection/ Acceptance Specifications** | **Acceptance Criteria** | **Testing Method** | **Frequency** | **Responsible Individual** | **Handling/ Storage Conditions** |
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# **B7. Environmental Information Management**

# **C1. Assessments and Response Actions**

**Assessments and Corrective Action**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Assessment Type** | **Responsible for Conducting the Assessment** | **Number/ Frequency** | **Estimated Dates** | **Assessment Deliverable** | **Deliverable Due Date** | **Responsible for Responding to Assessment Findings** | **Timeframe for Response** | **Responsible for Implementing Corrective Action** | **Responsible for Monitoring Corrective Action Effectiveness** |
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# **C2. Oversight and Reports to Management**

**QA Reports to Management**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Type of Report** | **Frequency** **(daily, weekly, monthly, quarterly, annually, etc.)** | **Projected Delivery Date(s)** | **Person(s) Responsible for Report Preparation** | **Report Recipients** |
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# **D1. Environmental Information Review**

Data Verification

Data Validation

# **D2. Usability Determination**

# **References**

Intergovernmental Data Quality Task Force, Uniform Federal Policy for Quality Assurance Project Plans Optimized UFP-QAPP Worksheets, March 2012

U.S. Environmental Protection Agency, Quality Assurance Project Plan Standard (S-2), CIO 2105-S-02

U.S. Environmental Protection Agency, Guidance for Quality Assurance Project Plans (QA/G-5), EPA/240/R-02/009, December 2002

U.S. Environmental Protection Agency, Guidance of Systematic Planning Using the Data Quality Objectives Process (QA/G-4), EPA/240/B-06/001, February 2006

U.S. Environmental Protection Agency, Guidance for Preparing Standard Operating Procedures (SOPs) (QA/G-6), EPA/600/B-07/001, April 2007

**FIGURES**

**APPENDIX A**

**Standard Operating Procedures**

**APPENDIX B**

**Field Forms**

**APPENDIX C**

**Laboratory Certificate of Accreditation**

**APPENDIX D**

**Checklists**