Appendix H

to the

Guadalupe Blanco River Authority
And
Upper Guadalupe River Authority
Clean Rivers Program
FY 2002-03

Village of Wimberley Blanco River-Cypress Creek
Water Quality Monitoring Project

Quality Assurance Project Plan

Prepared in Cooperation with the Guadalupe-Blanco River Authority and the Texas Commission on Environmental Quality Under the Authorization of the Texas Clean Rivers Act

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Clean Rivers Program
Technical Analysis Division
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Questions concerning this amendment should be directed to:

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January 1, 2003

SS3-A1 APPROVAL PAGE

In addition to the approvals listed in section A1 of the 2002-03 QAPP, the following is required for the special study:

_____

Debbie Magin, GBRA Project Manager Date

_____

Hopkins Haden, GBRA Quality Assurance Officer Date

_____

Allison Woodall, TCEQ CRP Project Manager Date

_____

Bernard Ray, TCEQ CRP Lead Quality Assurance Specialist Date

_____

Laurie Curra, TCEQ CRP Project Quality Assurance Specialist Date

_____

David Baker, Wimberley Project Manager Date

GBRA will secure written documentation from each participant attesting to their awareness of and commitment to requirements contained in this quality assurance project plan appendix. GBRA will maintain this documentation as part of the project's quality assurance records.

SS3-A2 TABLE OF CONTENTS

LIST OF ACRONYMS

BMP	**Best Management Practices**
COC	**Chain-of Custody**
CRP	**Clean Rivers Program**
DMP	**Data Management Plan**
DQO	**Data Quality Objective**
FY	**Fiscal Year**
GBRA	**Guadalupe-Blanco River Authority**
LCRA	**Lower Colorado River Authority**
MDMA	**Monitoring Data Management & Analysis**
PAH	**Polynuclear Aromatic Hydrocarbon**
QA	**Quality Assurance**
QAM	**Quality Assurance Manual**
QAO	**Quality Assurance Officer**
QAPP	**Quality Assurance Project Plan**
QAS	**Quality Assurance Specialist**
QC	**Quality Control**
QMP	**Quality Management Plan**
RBP	**Rapid Bioassessment Protocol**
RL	**Reporting Limits**
RWA	**Receiving Water Assessment**
SOP	**Standard Operating Procedure**
SWQM	**Surface Water Quality Monitoring**
TMDL	**Total Maximum Daily Load**
TCEQ	**Texas Commission on Environmental Quality**
TPH	**Total Petroleum Hydrocarbons**
TRACS	**Texas Regulatory and Compliance System**
TSWQS	**Texas Surface Water Quality Standards**
VOA	**Volatile Organic Analytes**
VOW	**Village of Wimberley**
WMT	**Watershed Management Team**
WVWA	**Wimberley Valley Watershed Association**

SS4-A3 DISTRIBUTION LIST

For distribution list, refer to Section A3 of the 2002-03 QAPP.

SS2-A4 PROJECT/TASK ORGANIZATION

TCEQ

Bernard Ray
CRP Lead Quality Assurance Specialist

As described in the basin-wide QAPP, Revision 6, Section A4.

Allison Woodall
CRP Project Manager

As described in the basin-wide QAPP, Revision 6, Section A4.

Laurie Curra
CRP Project Quality Assurance Specialist

As described in the basin-wide QAPP, Revision 6, Section A4.

Guadalupe-Blanco River Authority

Debbie Magin
GBRA Project Manager

As described in the basin-wide QAPP, Revision 6, Section A4.

Hopkins Haden
GBRA Quality Assurance Officer

As described in the basin-wide QAPP, Revision 6, Section A4.

Debbie Magin
GBRA Data Manager

As described in the basin-wide QAPP, Revision 6, Section A4.

Michael McCall
GBRA Laboratory Analyst/Field Technician

As described in the basin-wide QAPP, Revision 6, Section A4.

Hopkins Haden
GBRA Regional Laboratory Director

As described in the basin-wide QAPP, Revision 6, Section A4.

Josie Longoria
GBRA Laboratory Analyst

As described in the basin-wide QAPP, Revision 6, Section A4.

Brian Lyssy
GBRA Laboratory Technician

As described in the basin-wide QAPP, Revision 6, Section A4.

Village of Wimberley

David Baker
Project Manager

Responsible for directing CRP activities for the Wimberley Valley Watershed Association and the Village of Wimberley for the Blanco River-Cypress Creek Water Quality Monitoring Study. Assures strict compliance with the CRP requirements for project administration and quality assurance. Maintains operating procedures that are in compliance with the QAPP. Assists with monitoring systems audits for CRP projects. Responsible for ensuring that field data are properly reviewed and verified. Responsible for the transfer of project quality-assured water quality data to GBRA Project Manager.

Jason Pinchback
Field Technician

Responsible for coordinating sampling events, including maintenance of sampling bottles, supplies, and equipment. Maintains records of field data collection and observations. Responsible for the transfer of project quality-assured water quality data to GBRA Project Manager.

David Baker
Field Technician

Responsible for coordinating sampling events, including maintenance of sampling bottles, supplies, and equipment. Maintains records of field data collection and observations. Responsible for the transfer of project quality-assured water quality data to GBRA Project Manager.

Org chart

SS3-A5 PROBLEM DEFINITION/BACKGROUND

The Clean Rivers Program monitoring efforts and water quality assessments in the Guadalupe River Basin are described in Section A5 of the 2002-03 QAPP. In addition to those monitoring efforts, the Village of Wimberley is conducting a monitoring project on the Blanco River and Cypress Creek in the area of the Village in Hays County. The Village of Wimberley is currently not served by a wastewater treatment system and all homes and businesses that line the banks of the Cypress and Blanco River are served by septic tanks. The Village is actively working to bring a municipal wastewater treatment plant on line that can replace the septic tanks in the area.

Wimberley's natural beauty and attractiveness for both tourism and residential development is centered on Cypress Creek and the Blanco River. Both of these waterways and the wildlife habitat in the area are supported by spring flow from the Trinity Aquifer. The Cypress Creek is a part of the 303d TMDL study being conducted by the Texas Commission on Environmental Quality (TCEQ) and Texas A&M University at Kingsville. The creek was listed as impaired due to depressed dissolved oxygen concentrations. The Village of Wimberley, along with the Wimberley Valley Watershed Association (WVWA) and GBRA have partnered in a water quality monitoring project that will generate quality-asssured data under the guidelines and specific requirements of the GBRA 2002-03 Quality Assurance Project Plan. In addition to establishing a baseline of water quality data on the two waterbodies, the monitoring effort will allow the Village of Wimberley to develop an informed position to establish specific long-term strategies for protection of water quality in the watersheds, and assess pollution threats to surface and groundwater aquifers and to educate the community on the interaction of land use and activities and local water resources.

SS3-A6 PROJECT/TASK DESCRIPTION

The proposed study will consist of routine sampling at six sites, three on the Blanco River and three on the Cypress Creek. Upstream sites on both waterbodies will be used as reference sites to assess receiving water entering the study area. Midstream and downstream sites will be monitored to assess the spatial and temporal changes within the waterbodies. The study sites have been included in previous bacteriological sampling conducted by the WVWA. Data collected monthly will include field measurements and observations, flow, nutrients, solids and *E. coli*.

Figure SS3-A6.1 is a map of the study area, with monitoring sites labeled.

Figure SS2

SS3-A7 DATA QUALITY OBJECTIVES AND CRITERIA

The purpose of the project is to establish a baseline of water quality data to assess potential threats to the water quality of the Cypress Creek and Blanco River watersheds. Through collecting water quality data and analyzing pollution threats, the Village of Wimberley and the Wimberley Valley Watershed Association will develop an informed position to establish a specific long-term strategy for protecting critical fish and wildlife habitat through maintaining surface water quality in the Wimberley watersheds. In addition, the monitoring efforts will be used to detect and describe spatial and temporal changes, determine impacts of point and non-point sources, and assess compliance with established water quality standards for Cypress Creek and the Blanco River.

The measurement performance criteria to support the project objectives are specified in the following table, SS3-Table A7.1, Data Quality Objectives for Field and Laboratory Measurements for the Wimberley Monitoring Project.

A7 table-wimberley

Precision

As described in Section A7 of the basin-wide QAPP.

Accuracy

As described in Section A7 of the basin-wide QAPP.

Representativeness

Representativeness of the project and selected sampling sites are based on the watershed and the contributing springs to each waterbody, and the potential sources of point and non-point source contributions as the streams flow through the Village of Wimberley.

Monthly sampling for one year will be conducted at all sampling sites in order to account for variations in variables such as season, temperature, and flow.

Comparability

As described in Section A7 of the basin-wide QAPP.

Completeness

As described in Section A7 of the basin-wide QAPP.

SS3-A8 SPECIAL TRAINING/CERTIFICATION

No special training or certifications are required for this project. Training on field techniques, quality assurance, data management, etc., is provided to the WVWA personnel by GBRA and follows the TCEQ guidelines as part of the Clean Rivers Program.

SS3-A9 DOCUMENTS AND RECORDS

The documents that describe, specify, report, or certify activities are listed in Table A9.1 in Section A9 of the 2002-03 QAPP.

SS3-B1 SAMPLING PROCESS DESIGN

Sample Design Rationale

The sample design rationale is based on the goals of the monitoring project to detect and describe temporal and spatial changes between sampling locations on each water body, to determine impacts of

point and non-point sources, and to collect data that will assist in the assessment of the streams with the established water quality standards.

Site Selection Criteria

Sampling at six locations will be done monthly beginning in January 2003 and concluding in December 2003. The sites were selected based on access, safety and relationship to other sites on the specific water body. Upstream sites have been selected to represent the conditions of the water body as it enters the watershed study area. The mid-segment sites are of significant distance to upstream and downstream sites so that spatial changes can be observed. Downstream sites on each water body represent the water conditions leaving the study area.

SS2-B2 SAMPLING METHODS

Field Sampling Procedures

The field sampling procedures are documented in the TCEQ *Surface Water Quality Monitoring Procedures Manual* (1999, or subsequent editions).

Sample volume, container types, minimum sample volume, preservation requirements, and holding time requirements

As prescribed in the Table B2.1 in the 2002-03 QAPP, Section B2.

Sample Containers

As prescribed in the 2002-03 QAPP, Section B2.

Processes to Prevent Contamination

As prescribed in the 2002-03 QAPP, Section B2.

Documentation of Field Sampling Activities

As prescribed in the 2002-03 QAPP, Section B2.

Recording Data

As prescribed in the 2002-03 QAPP, Section B2.

Failures in Sampling Methods Requirements and/or Deviations from Sample Design and Corrective Action

As prescribed in the 2002-03 QAPP, Section B2.

SS3-B3 SAMPLING HANDLING AND CUSTODY PROCEDURES

Chain of Custody

As prescribed in the 2002-03 QAPP, Section B3.

Sample Labeling

As prescribed in the 2002-03 QAPP, Section B3.

Sample Handling

As prescribed in the 2002-03 QAPP, Section B3.

Failures in Chain-of-Custody and Corrective Action

As prescribed in the 2002-03 QAPP, Section B3.

SS3-B4 ANALYTICAL METHODS

The analytical methods, associated matrices, and performing laboratories are listed in Table A.7.1 of Section A7 of the 2002-03 QAPP. The authority for analysis methodologies under the Clean Rivers Program is derived from the TSWQS (307.1-307.10) in that data generally are generated fro comparison to those standards and/or criteria. The Standards state that a procedure for laboratory analysis will be in accordance with the most recently published edition of *Standard Methods for the Examination of Water and Wastewater*, the latest version of the TCEQ *Surface Water Quality Monitoring Procedures Manual*, 40 CFR 136 or other reliable procedures acceptable to the executive director. Copies of laboratory SOPs are retained by GBRA and are available for review by the TCEQ. Laboratory SOPs are consistent with EPA requirements as specified in the method.

Standards Traceability

As prescribed in the 2002-03 QAPP, Section B4.

Alternative Method Modification

As prescribed in the 2002-03 QAPP, Section B4.

Failures or Deviations in Analytical Method Requirements and Corrective Actions

As prescribed in the 2002-03 QAPP, Section B4.

SS3-B5 QUALITY CONTROL

Sampling Quality Control Requirements and Acceptability Criteria

As prescribed in the 2002-03 QAPP, Section B5.

Laboratory Measurement Quality Control Requirements and Acceptability Criteria

As prescribed in the 2002-03 QAPP, Section B5.

Failures in Field and Laboratory Quality Control and Corrective Action

As prescribed in the 2002-03 QAPP, Section B5.

SS3-B6 INSTRUMENT/EQUIPMENT TESTING, INSPECTION AND MAINTENANCE

As prescribed in the 2002-03 QAPP, Section B6.

SS3-B7 INSTRUMENT CALIBRATION AND FREQUENCY

As prescribed in the 2002-03 QAPP, Section B7.

SS3-B8 INSPECTION/ACCEPTANCE OF SUPPLIES AND CONSUMABLES

As prescribed in the 2002-03 QAPP, Section B8.

SS3-B9 NON-DIRECT MEASUREMENTS

Historical data collected under approved Clean Rivers Program QAPPs beginning in 1996 will be used for comparison to special sampling site data.

SS3-B10 DATA MANAGEMENT

The data collected will be managed according to the Data Management Plan, Appendix E of the 2002-03 QAPP. The data will be sent to TCEQ for loading into SWQM database. All data collected will be kept on file by the GBRA, and by the Wimberley Valley Watershed Association.

SS3-C1 ASSESSMENTS AND RESPONSE ACTIONS

As appropriate, the Table C1.1 in Section C1 of the 2002-03 QAPP will be followed, with the addition of the following assessment activity:

SS3-Table C1.1 Assessments and Response Requirements

Assessment Activity	Approximate Schedule	Responsible Party	Scope	Response Requirements
Monitoring Systems Audit of WVWA	Once/contract	GBRA	Field sampling, handling and measurement; facility review; and data management as they relate to CRP	30 days to respond in writing to the GBRA. GBRA will report problems to TNRCC in Progress Report.

SS3-C2 REPORTS TO MANAGEMENT

Reports to GBRA Project Management, and TCEQ Project Management

Deliverables and their dates of completion for the special study can be found in the work plan, under Task 3. Only data that has been validated and verified will be reported in the report of findings.

SS3-D1 DATA REVIEW, VERIFICATION, AND VALIDATION

As prescribed in the 2002-03 QAPP, Section D1.

SS3-D2 VERIFICATION AND VALIDATION METHODS

As prescribed in the 2002-03 QAPP, Section D2.

SS3-D3 RECONCILIATION WITH USERS REQUIREMENTS

As prescribed in the 2002-03 QAPP, Section D3

SS3-ATTACHMENT 1 TABLE OF SPECIAL STUDY MONITORING LOCATIONS