

**ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (ADEQ)  
Water Quality Assurance Revolving Fund (WQARF) Program**

**REMEDIAL INVESTIGATION / FEASIBILITY STUDY (RI/FS) OUTLINE FOR THE 7<sup>TH</sup>  
AVENUE AND BETHANY HOME ROAD WQARF SITE (A.R.S. § 49-287.03(B))**

January, 2009

A scope of work for the RI/FS will be available prior to the Department implementing a remedial action under Arizona Revised Statute (A.R.S.) § 49-287.03(B). The basic elements of this scope of work are detailed under A.R.S. § 49-287.03(E, F) and the Arizona Administrative Code (A.A.C.) R18-16-406 and 407. In conformance with these requirements and widely accepted standards, the Department has prepared the following outline of the elements for consideration in the RI/FS. The final RI/FS may vary slightly in format.

1. Introduction

A. Site Description

*Includes detailed information about the affected site such as size, location (street and/or legal description), buildings or other man-made structures, adjacent facilities or structures, and location maps.*

B. Site History and Site Investigation

*Includes history of the site as to types of business or residential usage; particulars of operation, i.e. manufacturing of chemicals, etc.; chronology of the site's usage; how hazardous substances came to be released and discovered; names of identified facilities consistent with responsible party identification; and other commonly known historical facts. This may include analytical results from testing, comparison with regulatory limits, and methods of investigation, i.e. borings, monitoring wells, soil samples, etc.*

2 RI Implementation

A. Establish nature and extent of the contamination and the sources thereof.

*This should include the extent and general characteristics of the site including important surface features, soils, geology, hydrogeology, meteorology and ecology. The extent and general characteristics of the hazardous substance released including physical state, concentration, toxicity, propensity to bioaccumulate, persistence and mobility. The extent, general characteristics and degree of the source of the release.*

B. Identify current and potential impacts to public health, welfare and the environment.

*This should include current and reasonable foreseeable exposure routes for the hazardous substance released such as inhalation, ingestion and dermal contact. Other factors such as sensitive populations that pertain to the characterization of the site or support the analysis of potential remedies. Current and reasonably foreseeable impacts to aquatic and terrestrial biota.*

- C. Identify current and reasonably foreseeable uses of land and waters of the state.  
*This should include the collection of information regarding current and reasonably foreseeable uses of land and waters of the state that have been or are threatened to be impacted by the release.*

### 3. Feasibility Study

- A. The feasibility study is a process to identify a reference remedy and alternative remedies that appear to be capable of achieving remedial objectives and to evaluate them based on the comparison criteria to select a remedy that complies with A.R.S § 49-282 .06.

*This should include at least two alternative remedies for comparison to the reference remedy. The remedial strategies are:*

- 1. Plume remediation to achieve water quality standards for contaminants of concern in water of the state throughout the site.*
- 2. Physical containment of the contaminants within definite boundaries.*
- 3. Controlled migration to control the direction or rate of migration but not necessarily to contain migration of contaminants.*
- 4. Source control to eliminate or mitigate a continuing source of contamination.*
- 5. Monitoring to observe and evaluate the contamination at the site through the collection of data.*
- 6. No action at the site.*

*The feasibility study should also include a demonstration that the remedial alternative will achieve the remedial objectives. An evaluation of consistency with the water management plan of affective water providers and the general land use plan of local government with land use jurisdiction. The feasibility should also include: An evaluation of the practicability of the remedial alternative, an evaluation of risk of the public health and aquatic and terrestrial biota, an evaluation of the cost of the remedial alternative and an evaluation of the benefit, or value of the remediation.*

### 4. Proposed Remedy

- A. Based upon the evaluation and comparison of the reference remedy and the other alternative remedies developed, a proposed remedy shall be developed and described in the feasibility study report.

*This should describe the reasons for selection of the proposed remedy including all of the following:*

- 1. How the proposed remedy will achieve the remedial objectives;*
- 2. How the comparison criteria were considered; and*
- 3. How the proposed remedy meets the requirements of A.R.S. §49-282.06.*