**Solid Waste Infrastructure for Recycling (SWIFR) Grants**

**Quality Assurance Project Plan (QAPP) Development Template and Instructions for Region 8 States and Tribes**

A Quality Assurance Project Plan, or QAPP, is a critical planning document for environmental information operations (EIO) because it documents how EIO are planned, implemented, documented, and assessed during the life cycle of a program, project, or task. All work performed by or on behalf of EPA involving EIO must be implemented in accordance with an approved QAPP.

These instructions, along with the attached QAPP Template, are intended to aid Region 8 States and Tribes that conduct EIO under a Solid Waste Infrastructure for Recycling (SWIFR) Grant in preparing QAPPs.

These instructions and QAPP Template primarily focus of EIO involving measurements, surveys, the use of existing information, data management, and reporting. If your project includes sample collection and analysis, please refer to the R8 Graded Approach – QAPP Development Template and Instructions ([https://www.epa.gov/quality/managing-quality-environmental-data-epa-region-8#tools](https://www.epa.gov/quality/managing-quality-environmental-data-epa-region-8%23tools)).

**IMPORTANT INFORMATION:**

The QAPP Template is provided as Attachment 1 at the end of these instructions (beginning on page 36). The instructions on pages 1 through 35 include information and examples to help guide you through the QAPP development process. Reach out to your EPA Project Officer if you need additional support or have questions about these instructions or the QAPP Template.

The QAPP Template is arranged into four general groups, each with specific required elements (i.e., sections):

Group A Project Management and Information/Data Quality Objectives

Group B Implementing Environmental Information Operations

Group C Assessment, Response Actions, and Oversight

Group D Environmental Information Review and Usability Determination

Each section of the QAPP Template corresponds to the required elements of EPA’s Quality Assurance Project Plan Standard (S-2), which can be found at:

<https://www.epa.gov/quality/quality-program-directives>

All sections of the QAPP Template must be presented in the 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 in the QAPP Template and include an explanation as to why the section is not applicable (e.g., “This section of the QAPP is not applicable because the project does not involve sample collection or analysis.”).

Instructions are provided for completing each section of the QAPP Template, and in many cases, tips and other information, such as examples, are also provided. Where the instructions include examples, remember that they are only examples of the type of information that may be included in that particular section of the QAPP. Examples are for reference only and should not be copied directly into your QAPP.

Tables in the QAPP Template may be modified, replaced, or deleted based on your project-specific needs. However, each section must still contain the required information indicated in the instructions for that section or an explanation as to why the section is not applicable.

If there are plans to publish information to a publish website, you must state in the QAPP how data limitations will be conveyed to users, including the requirement to post a disclaimer onto the website with the published information.

For questions about QAPP requirements, the QAPP Template, or these QAPP instructions, please reach out to your EPA Project Officer.

**SEPARATE THE QAPP TEMPLATE FROM THESE INSTRUCTIONS:**

When submitting your QAPP for review and approval, you should submit the QAPP only without the instructions. As such, it is recommended that you separate the instructions and the QAPP Template prior to preparing the QAPP. By separating them early, you will be able to view the instructions side-by-side with the template, which may make it easier to complete each section of the QAPP. To separate the instructions and the QAPP Template, follow these step-by-step instructions:

1. Save a duplicate copy of the QAPP Template and Instructions file.
2. Rename the duplicate file copy in accordance with your organization’s file naming convention – this will be the draft version of your project-specific QAPP.
3. Open the draft version of your project-specific QAPP.
4. Delete pages 1 through 35.
	1. Place your cursor at the very beginning of these instructions, in front of the word “Instructions.”
	2. Scroll to page 36, which is the title page of the QAPP.
	3. Hold down the ‘Shift’ key and place your cursor at the very beginning of page 36, in front of “U.S.”
	4. Press the ‘Delete’ key.
5. The instructions should now be deleted, and the first page of the QAPP should be the title page.
6. Fill-out the QAPP Template using the instructions in the original QAPP Template and Instructions file.

**PRIOR TO SUBMITTING YOUR QAPP FOR REVIEW AND APPROVAL:**

1. Separate these instructions from the QAPP Template.
2. Replace text that is highlighted yellow with project-specific information.
3. Add additional information, as necessary, to reflect project-specific information.
4. Update the Table of Contents, including lists of figures and appendices.
5. Leave the EPA document control number in the footer for traceability.

**DISCLAIMER:**

EPA does not consider this QAPP Template with Instructions an official Agency dissemination of information under the Agency's Information Quality Guidelines because it is not being used to formulate or support a regulation or guidance or to represent a final Agency decision or position. This template describes a quality assurance approach that could be used for SWIFR grant projects involving EIO.

**QAPP Cover Page and Headers**

**Instructions:**

The items on the cover page that are highlighted yellow need to be replaced with the following project-specific information:

Organization Name

Organization Address

Project Title

Grant Number

Date of the QAPP

QAPP Revision Number

Beginning on page 2 of the QAPP, insert the QAPP Title (abbreviations are acceptable) and QAPP Date and Revision Number in the header. Do not delete the section title (left side of header) or page numbers from the header. Note that the QAPP Title and QAPP Date and Revision Number will need to be added to the different sections of the QAPP (Sections A, B, C, D), as indicated in the header.

**Tips and Other Information:**

The section titles in the left header (A – Project Management and Information/Data Quality Objectives, B – Implementing Environmental Information Operations, C – Assessment and Oversight, and D – Environmental Information Review and Usability Determination) correspond to the four general groups discussed in S-2, EPA’s Quality Assurance Project Plan Standard (<https://www.epa.gov/quality/quality-program-directives>).

Below is an example of what the header should look like:

|  |  |
| --- | --- |
| A – Project Management and Information/Data Quality Objectives | QAPP for Tribal SWIFR Grant Project |
|  | March 2025, Revision 1 |
|  | Page 2 of 35 |

#

# A1. Title Page

**Instructions:**

Add the following information to the Title Page:

* Project title
* Date of QAPP preparation
* Name of the organization conducting the EIO
* Name of the organization that developed the QAPP (if different from the organization conducting the work)
* Period of Applicability
* QAPP Revision Number
* Grant number

**Tips and Other Information:**

If the organization that prepared the QAPP is the same as the organization conducting the EIO, then enter “same as above” on the line for the organization that prepared the QAPP.

If the organization that prepared the QAPP is different than the organization conducting the EIO, the Title Page should include the names of both organizations (e.g., Prepared By [organization name] and Prepared For [organization name]).

For the period of applicability, the QAPP should state, “Up to 5 years from the date of the approving official’s signature.” This statement is already included in the QAPP Template.

# A2. Approval Page

**Instructions:**

Add the names of the organization’s Project Quality Assurance Officer (QAO) and Operations Manager (i.e., Project Manager). Note that the Project QAO must be independent of all EIO, and therefore, the roles of Project QAO and Operations Manager cannot be held by the same person.

Add the name(s) of the QAPP approving officials (replace the yellow highlights with project-specific information):

**Tips and Other Information:**

The signatures on the Approval Page indicate that officials have reviewed the QAPP and concur with its implementation as it is written. It is the organization’s responsibility to make sure all signatures are in place before work begins.

Project Quality Assurance Officer

Organizations should identify and assign a Project QAO that has the authority to conduct independent oversight of the organization’s QAPP implementation. The Project QAO authority is independent of all EIO/data collection activities. Generally, the Project QAO focuses on ensuring the project outcomes meet the standards and requirements stated in the QAPP.

The Project QAO does not have the authority to sign QA documentation for the Operations Manager.

Operations Manager (or Project Manager)

Generally, the Operations Manager focuses on overall planning and implementation of the project as it is described in the QAPP.

The Operations Manager does not have authority to sign QA documentation for the Project QAO.

The roles of the Project QAO and Operations Manager must remain independent of each other. In small organizations, it is possible that these two roles may be combined with approval of the EPA Regional Quality Assurance Manager (RQAM). Please reach out to your EPA Project Officer if it is necessary to combine the Project QAO and Operations Manager roles. The EPA Project Officer will communicate with the RQAM to consider the request.

# A3. Table of Contents

**Instructions:**

To update the Table of Contents (TOC), click anywhere in the TOC, and then click “Update Table,” which appears at the top left corner of the TOC, as indicated below.



A dialogue box will appear. Select “Update page numbers only,” as indicated in the screenshot, below. Do not change any section numbers or titles. Select “OK.”



List of Figures:

List any figures and/or maps included in the QAPP (e.g., site location map, diagrams of specific equipment, etc.). Note that Figure 1, Project Organization Chart, is a required element and should not be deleted from the QAPP (see Section A10).

Appendices:

List any appendices included in the QAPP. Below are examples of appendices that may be added to the QAPP.

Appendix A Standard Operating Procedures

Appendix B Forms and Checklists

Appendix C Data Management Plan

**Tips and Other Information:**

The TOC should be updated after all other required information has been added to the QAPP. This ensures that the page numbers listed in the TOC are accurate.

# Acronyms

**Instructions:**

The acronyms listed below are already included in the QAPP Template and should not be deleted. List any additional acronyms and abbreviations used in the QAPP text. Note that acronyms and abbreviations should be spelled out the first time they are used in the text with the acronym/abbreviation in parentheses. For example: “Standard operating procedures (SOPs) are provided in Appendix A.” Then, the acronym (e.g., SOPs) should be used in the remainder of the text.

DAO Delegated Approving Official

DEQ Department of Environmental Quality

DQI Data Quality Indicator

DQO Data Quality Objective

EIO Environmental Information Operations

EPA U.S. Environmental Protection Agency

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

SWIFR Solid Waste Infrastructure for Recycling

# A4. Project Purpose, Problem Definition, and Background

**Instructions:**

Project purpose and problem definition

The QAPP should describe the purpose of the project’s EIO (e.g., develop, strengthen, and implement comprehensive data collection efforts that demonstrate progress toward the National Recycling Goal and Food Loss and Waste Reduction Goal).

State the specific problem(s) to be solved, decision(s) to be made, and outcome(s) to be achieved.

Project background

Include sufficient background information to provide a historical, scientific, and regulatory perspective for this particular project.

**Tips and Other Information:**

This information should already be included in your project narrative/workplan, so you can copy and paste the information into this section, rather than rewriting it.

# A5. Project Task Description

**Instructions:**

Provide a summary of all work to be performed; information to be collected, used, evaluated, or produced; and the schedule for implementation. Provide maps or tables that show or state the study areas and geographic locations (a map generated from Google Maps is acceptable).

Use the Project Schedule Timeline table provided in the QAPP Template to present the project milestones timeline.

**Tips and Other Information:**

This information should already be included in the project narrative/workplan, so you can copy and paste the information into this section, rather than rewriting it.

If the project narrative/workplan already includes a Project Timeline and Milestones table (or similar), you may delete the Project Schedule Timeline table from the QAPP Template and then copy and paste the Project Timeline and Milestones table from the project narrative/workplan into the QAPP. However, make sure the Project Timeline and Milestones table includes QA activities, such as preparing and finalizing the QAPP and data evaluation.

# A6. Information/Data Quality Objectives and Performance/Acceptance Criteria

**Instructions:**

The data quality objectives (DQOs) process is a series of steps that guide the project team to plan for their project and meet project goals. The DQO process is used to establish the criteria that serve as the basis for designing a plan for collecting environmental information/data of sufficient quality and quantity to support the goals of the project and achieve the stated outcomes described in the project narrative/workplan.

In the QAPP Template, discuss the DQOs for the project and the criteria to achieve those objectives. EPA requires the use of a systematic planning process to define these DQOs (e.g., EPA QA/G-4, Guidance on Systematic Planning Using the Data Quality Objectives Process, dated February 2006 – see link under Tips and Other Information below). Note that much of this information may already be included in your project narrative/workplan, so you can copy and paste the information into this section. See additional subsections and instructions below.

**Step 1: State the Problem**

Summarize the information you included in QAPP Section A4 (Project Purpose, Problem Definition, and Background). This section should describe the environmental issue(s) the project is trying to address.

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

* Describe the goal(s) of the project (i.e., what the project hopes to accomplish)
* List any study questions (i.e., what questions do you want answered at the end of the project). See the examples below:
	+ What is the current estimated recycling rate compared to the national recycling goal?
	+ What is the estimated volume of food waste?
	+ What technologies can be implemented to improve the collection and composting of food wastes?
	+ What types of materials are being recycled in different communities in the state?
	+ Is there a need for the state to develop a funding program to help individuals and communities recycle abandoned junk vehicles?
* Describe how the collected data/information will be used to answer the study questions

Note that the goals of the study should align with the stated outcomes in the project narrative/workplan.

**Step 3: Identify Information Inputs**

Describe/list all of the information needed to answer the study questions in Step #2 and meet the goals of the study. Examples of information inputs include the following:

* Existing reports/information
* Information collected for waste characterization
* Data for calculations
* Survey results

Note that when existing data/information (also called secondary data or non-direct measurements) (i.e., data generated for purposes other than your specific project or data pertinent to your project but generated under a separate QAPP) is used, the QAPP should describe specifically how the existing data/information will be used, as well as the source of the existing data/information. The project team should carefully evaluate the quality of the existing data/information to ensure they are of the type and quality necessary to support their intended use. Examples of existing data/information include the following: sampling and testing data collected during previous investigations, historical data, background information, interviews, modeling data, photographs, aerial photographs, topographic maps, and published literature on geology, climate, population distributions, endangered species, etc.

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

* Define the target population of interest (i.e., who or what you are investigating).
* Describe relevant spatial boundaries (i.e., geographical boundaries – physical area to be studied and generally where information will be collected).
* Describe temporal boundaries (i.e., the timeframe that the study will represent).
* Discuss other practical constraints associated with information/data collection.

**Step 5: Develop the Analytic Approach**

New measurement activities

* Determine how new measurements (e.g., counts, weights, volumes, GPS coordinates, etc.) will be collected and recorded
* Develop statements that describe the decisions to be made or actions to be taken based on the new measurements

Projects involving conducting surveys:

* Determine how the survey will be administered (e.g., online, in-person, mail, phone, etc.).
* Determine how survey participants will be notified of the survey.
* Determine survey participant demographics (e.g., recycling facilities in Denver, Adams, Arapahoe, Jefferson, Boulder, Weld, and Douglas Counties in Colorado).
* Determine if personally identifiable information will be collected (e.g., names, addresses, ages, annual income, etc.) and how it will be managed.
* Determine the survey response time needed (e.g., completed surveys must be returned within 30 calendar days).
* Determine whether a pilot survey will be administered to a subset of the target population to ensure the questions are easily understood and the survey is accessible for all participants.
* Develop statements that describe the decisions to be made or actions to be taken based on the results of the survey.

Projects involving the use of existing data/information:

Describe the criteria that will be used to determine whether an existing information source is acceptable for use on your project. Consider the following when establishing acceptance criteria:

* Determine your data/information needs.
* Identify different source(s) of existing data/information, including how data will be prioritized for selection.
* Determine if there are any programmatic, legal, or any other constraints on the use of the existing data/information and their impact on the project (e.g., staff do not have the necessary clearance to access proprietary or confidential information).
* What will the acceptance criteria be for including or excluding a source of existing data/information into or from the final dataset used in your project?
* How will the acceptance criteria be applied to the source?

Existing data/information from each source cannot automatically be considered “good” or “bad.” A determination as to the quality and appropriateness of its use for the project is always required. When determining the appropriateness of existing data/information for use on the project, you must evaluate the source(s) of the existing data/information against the acceptance criteria, as well as the individual data points within each data/information source. Below are some potential questions to ask when determining which sources are appropriate for inclusion into the final dataset for further evaluation:

* Are there requirements for the source of existing information/data (e.g., required to originate from an official government website vs a non-government website, minimum sensitivity requirements, specific methodology(ies) used, etc.)?
* How many data points are included in a single data source? Is there a minimum requirement?
* What level of peer review or data validation is necessary for the source of existing information/data?
* What descriptive information is necessary? For example, if there are no GPS coordinates for a specific location, but cross-streets are included, is that acceptable?
* What method(s) was used to collect the existing information/data? Are multiple methods acceptable or is only one method going to assist in answering the study questions in Step #2?
* Will every data point from every source be included or are there acceptance criteria that need to be applied on an individual basis?

Specify the minimum acceptance criteria that each data source must meet in order to be used for the project. You may want to create a table like the one below to evaluate potential sources of existing data/information against the established acceptance criteria for the project:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Question** | **Acceptance Criteria** | **Source #1** | **Source #2** | **Source #3** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Add rows or columns to the table or develop a similar matrix for each specific category of existing information.

Once the existing data/information source has been compared against the acceptance criteria and determined appropriate for use, the existing data/information source(s) can be downloaded, incorporated into the current study dataset, compiled, and documented for use (see Step 6).

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

New measurement activities

Describe the procedures that will be followed when collecting new measurements to ensure the information is reliable, accurate, and meets the project objectives. For example, if you are calculating tonnage, the QAPP should describe how the accuracy of the tonnage calculation is evaluated.

Projects involving conducting surveys:

Describe the procedures that will be followed throughout the information gathering process to ensure the collected information is reliable, accurate, and meets the project objectives. Consider the following when determining data quality indicators (DQIs) for projects involving surveys:

* Determine the number of survey results needed to answer the study questions in Step #2.
* Are all questions in the survey required or are some of the questions optional?
* Are the surveys complete (i.e., all required survey questions were answered)?
* If asking open-ended questions, are they legible?
* If asking open-ended questions, can the responses be easily assessed using mathematical or statistical procedures (e.g., 32% of high school students recycle at home)?
* Are the responses free from bias or influence?
* If conducting surveys by phone or in-person, did the interviewers ask only pre-approved survey questions?

Projects involving the use of existing data/information:

Describe the acceptable level of uncertainty in the compiled dataset. In other words, is there sufficient evidence in the existing data/information set to answer the study questions in Step #2, and what is the likelihood of errors? Consider the following:

* Will information from all sources be pooled together?
* Are there any gaps or holes in the dataset?
* Is the information evaluated and included equally or will it be weighted differently based on specific, defined criteria?
* What parameters will be used to make estimates, such as calculating means and medians in order to characterize an average? This is relevant when the existing data/information will be used to make conclusions (e.g., estimating the volume of materials collected for recycling).
* What are the possible consequences associated with high levels of uncertainty?

Describe how the project team will draw conclusions to answer the study questions in Step #2 and finalize the documentation.

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

Briefly describe the plan for obtaining the environmental information/data. Note that the plan will be described in detail in Sections B, C, and D of the QAPP, so it is appropriate to only include a brief description of the plan here. However, this section should include references to the specific sections of the QAPP where the detailed plan information can be found. For example, the project schedule can be found in Section A5. Quality control (QC) requirements can be found in Section B2.a. Data usability is described in Sections D1 and D2, and so on.

**Tips and Other Information:**

For more information and guidance about the systematic planning process to develop quality objectives, please refer to EPA QA/G-4, Guidance on Systematic Planning Using the Data Quality Objectives Process, February 2006, which can be found at:

<https://www.epa.gov/quality/guidance-systematic-planning-using-data-quality-objectives-process-epa-qag-4>

For more information and guidance about projects involving the use of existing data, please refer to Chapter 3 in EPA QA/G-5, Guidance for Quality Assurance Project Plans, December 2002, which can be found at:

<https://www.epa.gov/quality/guidance-quality-assurance-project-plans-epa-qag-5>

For more information about linking assistance agreements to environmental results, please visit the following website:

<https://www.epa.gov/grants/linking-assistance-agreements-environmental-results>

# A7. Distribution List

**Instructions:**

In the table provided in the QAPP Template, list the individuals and their organizations who need copies of the approved QAPP and any subsequent revisions, including all persons responsible for implementing the project (e.g., project managers, data manager, etc.), quality assurance (QA) officers, and representatives of all groups involved. Note that paper copies need not be provided to individuals if equivalent electronic copies can be provided.

Describe how the approved QAPP and all revisions will be maintained on file and made available upon request.

**Tips and Other Information:**

The table below includes an example of how to complete this section.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Title** | **Organization** | **Phone Number and Email Address** |
| Jane Smith | Operations Manager | XYZ Company | jane.smith@xyzcompany.moc(303) 765-4321 |
| John Doe | Project QA Officer | XYZ Company | john.doe@xyzcompany.moc(303) 123-4567 |

# A8. Project Organization

**Instructions:**

In the table provided in the QAPP Template, list the individuals or organizations participating in the project and discuss their specific roles and responsibilities. Include the principal data users, decision makers, partnering organizations, and all other persons responsible for project implementation (i.e., individuals performing tasks described throughout the QAPP). Identify the individuals responsible for signing the QAPP (see Section A2). Identify the individual responsible for maintaining the official approved QAPP.

**Tips and Other Information:**

The table below includes an example of how to complete this section.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Title** | **Organization** | **Responsibilities** |
| Jane Smith | Operations Manager | XYZ Company | Responsible for maintaining the official approved QAPP and any subsequent addendums and revisions. Responsible for keeping the Regulatory Agency informed on project schedule and milestones and managing daily activities. Reviews compiled data and reports for deviations from the QAPP and initiates corrective action.  |
| John Doe | Project QA Officer | XYZ Company | Independent of all data/information collection activities. Responsible for reviewing the QAPP annually and ensuring the QAPP reflects the project objectives and implementation. Also responsible for resolving any QA-related issues. Responsible for signing the QAPP. |

# A9. Project Quality Assurance Officer Independence

**Instructions:**

Describe how you will ensure that the organization’s Project QAO is independent of environmental information operations.

**Tips and Other Information:**

The roles of the Project QAO and Operations Manager (or Project Manager) must remain independent of each other. In small organizations, it is possible that these two roles may be combined with approval of the EPA RQAM. Please reach out to the EPA Project Officer if it is necessary to combine the Project QAO and Operations Manager roles. The EPA Project Officer will communicate with the RQAM to consider the request.

# A10. Project Organization Chart and Communications

**Instructions:**

Project Organization Chart

Provide a concise project organization chart showing reporting relationships and lines of communication among all project participants. If applicable, include partnering organizations and contractor relationships relevant to EIO.

The QAPP Template includes an example project organization chart that must be updated for your specific project. Each box should include the name of the organization, name of the individual, and the individual’s title/role.

Note that all QA personnel must be independent of all EIO/data collection activities, as shown with lines of communication (i.e., dashed lines), rather than lines of reporting/authority (i.e., solid lines).

Project Communication Procedures

For each communication driver, describe communication procedures, including the pathway for the communication (e.g., phone or email) and the timeframe for notification (e.g., within 24 hours, within 3 business days, etc.). Provide sufficient detail to ensure QAPP users understand the processes when communication is necessary.

Communication drivers are those activities or issues that trigger communication between different responsible entities. Examples of communication drivers include, but may not be limited to, the following:

* Approval of amendments to the QAPP
* Notification and approval of real-time modifications to the QAPP
* Notifications of delays or changes to EIO activities
* Recommendation to stop work due to health and safety issues
* Reporting issues related to data quality
* Project status updates to the Regulatory Agency

The QAPP Template includes a table that may be used to present project communications. You may also delete the table and describe communication procedures in paragraph format.

**Tips and Other Information:**

Make sure individual names and titles/roles are consistent between different sections of the QAPP. For example, names and titles should be consistent between QAPP Sections A2, A7, A8, and A10.

# A11. Personnel Training/Certification

**Instructions:**

Identify and describe any specialized training or certifications needed by personnel in order to successfully complete the project or task. Discuss how such training will be provided and how the necessary skills will be assured and documented.

**Tips and Other Information:**

The table below includes an example of how to complete this section.

|  |  |  |
| --- | --- | --- |
| **Role** | **Specialized Training/Certification** | **How training will be provided and documented** |
| Survey Technician | Proficient using the survey application software on a tablet | Survey training will be provided by the Operations Manager, and Survey Technicians will be given time to practice using software on the tablets. The Operations Manager will determine the achieved level of proficiency.  |
| Existing Data/Information Technician | Handling Personally Identifiable Information (PII) | PII training is provided annually by the Human Resources Manager. The Human Resources Manager documents training attendance, and a certificate of completion is maintained in the employee file. |

# A12. Documents and Records

**Instructions:**

Describe the documents and records that will be generated during this project.

* Describe the process and responsibilities for ensuring the appropriate project personnel have the most current approved version of the QAPP, including version control, updates, distribution, and disposition.
* Identify any records and documents applicable to the project that will be produced (e.g., quarterly reports, final project report).
* Specify the reporting format for any hardcopy and electronic forms.
* Specify or reference all applicable requirements for the storage of records and documents (i.e., location where records and documents will be maintained, as well as any security requirements).
* Describe or reference the requirements for the final disposition of records and documents. For example, after the required record and document retention period is over, will documents and records be offered to the EPA, shredded, etc.?

**Tips and Other Information:**

The QAPP Template includes a list of potential documents that may be produced during the project. The documents listed should be modified to represent the documents that will be generated during your specific project.

The documents listed in the QAPP Template may be used as subheadings in this section. Each subheading should include the information listed above in the instructions.

#  B1. Identification of Project Environmental Information Operations

**Instructions:**

Provide a detailed description of how the EIO will be conducted to accomplish the project purpose.

Projects involving the collection of new measurements

Describe the following:

* The type of measurements to be collected (e.g., weights, counts, volumes, GPS coordinates, etc.)
* How many measurements are needed
* Briefly describe the reason the specific measurements were selected
* How data/information will be organized
* How data/information will be compiled

Projects involving conducting surveys

Describe the following:

* List of survey questions
* How much data is needed (important if surveys are incomplete)
* How will survey participants be selected (e.g., if survey participants will be selected randomly, the QAPP should describe the randomizing process)
* How the survey will be administered (e.g., online format, in-person, phone, etc.)
* Timing for survey completion (e.g., completed surveys must be returned within 30 calendar days)
* How data/information will be organized
* How data/information will be compiled

Projects involving the use of existing data/information

Describe the following:

* How sources of existing data/information were selected and the type of data from each source
* How much data/information is needed from each source
* How data/information will be organized
* How data/information will be compiled

# B2. Methods for Environmental Information Acquisition

## Subsection B2.a – Field Activities Environmental Measurements, Observations, and Surveys

**Instructions:**

* Describe the procedures for collecting environmental information (e.g., measurements, counting, surveys, observations, etc.). Identify any documented methods or standard operating procedures (SOPs) that will be followed.
* Identify all equipment/materials needed.
* Discuss what to do if the environmental measurement, observation, or survey cannot be collected for any reason (e.g., equipment failure, survey incomplete or not returned, etc.).
* Describe the process for the preparation and decontamination of any equipment used, including the disposal of decontamination by-products and disposable materials (e.g., disposable gloves, paper towels, etc.).
* For surveys, describe how the survey will be administered (e.g., by mail, on-line, in-person, etc.), and provide the complete list of questions that will be asked of survey participants. Describe any additional requirements for completing the surveys (e.g., internet access for online surveys).

**Tips and Other Information:**

An SOP is a set of step-by-step instructions that help workers carry out routine tasks. SOPs improve efficiency, quality, and uniformity, while reducing miscommunication and the risk of errors. SOPs should include the following information:

* Title Page – title of the activity or procedure, identification number, date of issue or revision, name of the organization to which the SOP applies, approval signatures and dates
* List of equipment and materials needed to complete all tasks described in the SOP
* Roles and responsibilities of individuals performing each task
* Regulatory information or standards, if applicable
* Health and safety considerations
* Quality control requirements
* A description of each step of the process in sequential order
* References

For additional information on SOP development, refer to the current version of EPA QA/G-6, Guidance for Preparing Standard Operating Procedures, April 2007, which can be found at:

<https://www.epa.gov/quality/guidance-preparing-standard-operating-procedures-epa-qag-6-march-2001>

## Subsection B2.b – Laboratory Analysis

Not applicable. If your project involves sample collection and analysis, please refer to the R8 Graded Approach – QAPP Development Template and Instructions ([https://www.epa.gov/quality/managing-quality-environmental-data-epa-region-8#tools](https://www.epa.gov/quality/managing-quality-environmental-data-epa-region-8%23tools)).

## Subsection B2.c – Existing Information

For projects involving the use of existing data/information, describe the following:

* The data/information to be collected
* The collection process
* The intended use of that data/information
* The criteria that will be used to determine that the data/information is acceptable for your project
* If the data/information will be combined with new environmental data/information, the criteria to ensure compatibility

**Tips and Other Information:**

Existing data/information includes information compiled or obtained from databases, software applications, decision support tools, websites, existing literature, and other sources. In other words, it is data/information that was generated for purposes other than your specific project or data pertinent to your project but generated under a separate QAPP.

The project team should carefully evaluate the quality of the existing data/information to ensure it is of the type and quality necessary to support its intended use.

Some examples of existing data/information include the following:

* Sampling and testing data collected during previous investigations
* Historical data
* Background information
* Previously conducted interviews
* Modeling data
* Photographs
* Topographic maps
* Published literature, reports, and handbooks
* Data/information from state and local monitoring programs
* Data/information from publicly available databases, such as data from the U.S. Census Bureau

## Subsection B2.d – Environmental Technology

For projects involving environmental technology, describe the following:

* Identify whether the technology is primarily for pollution prevention, contamination containment, storage, or remediation
* Physical parameters or processes collected using environmental technologies
* Specific systems, devices, and their components applicable to both hardware and methods or techniques that measure or remove pollutants or contaminants or prevent them from entering the environment

**Tips and Other Information:**

Below are examples of environmental technology:

* Pollution prevention – measurement, monitoring, reduction, control, or treatment processes, such as wet scrubbers (air), granulated activated carbon unit (water), and filtration (air, water)
* Contamination containment – containment to prevent further movement of the contaminants, such as capping, solidification or vitrification, and biological treatment
* Storage – storage containers, methods, or facilities, such as drums, tanks, ponds, or lagoons
* Remediation – remediation processes and their components, such as contaminant removal and replacement with backfill, soil washing (soil), pump and treat systems, soil vapor extraction (soil), land farming, and other bioremediation processes

For additional guidance on QAPPs for the design, construction, and operation or application of environmental technology, please refer to EPA QA/G-11, Guidance on Quality Assurance for Environmental Technology Design, Construction, and Operation, January 2005, which can be found at:

<https://www.epa.gov/quality/guidance-quality-assurance-environmental-technology-design-construction-and-operation-epa>

# B3. Integrity of Environmental Information

**Instructions:**

Describe the procedures for ensuring the integrity of the EIO. For projects involving measurements, counting, the use of existing data/information or surveys, describe how the collected data/information will be managed to ensure its integrity. For example, will the data/information be stored in a secure database with limited access? How will data/information be transferred or shared between sources or individuals, and how will it be ensured that no data/information is lost during the transfer or sharing process? If surveys are anonymous, describe how anonymity is ensured.

#

# B4. Quality Control

Note that this section is only applicable for projects involving direct measurements. If your project does not involve direct measurements, add a statement to the QAPP Template indicating that this section is not applicable and provide the reason. If your project involves sample collection and analysis, please refer to the R8 Graded Approach – QAPP Development Template and Instructions ([https://www.epa.gov/quality/managing-quality-environmental-data-epa-region-8#tools](https://www.epa.gov/quality/managing-quality-environmental-data-epa-region-8%23tools)).

**Instructions:**

For project involving the collection of new measurements (e.g., weights, counting, volumes, GPS coordinates, etc.), describe the QC procedures that will be used to assess the accuracy of the new measurements. For example, if you are collecting GPS coordinates, the QAPP should describe how the information will be checked for positional errors, misspellings, operator error, and other inaccuracies.

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

Note that this section is only applicable for projects involving direct measurements. If your project does not involve direct measurements, add a statement to the QAPP Template indicating that this section is not applicable and provide the reason. If your project involves sample collection and analysis, please refer to the R8 Graded Approach – QAPP Development Template and Instructions ([https://www.epa.gov/quality/managing-quality-environmental-data-epa-region-8#tools](https://www.epa.gov/quality/managing-quality-environmental-data-epa-region-8%23tools)).

**Instructions:**

Equipment or instruments used for the collection of new measurements (e.g., scale, digital cameras, GPS units, etc.) should be calibrated, tested, inspected, and maintained in accordance with manufacturer’s instructions and the requirements stated in the applicable SOPs.

Use the table in the QAPP Template to:

* Identify all tools, gauges, instruments, and other equipment used for data generation or collection activities that must be calibrated to maintain performance within specified limits
* Identify all equipment and instrumentation that requires testing, inspection, and maintenance
* Describe the procedures for each calibration activity
* Describe the testing, inspection, and maintenance activities
* Indicate the required frequency for each calibration, testing, inspection, and maintenance activity
* Indicate the acceptance criteria for each calibration, testing, inspection, and maintenance activity
* Describe the corrective action plan for any calibration, testing, inspection, and maintenance deficiency
* Reference the applicable SOP that describes the calibration, testing, inspection, and maintenance activities in detail
* Identify the person responsible for the calibration, testing, inspection, and maintenance activities

# B6. Inspection/Acceptance of Supplies and Services

**Instructions:**

* Describe the process for inspecting supplies and consumables and determining their acceptability for use during the project.
* State acceptance criteria for such supplies and consumables.
* Indicate the required frequency for inspecting supplies and consumables.
* Identify the person responsible for performing inspections of supplies and consumables.
* Describe how supplies and consumables should be handled and stored.

**Tips and Other Information:**

Examples of supplies and consumables that may be used during a project include disposable gloves, waterproof markers, spare batteries, bug repellant, sunscreen, flashlights, safety glasses, cell phones, waste containers, duct tape, and computer hardware and software.

# B7. Environmental Information Management

**Instructions:**

* Describe the data management processes that will be used throughout the life of the project, tracing the path of the data from their generation to their final use or storage.
* Describe or reference the standard record-keeping procedures, document control system, and the approach used for data storage and retrieval on electronic media.
* Describe the process for detecting and correcting errors and for preventing loss of data during data reduction, data reporting, and data entry to forms, reports, and databases.
* Include any required computer hardware and software that will be used and address any specific performance requirements for the hardware/software configuration used.
* Provide examples of any forms or checklists to be used.
* Identify the individual(s) responsible for data management.

**Tips and Other Information:**

Be sure to reference any SOPs you have for record keeping, document control, or storage and retrieval of data, and include them in a QAPP appendix. If your project has a Data Management Plan, attach it to the QAPP as an appendix.

When completing this section of the QAPP, consider the following questions, as applicable:

* How will all data be recorded?
* Will data be transcribed from datasheets to an online database?
* What percent of data will be checked for accuracy and transcription errors?
* Who will check for discrepancies in data entries and how?
* Will data be entered into an electronic database? By whom?
* If applicable, will electronic files be backed up daily?
* How will original data be stored and for how long?
* How will you ensure access to data by appropriate parties in various stages of processing?
* Will data be generated by hand, collected from literature or other sources, or from computerized equipment or instruments and/or computer generated?
* Will you need any minimum performance or acceptability requirements for sources of data (such as computer hardware or software)?
* Will security or confidentiality specifications be incorporated into the project’s data management system, such as password protections or limited access by authorized personnel only?

# C1. Assessments and Response Actions

**Instructions:**

An assessment is a process used to evaluate the performance or effectiveness of a system and its elements. Types of assessments may include audits, performance evaluations, management reviews, peer reviews, inspections, surveillance, and product reviews.

Use the table in the QAPP Template to document responsibilities for conducting project assessments, responding to assessment findings, and implementing corrective action. Appropriately scheduled assessments allow management to implement corrective action in a timely manner, thereby correcting deviations, errors, and nonconformances and minimizing their impact on project data quality objectives.

Include any assessment SOPs and checklists as a QAPP appendix.

Assessments involving existing data/information generally address the process of acquiring, evaluating, selecting, and obtaining existing data/information for use on the project. For projects involving the use of existing data/information, consider the following:

* Existing data/information meet basic project specifications (e.g., data/information are of the proper type) and are appropriately relevant and suitable for their targeted use (e.g., data/information have an acceptable target population)
* The quality of existing data/information meet the acceptance criteria specified in QAPP Section A6, and a sufficient quantity of existing data/information is available to allow the project to meet criteria on data quality
* Proper procedures and protocols were used in obtaining or abstracting existing data/information from their sources
* Sufficient metadata was obtained on the data/information
* Checks to ensure the complete existing data/information set was imported properly from the existing data/information source
* Potential corrective actions may include collecting additional data/information or investigating other data/information sources

**Tips and Other Information:**

The table below includes an example of the types of assessments that may be conducted throughout the project.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Assessment Type** | **Responsible for Conducting 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** |
| Existing data/ information review | Organization Project QA Officer | Once for each data source | Following data collection from each data source | Existing data review memo | Within 3 business days of assessment completion | Organization Operations Manager | Within 3 business days of assessment completion | Organization Operations Manager | Organization Project QA Officer |
| Data entry peer level review | To be assigned by the Organization Operations Manager | Weekly | Every Friday during data entry into the project database | List of data entry errors | Same day of the data entry peer level review | Individual who performed the original data entry | 24 hours following the receipt of the list of data entry errors | Individual who performed the original data entry | Individual assigned to perform the data entry peer level review |

# C2. Oversight and Reports to Management

**Instructions:**

This section documents how management will be kept informed of project oversight and assessment activities and findings.

Use the table in the QAPP Template to identify the type, frequency, and distribution of reports issued to inform management of the project status. Identify the preparer(s) and the recipient(s) of the reports.

**Tips and Other Information:**

Examples of reports that may be prepared include the following:

* Project status or progress reports
* Assessment reports (assessment memo and checklist and corrective action reports)
* Data verification/validation reports
* Data usability report
* Quarterly reports
* Final project report

# D1. Environmental Information Review

**Instructions:**

This section should describe the final checks that will be done on the data/information collected to decide whether they meet the project data quality objectives discussed in Section A6 and whether the data/information can be used for its intended purpose.

Describe the process to be used for verifying and validating data. Describe the data review process for ensuring that the data have been recorded, transmitted, and processed correctly (e.g., checking for data entry, transcription, and calculation errors). Discuss how issues will be resolved and the authorities for resolving them. Describe how the results are conveyed to data users. Identify any project-specific calculations required.

If data verification or validation checklists will be used, include the checklists in a QAPP appendix. If data verification or validation procedures are contained in an SOP or other document, the procedures should be referenced in this section and included as a QAPP appendix.

Data Verification

Describe the process for verifying that all required activities were conducted, all specific records are present, and the contents of the records are complete. Examples of records to be verified status reports, assessment memos/checklists/reports, corrective action reports, and project databases.

Data Validation

Data validation is a data point-specific process for evaluating compliance with grant requirements, methods/SOPs, and quality control acceptance criteria to determine the quality of a specific dataset relative to the intended end use. It focuses on the project’s specifications or needs, is designed to meet the needs of the decision makers/data users, and should note potentially unacceptable departures from the QAPP.

Describe the procedures that will be followed to determine whether individual data values within the dataset should be rejected, transformed, or qualified before any statistical analysis. All data qualifiers applied to the data by the data validator must be defined. Data validation should note when acceptance criteria are not met, but the final rejection of any data and their use is a decision reserved specifically for the project team.

If data/information will be entered into a project database, describe the features of the data management system that verify the accurate entry of values for important data parameters into the database, along with any data reduction procedures (e.g., averages of replicate measurements).

**Tips and Other Information:**

Below are examples of the type of information that may be included in this section:

Documents and records will be reviewed by the Operations Manager for completeness and accuracy (e.g., checking for data entry, transcription, and calculation errors) as part of the final report preparation process.

Data will be evaluated against the acceptance criteria discussed in Section A6 and the information collection process design described in Section B1.

Note: A data qualifier is a code or flag attached to a data point that alerts the data user to a specific issue or limitation regarding the data. The data qualifier provides context about the accuracy or reliability of the measured value (i.e., it acts as a note explaining why the data point might not be fully reliable). For example, an “R” qualifier might be used to indicate that a data point should be considered for rejection, or a “J” qualifier might be used to indicate that a data point represents an estimated value. All data qualifiers that may potentially be applied to a dataset must be defined in the QAPP.

# D2. Usability Determination

**Instructions:**

Describe how project results will be reconciled with the requirements defined in the data quality objectives (see Section A6). This is the process for determining data usability (i.e., determining whether the results meet, or do not meet, the project objectives and requirements defined in the QAPP). The data usability assessment (also referred to as the data quality assessment) is performed at the conclusion of information/data collection activities, using the outputs from data verification and data validation.

**Tips and Other Information:**

The data usability assessment involves a qualitative and quantitative evaluation of the data to determine if the project data are of the right type, quality, and quantity to support the decisions that need to be made. It involves a retrospective evaluation of the systematic planning process (i.e., data quality objectives described in Section A6), and, like the systematic planning process, involves participation by key members of the project team, who should be identified in this section. The data usability assessment evaluates whether underlying assumptions used during systematic planning are supported, sources of uncertainty have been accounted for and are acceptable, data/information are representative of the population of interest, and the results can be used as intended, with the acceptable level of confidence. The data usability assessment should discuss how limitations on the use of the data will be reported to decision makers.

The data usability report should be included as part of the final project report, along with any supporting information.

For additional guidance on conducting a data usability assessment, please see EPA QA/G-9, Guidance for Data Quality Assessment: Practical Methods for Data Analysis, July 2000, and EPA QA/G-9R, Data Quality Assessment: A Reviewer’s Guide, February 2006, both of which can be found at:

<https://www.epa.gov/quality/quality-program-directives>

# References

**Instructions:**

The references already listed in this section of the QAPP Template were used to prepare the template and should not be deleted.

Add resources used to complete your project-specific QAPP. References should include the author, title, document/volume/revision numbers, and date of the referenced document. If a website was used as a reference, include the title of the article or website and the specific URL.

**Tips and Other Information:**

At a minimum, add your project narrative/workplan (or equivalent document) to the list of references.

**ATTACHMENT 1**

**QUALITY ASSURANCE PROJECT PLAN TEMPLATE FOR**

**REGION 8 SWIFR GRANT RECIPIENTS**

**U.S. Environmental Protection Agency Region 8**

**Solid Waste Infrastructure for Recycling (SWIFR) Grant**

Organization Name

Organization Address

**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:** Up to 5 years from the date of the approving official’s signature.

**Revision Number:**

**Grant Number:**

# A2. Approval Page

**Organization Name Approvals:**

Project Quality Assurance Officer (QAO)

Printed Name:

Signature & Date:

Operations Manager:

Printed Name:

Signature & Date:

**Approval Officials\*:**

Regulatory Agency:

Title:

Printed Name:

Signature & Date:

Regulatory Agency:

Title:

Printed Name:

Signature & Date:

\*The effective date of this QAPP is the date the approving officials sign the QAPP.

# A3. Table of Contents

[A1. Title Page 2](#_Toc181085425)

[A2. Approval Page 3](#_Toc181085426)

[A3. Table of Contents 4](#_Toc181085427)

[Acronyms 5](#_Toc181085428)

[A4. Project Purpose, Problem Definition, and Background 6](#_Toc181085429)

[A5. Project Task Description 7](#_Toc181085430)

[A6. Information/Data Quality Objectives and Performance/Acceptance Criteria 9](#_Toc181085431)

[A7. Distribution List 10](#_Toc181085432)

[A8. Project Organization 11](#_Toc181085433)

[A9. Project Quality Assurance Officer Independence 12](#_Toc181085434)

[A10. Project Organization Chartand Communications 13](#_Toc181085435)

[A11. Personnel Training/Certification 15](#_Toc181085436)

[A12. Documents and Records 16](#_Toc181085437)

[B1. Identification of Project Environmental Information Operations 17](#_Toc181085438)

[B2. Methods for Environmental Information Acquisition 18](#_Toc181085439)

[Subsection B2.a – Field Activities Environmental Measurements 18](#_Toc181085440)

[Subsection B2.b – Laboratory Analysis 18](#_Toc181085441)

[Subsection B2.c – Existing Information 18](#_Toc181085442)

[Subsection B2.d – Environmental Technology 18](#_Toc181085443)

[B3. Integrity of Environmental Information 19](#_Toc181085444)

[B4. Quality Control 20](#_Toc181085445)

[B5. Instruments/Equipment Calibration, Testing, Inspection, and Maintenance 20](#_Toc181085446)

[B6. Inspection/Acceptance of Supplies and Services 21](#_Toc181085447)

[B7. Environmental Information Management 22](#_Toc181085448)

[C1. Assessments and Response Actions 23](#_Toc181085449)

[C2. Oversight and Reports to Management 24](#_Toc181085450)

[D1. Environmental Information Review 25](#_Toc181085451)

[D2. Usability Determination 26](#_Toc181085452)

[References 27](#_Toc181085453)

**List of Figures**

Figure 1 Project Organization Chart

**Appendices**

A Standard Operating Procedures

B Forms and Checklists

C Data Management Plan

# Acronyms

DAO Delegated Approving Official

DEQ Department of Environmental Quality

DQI Data Quality Indicator

DQO Data Quality Objective

EIO Environmental Information Operations

EPA U.S. Environmental Protection Agency

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

SWIFR Solid Waste Infrastructure for Recycling

# 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** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

# A6. Information/Data Quality Objectives and Performance/Acceptance Criteria

**Step 1: State the Problem**

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

**Step 3: Identify Information Inputs**

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

**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.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Title** | **Organization** | **Phone Number and Email Address** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

# A8. Project Organization

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Title** | **Organization** | **Responsibilities** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

# A9. Project Quality Assurance Officer Independence

# A10. Project Organization Chartand 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**

Individual Name

Regulatory Agency

Project Officer

Individual Name

Regulatory Agency

QAM, RQAM, or DAO

Partnering Organizations

Individual Name

Organization Name

Project QA Officer

Individual Name

Organization Name

Operations Manager

Individual Name(s)

Organization Name

Technical Staff

Individual Name(s)

Organization Name

QA Staff

Individual Name(s)

Organization Name

Data Manager

Contractor(s)

**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.)** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

# A11. Personnel Training/Certification

|  |  |  |
| --- | --- | --- |
| **Role** | **Specialized Training/Certification** | **How training will be provided and documented** |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

# A12. Documents and Records

QAPP

Monthly Progress Reports

Quarterly Reports

Assessment Records

Corrective Action Reports

Data Verification and Validation Records

Data Usability Report

Final Project Report

Record and Document Retention Requirements

# B1. Identification of Project Environmental Information Operations

# B2. Methods for Environmental Information Acquisition

## *Subsection B2.a – Field Activities Environmental Measurements, Observations and Surveys*

## *Subsection B2.b – Laboratory Analysis*

Not applicable. This project does not include laboratory analysis.

# *Subsection B2.c – Existing Information*

#

# *Subsection B2.d – Environmental Technology*

# B3. Integrity of Environmental Information

# B4. Quality Control

#

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

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Equipment/ Instrument** | **Calibration Activity** | **Testing Activity** | **Inspection Activity** | **Maintenance Activity** | **Responsible Person** | **Frequency** | **Acceptance Criteria** | **Corrective Action** | **SOP Reference** |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |

# 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** |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

# 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** |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |

# 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** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

# 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**

**Forms and Checklists**

**APPENDIX C**

**Data Management Plan**