

# Final Report

## 2014 WATER QUALITY MANAGEMENT PLAN UPDATE

Prepared by the Environment and Development Department with funding from the Texas  
Commission on Environmental Quality

North Central Texas Council of Governments

August 15, 2014



North Central Texas  
Council of Governments

## Contents

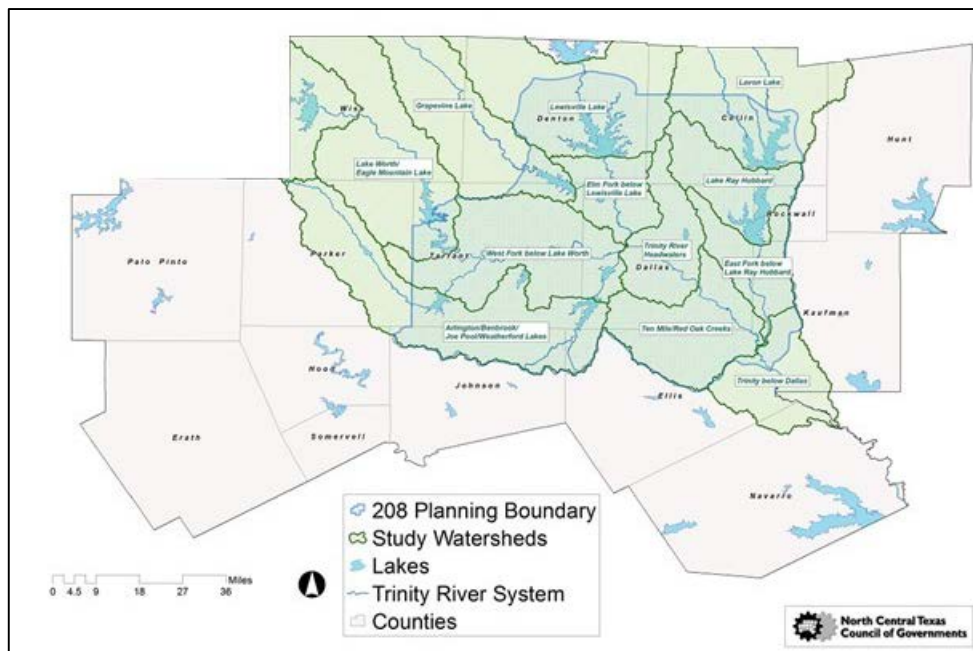
<b>Executive Summary and Introduction</b> .....	4
<b>Project Significance and Background</b> .....	4
<b>Project Studies and Coordination Activities</b> .....	5
<b>Methods</b> .....	7
<b>Assumptions and Procedures</b> .....	8
<b>Results and Observations</b> .....	9
<b>Wastewater Treatment Capacity</b> .....	9
<b>Water Quality Concerns – Municipal Stormwater</b> .....	9
<b>Water Quality Concerns – TMDLs</b> .....	9
<b>Discussion / Summary</b> .....	12
<b>References</b> .....	13
<b>Attachment 1 – Quality Assurance Project Plan</b> .....	14
Quality Assurance Project Plan.....	16
(QAPP).....	16
Secondary Data Needed .....	25
Annual QAPP Reviews and Revisions .....	30
Problem/Need Statement: .....	38
General Project Description: .....	38
A2 TABLE OF CONTENTS .....	44
<b>A3 Distribution List</b> .....	47
<b>Section 1.0 – Project Objectives, organization, and responsibilities</b> .....	47
<b>1.1 Purpose</b> .....	48
<b>1.2 Objectives</b> .....	48
1.3 Secondary Data Needed .....	49
<b>1.4 Data Analyses</b> .....	51
<b>1.5 Project Participants and Responsibilities</b> .....	51
TCEQ .....	51
NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS .....	52
FIGURE 1.5.1 ORGANIZATION CHART .....	53
<b>Section 2.0 - Sources of secondary data</b> .....	54
<b>2.1 Secondary Data Required</b> .....	54
<b>2.2 Source Selection Rationale</b> .....	54
<b>2.3 Secondary Data Sources</b> .....	55
<b>Section 3.0 – Assuring Quality of secondary data</b> .....	55
<b>3.1 Quality Requirements</b> .....	55

<b>3.2 Quality Requirements Disclaimer</b> .....	56
<b>Section 4.0 –Data Reduction, Data Validation, and Data Reporting</b> .....	56
<b>4.1 Data reduction procedures</b> .....	56
<b>4.2 Data validation procedures</b> .....	56
<b>4.3 Final Project Documents</b> .....	56
<b>4.4 Data Retention and Archiving</b> .....	57
TABLE 4.4.1 – DATA RETENTION TIMES AND METHODS .....	58
<b>Attachment 2 Quarterly Progress Reports</b> .....	69

## Executive Summary and Introduction

The North Central Texas Council of Governments (NCTCOG) is the designated water quality management planning agency for the North Central Texas region. Protection of water resources and the provision of water supply and wastewater services are overseen on a statewide basis by the Texas Commission on Environmental Quality (TCEQ), who in turn rely on the NCTCOG for oversight, conformity review, and evaluation of capacity for wastewater services in our region.

Figure 1 Water Quality Management Plan Project Area



## Project Significance and Background

The annual Water Quality Management Plan (WQMP) updates the wastewater treatment capacity and service area evaluations within the 208 Planning Boundary area of the Upper Trinity River Basin through periodic assessment of both joint regional wastewater treatment systems and community plants. Monthly Average Daily Flow rates are obtained for all regional wastewater treatment plants from the EPA, and their future expansion plans are researched. Wastewater generation projections (through 2040 in the current Plan) are made using NCTCOG population forecasts based on the most current US Census. The WQMP also details upgrades in wastewater infrastructure funded either through grants and loans from the State Revolving Fund or financed by individual municipalities, utility districts, or other entities.

The resulting WQMP is divided into sections which represent developments in each of the 13 Watershed groups that make up the Upper Trinity Basin project area as shown in Figure 1. Watersheds define natural regions that feed a particular stream system, and activities within the watershed area influence the ecological health of that system and all waters downstream.

Each Water Quality Management Plan is reviewed by the Water Resources Council, municipalities, and any other interested entities. A formal public hearing offers the opportunity for individual stakeholders from the planning area to review and comment on the Plan.

After the public hearing staff reviews and incorporates any modifications to the final plan, which is then presented to NCTCOG's Executive Board for adoption. Following adoption by the NCTCOG Board, the annual WQMP is submitted to the Texas Council on Environmental Quality (TCEQ) and EPA Region 6 for review. Finally, the locally adopted

plan is certified by the Board of the TCEQ.

### Project Studies and Coordination Activities

The WQMP is comprised of the following elements:

- Current and projected populations for incorporated entities in the NCTCOG planning area
  - Based on 2013 NCTCOG Population Estimates, and population projections from the NCTCOG 2040 forecast.
- Current wastewater service areas for joint systems and community systems oriented by 12-digit Hydrologic Unit Code (HUC) geographic framework
  - Derived from previous year’s GIS files, reviewed and corrected, if necessary, based on input from representatives of the wastewater service provider and/or city personnel responsible for mapping wastewater service area. These service areas are also assigned to each 12 digit Hydrologic Unit Code Subwatershed using GIS Analysis.
- New or updated NCTCOG recommended Management Agency Designations received since the last WQMP update
  - Incorporates any reviewed wastewater service area changes received from TCEQ since the previous Water Quality Management Plan.
- Written recommendations to the TCEQ regarding conformance review of state revolving loan fund projects, new and renewal wastewater permits, or other projects that represent needed modifications to the WQMP
  - Based on permit modification notices received from the TCEQ and published State Revolving Funds Projects
  - Incorporates review with the affected wastewater service provider.
- Responses to any specific wastewater facility project review as requested by the TCEQ
  - Incorporates evaluation and comparison of 2014 and NCTCOG population projections, wastewater service areas for joint systems and community systems, and consideration of regional treatment strategies and effective service arrangements to meet wastewater treatment needs
- Updated wastewater treatment plant flows based on TCEQ reports and EPA’s Enforcement and Compliance History Online (ECHO) database.

Data required for the WQMP Update are acquired from records compiled by the TCEQ and EPA, personal interviews and datasets provided by the wastewater treatment providers, and other public sources detailed below. These data are the basis for the analysis and will be updated on at least an annual basis.

For the Wastewater Treatment Plant Database, the primary data required are described in Table 1 below.

*Table 1*

Data Needed	Type of Data	Age of Data
Wastewater discharge permits, permit renewals, and permit data revisions	Paper notices received from TCEQ; Electronic data acquired from EPA and TCEQ	Data is maintained year-to-year; changes since the previous year are entered

Average Daily Flow Data	Monthly average daily effluent (Flow) as reported to EPA	Data is averaged over a one year period, January 1 to December 31 of the year previous to the WQMP update year.
-------------------------	--	---

To maintain and update the Wastewater Treatment Outfall Database, the data described in Table 2 are required.

*Table 2*

<b>Data Needed</b>	<b>Type of Data</b>	<b>Age of Data</b>
The outfall locations for permitted municipal wastewater treatment facilities	GIS Shapefile downloaded annually from TCEQ 'Site Layers' website	Data is maintained year-to-year; changes since the previous year are entered

In order to maintain a spatial dataset of Wastewater Treatment Provider Service Area Boundaries, the boundaries are updated as described in Table 3.

*Table 3*

<b>Data Needed</b>	<b>Type of Data</b>	<b>Age of Data</b>
Current boundaries of the areas served by the Wastewater Treatment Plants	GIS Shapefiles and paper maps acquired from Wastewater Treatment Service Providers	Data is maintained year-to-year; GIS Shapefiles are updated as required to reflect changes since the previous year

The data described in Table 4 are used to evaluate the relationship between each service area, the provider's planned capacity growth, and the anticipated population growth in that area. The WQMP compares growth plans with population projections to graphically portray whether treatment capacity will keep up with projected growth.

*Table 4*

<b>Data Needed</b>	<b>Type of Data</b>	<b>Age of Data</b>
Data acquired for Objectives 1 - 3	GIS Geodatabase incorporating Wastewater Treatment Plant geographies, watersheds, city and district boundaries, Census data and NCTCOG population projections	Data are maintained year-to-year; GIS Shapefiles are updated as required to reflect changes since the previous year, and the Water Quality Management Plan is revised to incorporate these changes

NCTCOG 2013 population and employment estimates	Shapefiles and database acquired from US 2010 Census; NCTCOG estimated population by city and county for each year	New NCTCOG estimates every year
NCTCOG Population forecast - 2040	Shapefiles and database produced by NCTCOG Research and Information Department	Updated and approved by the NCTCOG Board every few years
City Boundaries		Updated continuously as required
Traffic Survey Zones		Updated as required
Land Use Data		Updated on an irregular basis – the newly acquired data used in the WQMP 2014 is a 2010 land use update compared with a previous 2005 land use dataset.
Aerial Photography Data	Color aerial photography as a digital GIS Layer	Flown every 2 years under contract to NCTCOG
Service Area Boundaries	GIS shapefiles and databases	Updated by Regional and Community Wastewater Service Providers as required
Hydrologic Data	GIS shapefiles and database	Maintained by USDA; dates not specified.
208 Boundary	GIS shapefiles and database	Defined in 1977

All these data are entered in a Geographical Information Systems (GIS) GeoDataBase for subsequent spatial analysis.

## Methods

The intent of the WQMP is to acquire, compile, and integrate three datasets related to wastewater infrastructure and to utilize previously compiled data to update GIS analyses.

The most current service area data is loaded into ArcMap along with any newly acquired data. Existing boundaries in the current dataset are adjusted to match new data if required and existing base map data are used to digitize boundaries based on roads or hydrographic descriptions. The boundaries are then edited to remove any overlaps that might cause double-counting. Area is recalculated on the new service area boundaries to establish the base areas for population calculations. Then current Traffic Safety Zone (TSZ) boundaries are used to determine the 2040 projected population value.

The North Central Texas Council of Governments Transportation Department creates long-range demographic forecasts for use in infrastructure planning in North Central Texas, and is the source of the population figures that are part of the TSZ Dataset. These forecasts are the result of a process that includes use of various specialized, statistical models

to allocate regional projections of population to planning districts. The multi-stage process began with control totals for population and employment growth in the twelve counties that comprise the Metropolitan Planning Area. The control totals were allocated to successively smaller planning geographies first using an adaptation of the University of Texas at Austin's Gravity Land Use Model and then using a proprietary disaggregation model. NCTCOG's Transportation Department provided the technical expertise for this effort.

Using ArcMap geoprocessing tools, the new service area layer and the TSZ base layer are processed, resulting in a block of TSZ's coextensive with the bounds of the Service areas. Area is calculated for the 'intersected' TSZ's, and population proportional to that area is calculated. The same process is followed using the service area boundaries and 2010 Census tracts to calculate the current population in each service area. To calculate population values and projections by subwatershed, the TSZ and 2010 Census data are resampled and distributed proportionately among the watersheds.

The compiled datasets, describing Wastewater Treatment facilities (WWTPs), WWTP outfalls, demographic data and service areas are compared to each other based on TCEQ permit number or other shared identifying feature. Staff will ensure integration across all datasets, matching wastewater permits in the facility database with corresponding outfall location(s) in the outfall database, and (if applicable) with a service area boundary in the demographic/service area database. NCTCOG staff will attempt to reconcile any discrepancies to provide an integrated final product. This review will happen annually, though there may be specific permits reviewed upon request or based on data received subsequent to the annual review on an ad hoc basis. All reviews and changes are documented in the Final Report.

Service areas, Land Use changes, current population, and population projections are then displayed in maps and tables. These maps and tables represent the wastewater treatment capacities and 2013's Average Daily Flow data, along with other pertinent data in each of the 13 watersheds that comprise the region.

### **Assumptions and Procedures**

- Yearly average of monthly average daily flows approximates average flow and remains constant over time.
- Proportions of contribution from each category of flow are as reported by EPA (June 2000) referencing Association of Metropolitan Sewerage Agencies 1997 Financial Survey figures:
  - Inflow & Infiltration = 33 gallons per capita per day
  - Commercial & Industrial Flow = 20% of Average Flow (including combined sewer); 21% (corrected figure excluding combined sewer effects since Texas has separate sewer facilities for sanitary and storm sewers)
  - Residential Flow = 55% of Average Flow (including combined sewer); 57%(corrected)
- Service areas are defined by the destination of wastewater to a particular treatment plant
- Service areas default to 2010 current city boundaries for community systems
- Population figures for joint systems were calculated with GIS tools using 2013 NCTCOG population estimates, 2010 current city boundaries and updated service area boundaries
- Population is evenly distributed within a Census Tract
- Population assigned to a service area is proportional to the area of the Census Tracts that lie within that service area
- The entire population within incorporated boundaries of a community or joint wastewater treatment system is assumed to be served

NCTCOG 2013 population data per city and NCTCOG 2040 population projections were used for projecting community systems wastewater capacity needs going forward.



A handful of cities intersect the 208 planning boundary because of growth in the community, but have not been historically included and do not currently discharge treated wastewater within the 208 boundary. Planning assessments will not be performed for the communities fitting this description, Cities that are managed by Joint Regional Wastewater Systems are considered as part of a regional system and will be included.

## **Results and Observations**

### **Wastewater Treatment Capacity**

The data presented in the Plan demonstrate that satisfactory performance and plans for capacity expansion will continue to meet wastewater treatment needs during the planning period.

In the 2014 WQMP, wastewater treatment performance for both regional joint systems and community plants is evaluated and the adequacy of capacity increases is determined by comparison with current population and growth projections. An additional element provided in this year's update is 2010 Land Use dataset, which has been compared to the 2005 Land Use dataset to illustrate growth by the changing proportions of land uses in the study area.

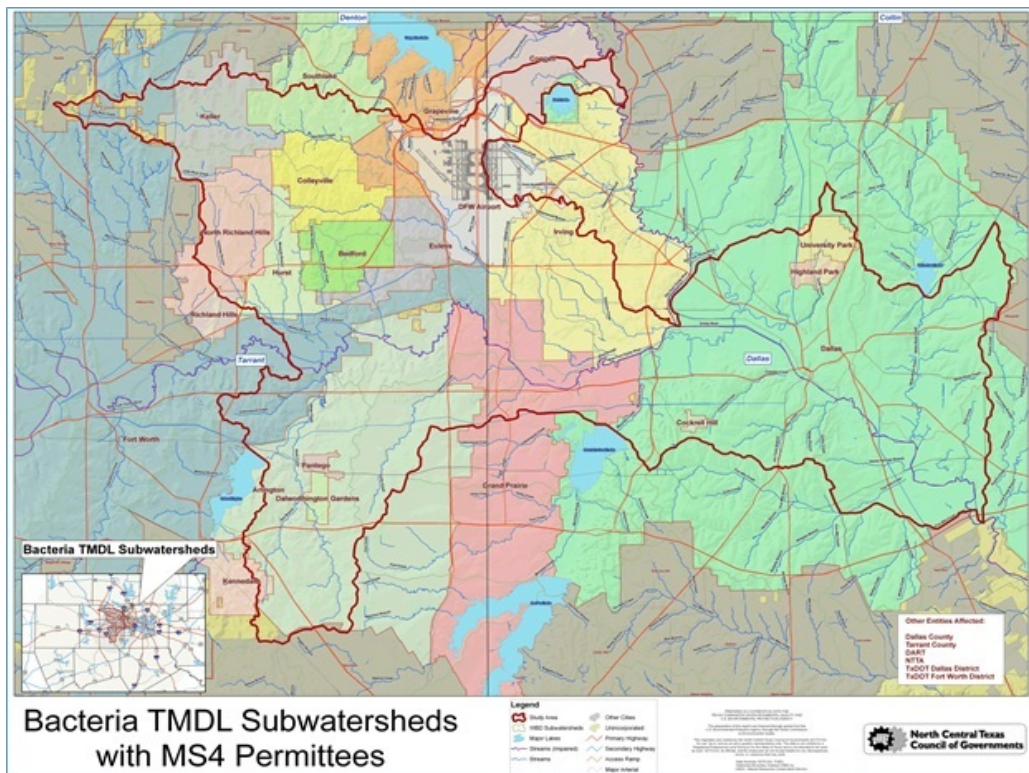
The data presented in the Plan demonstrate that satisfactory performance and plans for capacity expansion will continue to meet wastewater treatment needs during the planning period.

### **Water Quality Concerns – Municipal Stormwater**

With the implementation of Municipal Separate Stormwater Sewer System (MS4) permitting, water quality in the largest municipalities in the planning region (Phase 1 Cities) is now periodically sampled and tested under their MS4 permits. Application of Best Management Practices provided in their permits are re-evaluated on a 5 year renewal cycle and this review will support gradual improvement in the quality of their stormwater.

### **Water Quality Concerns – TMDLs**

In December 2013, the *Implementation Plan (I-Plan) for 17 Total Maximum Daily Loads for Bacteria in the Greater Trinity River Region* was approved by the TCEQ Commissioners. The I-Plan describes strategies which can be taken to reduce the levels of bacteria in portions of the Trinity River and its tributaries that are included on the 303(d) list for bacteria. These actions and target levels for reduced bacteria are determined by stakeholders in meetings organized by the NCTCOG and funded by the TCEQ. Figure 5 shows the cities within the boundary of this I-Plan.



The areas covered by the I-Plan include the watersheds for a continuous segment of the Upper Trinity River beginning at the confluence of Five Mile Creek and running upstream, past the confluence with the Elm Fork Trinity River, to the confluence of Village Creek with the West Fork Trinity River (Fig 2). Also included are two tributaries off of the Elm Fork Trinity River, Cottonwood Branch and Grapevine Creek, and tributaries of the West Fork Trinity Segments 0805\_03 and 0805\_04 represent the portion of the Upper Trinity included in the I-Plan. The watersheds for these segments encompass the central portion of the City of Dallas as well as the cities of Cockrell Hill, University Park, and the Town of Highland Park. The two tributaries of the Elm Fork Trinity River, Grapevine Creek and Cottonwood Branch – 0822B and 0822A respectively, have smaller watersheds, involving the cities of Coppell and Irving and the Dallas-Fort Worth International Airport.

The segments of the West Fork Trinity River included in the I-Plan are 0841\_01 and 0841\_02. In addition to the river segment, there are 11 tributaries that are also impaired for bacteria. They are: Bear Creek, Arbor Creek, Copart Branch, Mountain Creek, Dalworth Creek, Delaware Creek, Estelle Creek, Johnson Creek, Kee Branch, Rush Creek, Village Creek, and West Irving Branch. The watersheds of 0841 cover a significant portion of the central Metroplex cities, including Haslet, Keller, Southlake, Colleyville, and North Richland Hills in the northwest; Fort Worth, Hurst, Bedford, Euless, and Irving in the central portion; and Arlington, Grand Prairie, Kennedale, Pantego, and Dalworthington Gardens in the south are included in this watershed of the West Fork of the Trinity River.

In addition to the cities that are parties to the I-Plan, a number of other jurisdictions and agencies in these watersheds are included because they have MS4 permits regulating their wastewater discharges. These include Dallas County, Tarrant County, Dallas Area Rapid Transit (DART), North Texas Tollway Authority (NTTA), and Texas Department of Transportation (TxDOT) Dallas and Fort Worth Districts.

The overall population in the greater bacteria total maximum daily load (TMDL) watershed is 1.33 million people according to 2010 U.S. Census data and is fairly densely populated with urban and suburban clusters.

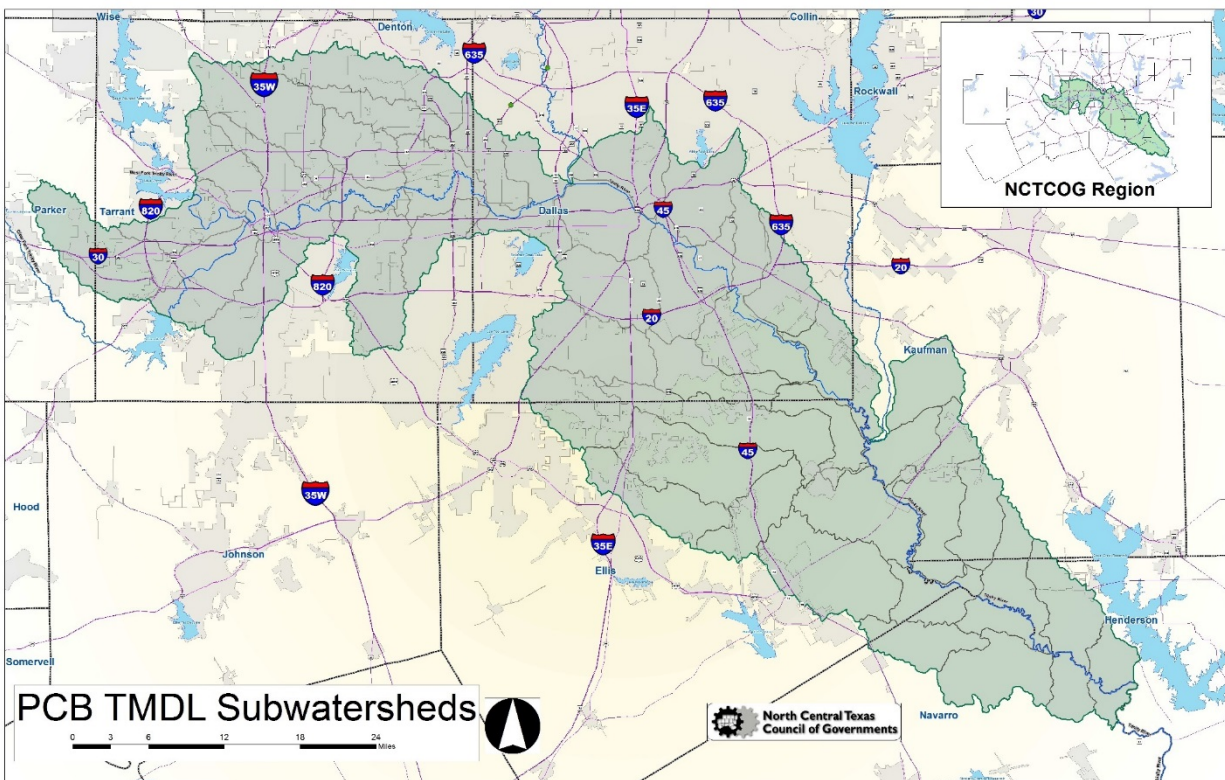
The overall population in the greater bacteria TMDL watershed is 1.33 million people according to 2010 U.S. Census data and is fairly densely populated with urban and suburban clusters. Central to any I-Plan are public participation and stakeholder involvement and the Environment & Development Department spent a year hosting a series of meetings with regional stakeholders, interested groups and individuals, and technical experts in order to determine how best to meet the TCEQ goal of reducing bacteria concentrations to within acceptable risk levels for contact recreation.

The entities directly involved in the creation of the I-Plan represented municipalities, districts and transportation interests, and non-governmental organizations (NGOs). The group tasked with approving the I-Plan is called the Coordination Committee. The Committee’s members are: the cities of Arlington, Bedford, Cockrell Hill, Coppell, Euless, Dallas, Fort Worth, Grand Prairie, Grapevine, Irving, Keller, Kennedale, and North Richland Hills; and the utilities and districts of Dallas County Utility & Reclamation District, Dalworth Soil & Water Conservation District, Park Cities Municipal District, Tarrant Regional Water District, and Trinity River Authority.

The “Implementation Plan for Seventeen Total Maximum Daily Loads for Bacteria in the Greater Trinity River Region” (I-Plan) will be finalized by the TCEQ in December, 2014. Implementation of Best Management Practices should have

a  
positive

Figure 2 PCB Subwatersheds



impact on bacteria levels in the covered watersheds.

**PCB and Dioxin Impairment**

Bacteria is not the only impairment impacting the Trinity River. In 1996, segments of the Trinity were first listed as impaired for Polychlorinated Biphenyls (PCBs) on the state’s 303(d) list which references a section of the Clean Water Act mandating the evaluation of a state’s water bodies. In 2002, the Texas Department of State Health Services issued a fish consumption advisory for 150 miles of the Trinity River due to PCBs in fish tissue. In 2010, another fish consumption advisory expanded the area of impairment to cover 12 assessment units. Also in 2010, dioxin was listed

as impairment for the same stream segments as those impacted by PCBs. Figure 3 shows the extent of the PCB, and by extension, dioxin, and watersheds in the NCTCOG region. The Trinity's PCB and dioxin impairments begin in south Navarro County running upstream to the confluence with the Elm Fork (Segment 0805). From there, it proceeds upstream along the West Fork (Segment 0841) to below Lake Worth (Segment 0806) and to the confluence with the Clear Fork. A portion of the Clear Fork below Lake Benbrook Dam is also included (Segment 0829). The combined watersheds of all four segments cover 1,540 square miles.

In September 2013, the TCEQ tasked the NCTCOG with facilitating a program to coordinate stakeholder-led efforts to address potential solutions to the PCB impairment. PCBs are a challenging contaminant having been banned since 1976, leaving few, if any, potential current sources. PCBs may be present in sediments or on surfaces slowly leaching or releasing them into stormwater or groundwater.

### **Discussion / Summary**

Under the oversight of the Water Resources Council, NCTCOG has prepared the Water Quality Management Plan Update 2014 in order to follow the development and adequacy of water treatment capacity in our region. Wastewater treatment performance for regional joint system and community plants has been tracked and summarized. The infrastructure to treat and transport municipal wastewater is keeping up with population increases and current plans meet the requirements of projected growth through 2040.

Wastewater overflow due to insufficient treatment capacity causes surface water contamination from bacteria, solids, and other pollutants normally removed in treatment processes. As part of water quality management planning, NCTCOG has historically provided periodic assessment of wastewater treatment planning activities and needs. This objective is addressed by the NCTCOG continuing to monitor and regularly update wastewater treatment service area information.

The transmission pipelines that convey wastewater from a source to the treatment facility are an integral part of the treatment system. Decaying or insufficient pipelines allow wastewater to seep into the ground, which can surface when the ground becomes saturated. Focusing attention on infrastructure beyond treatment capacity, NCTCOG administers the Community Development Fund grant of the Texas Community Development Program. NCTCOG also follows regional wastewater infrastructure updates by monitoring the Texas Water Development Board's Clean Water State Revolving Fund, and contacting individual municipalities concerning development or upgrade of their collection or community treatment systems.

NCTCOG, as a regional planning agency, supplements local resources by providing planning, policy assistance, and information for local agencies to use in compliance efforts. NCTCOG committees updates committees on any new or upcoming regulation and maintains access to regulatory information as well as Council meetings and agendas, through the NCTCOG Web site. Through its monitoring and liaison efforts, NCTCOG promotes municipal involvement in early stages of wastewater system treatment planning which will conserve public monies over the long term.

Whenever possible NCTCOG promotes reuse of treated wastewater. Wastewater reuse enhances water conservation and particularly conserves and supplements raw drinking water supplies. The *State Water Plan*, as compiled by the Texas Water Development Board, identifies conservation as a valuable water supply tool for every region in Texas. NCTCOG currently identifies and documents projects where treated effluent is used for alternative purposes.

## References

### *TCEQ Data*

TCEQ wastewater data from

- 2013 – 2014 Notices regarding wastewater permit actions (i.e. new permits, permit renewals, permit information changes, etc.) issued via mail by the TCEQ
- GIS Layers downloaded from the TCEQ website, including wastewater outfalls, Certificate of Convenience layers, etc. as needed

### *Census Data*

2010 Census Redistricting Data (Public Law (P.L.) 94-171) Summary File— Texas; prepared by the U.S. Census Bureau, 2011. 2013 Population estimates provided by NCTCOG

### *North Central Texas Council of Governments*

City Boundary Data; Hydrologic Data; Traffic Survey Zone Data; Service Area Boundary Data; Wastewater Outfall Data, Population

The boundary and hydrologic GIS datasets cover (at a minimum) the geographic extent of the Metropolitan Planning Area; the Traffic Survey Zone dataset has a 10 county extent, and includes all the area within the EPA 208 Planning Boundary. The GIS Service Area Boundary dataset is updated continually based on information supplied by Regional and Community wastewater service providers.

Citation information for these GIS datasets:

**Originator:** North Central Texas Council of Governments

**Purpose:** Mapping and Analysis

**Acquired 2014**

**Maintenance and Update Frequency:** Continually

**Geospatial Data Presentation Form:** vector digital data

**Online Linkage:** <<http://www.dfwmaps.com/clearinghouse/>>

### *Aerial Photography Data*

NCTCOG Acquired 2014

**Attachment 1 – Quality Assurance Project Plan**



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Protecting Texas by Reducing and Preventing Pollution*

December 19, 2013

Samuel Brush  
North Central Texas Council of Governments  
616 Six Flags Drive  
Arlington, Texas 76005-5888

Re: North Central Texas Council of Governments Water Quality Management Plan  
Update Quality Assurance Project Plan  
Approved: December 19, 2013 (Expiration date: December 19, 2016)

Dear Mr. Brush:

The above named QAPP has been approved. The approved QAPP and signature pages are enclosed as documentation of approval.

In accordance with the terms of the QAPP, **please ensure that copies of this QAPP and any subsequent amendments are distributed to each sub-tier participant as noted in Section A3 of the QAPP.** This approval letter must be available for review during a monitoring systems audit.

Should you have questions, please contact me at (512) 239-1702.

Sincerely,

A handwritten signature in blue ink, appearing to read "Sandra Arismendez".

Sandra S. Arismendez, Ph.D.  
Lead Non-Point Source Quality Assurance Specialist

enclosure

cc: Bernadette Davis, Project Manager, MC 203

**Water Quality Management Plan Update  
Quality Assurance Project Plan  
(QAPP)**

North Central Texas Council of Governments  
P.O. Box 5888 Arlington,  
TX 76005-5888

Funding Source:

Nonpoint Source Program CWA §319(h)  
Prepared in cooperation with the Texas Commission on Environmental Quality  
and the U.S. Environmental Protection Agency  
Federal ID #48000048

Effective Period: Three years from date of final approval

Questions concerning this QAPP should be directed to:

Samuel Brush  
Project Manager  
North Central Texas Council of Governments  
P.O. Box 5888 Arlington,  
TX 76005-5888  
(817) 695-9213  
[sbrush@nctcog.org](mailto:sbrush@nctcog.org)



**A1 APPROVAL PAGE**

By signing this document, signatories acknowledge their respective organizations' awareness of and commitment to requirements contained in this QAPP in accordance with roles and responsibilities as described in Section A4 Project/Task Organization.

**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**

**Monitoring Division**

---

Sharon R.Coleman, TCEQ QA Manager    Date

---

Sharon R.Coleman, Acting Lead NPS Specialist, Date  
Quality Assurance Team

**Water Quality Planning Division**

---

Kyle Girten , Team Leader    Date  
Nonpoint Source Program

---

Nancy Ragland, Team Leader        Date  
Data Management and Analysis

---

Anju Chalise, NPS QA Specialist    Date  
Nonpoint Source Program

---

Bernadette Davis TCEQ NPS, Project Mgr.    Date  
Nonpoint Source Program

**North Central Texas Council of Governments**

---

Sam Brush  
(817) 695-9213

Date

---

Doug Anthony  
817-695-9139

Date

---

Scott Miller  
(817) 695-9238

Date

North Central Texas Council of Governments (NCTCOG) will secure written documentation from additional project participants stating the organization's awareness of and commitment to requirements contained in this QAPP and any amendments or revisions of this plan. The TCEQ primary contractor (NCTCOG) will maintain this documentation as part of the project's quality assurance records. This documentation will be available for review. Copies of this documentation will also be submitted as deliverables to the TCEQ NPS Project Manager within 30 days of final TCEQ approval of the QAPP.  
(See sample letter in Attachment 1 of this document.)

## A2 TABLE OF CONTENTS

A1 Approval Page .....	17
A2 Table of Contents .....	19
A3 Distribution List .....	20
A4 Project/Task Organization.....	21
Figure A4.1 - Organization Chart .....	23
A5 Problem Definition/Background .....	24
A6 Project/Task Description .....	26
Figure A6.1 – Geospatial Data.....	26
A7 Quality Objectives and Criteria.....	31
A9 Documents and Records.....	32
B9 Non-direct Measurement.....	33
Table B9.2 – Geospatial Data Sources Used for Analysis.....	33
B10 Data Management.....	34
C2 Reports to Management.....	35
D1 Data Review, Verification, and Validation .....	36
Appendix A. Area Location Map.....	37
Appendix B. Contract Scope of Work.....	38

## **A3 DISTRIBUTION LIST**

The Lead NPS QA Specialist will provide original versions of this project plan and any amendments or revisions of this plan to the TCEQ NPS Project Manager and the NCTCOG Project Manager. The TCEQ NPS Project Manager will provide copies to the TCEQ Data Management and Analysis Team Leader and EPA Project Officer within two weeks of approval. The TCEQ NPS Project Manager will document receipt of the plan and maintain this documentation as part of the project's quality assurance records. This documentation will be available for review.

Nancy Ragland, Team Leader  
Data Management and Analysis  
MC-234  
(512) 239-6546

**U.S. Environmental Protection Agency Region 6**  
**Water Quality Protection Division**  
**Assistance Program Branch**  
**1445 Ross Avenue**  
**Suite # 1200**  
**Dallas, TX 75202-2733**

Anthony Suttice , Project Officer  
(214) 665-8590

*TCEQ NPS Project Manager will provide the name and contact number of the EPA Project Officer if the QAPP is funded by a CWA Section 604(b) Grant.*

The North Central Texas Council of Governments (NCTCOG) will provide copies of this project plan and any amendments or revisions of this plan to each project participant defined in the list below. The NCTCOG will document receipt of the plan by each participant and maintain this documentation as part of the project's quality assurance records. This documentation will be available for review.

North Central Texas Council of Governments  
P.O. Box 5888 Arlington,  
TX 76005-5888  
Sam Brush, Project Manager  
(817) 695-9213

## **A4 PROJECT/TASK ORGANIZATION**

*Include the names, duties, and responsibilities of all key project participants. Roles and responsibilities should be added to the following shell text as appropriate.*

### **TCEQ**

#### **Monitoring Division**

##### **Sharon Coleman**

###### **Acting Lead NPS QA Specialist**

Assists the TCEQ Project Manager in QA related issues. Serves on planning team for NPS projects. Participates in the planning, development, approval, implementation, and maintenance of the QAPP. Determines conformance with program quality system requirements. Coordinates or performs audits, as deemed necessary and using a wide variety of assessment guidelines and tools. Concurs with proposed corrective actions and verifications. Monitors corrective action. Provides technical expertise and/or consultation on quality services. Provides a point of contact at the TCEQ to resolve QA issues. Recommends to TCEQ management that work be stopped in order to safe guard project and programmatic objectives, worker safety, public health, or environmental protection.

#### **Water Quality Planning Division**

##### **Kyle Girtten , Team Leader**

###### **NPS Program**

Responsible for management and oversight of the TCEQ NPS Program. Oversees the development of QA guidance for the NPS program to be sure it is within pertinent frameworks of the TCEQ. Monitors the effectiveness of the program quality system. Reviews and approves all NPS projects, internal QA audits, corrective actions, reports, work plans, and contracts. Enforces corrective action, as required. Ensures NPS personnel are fully trained and adequately staffed.

##### **Bernadette Davis**

###### **TCEQ NPS Project Manager**

Maintains a thorough knowledge of work activities, commitments, deliverables, and time frames associated with projects. Develops lines of communication and working relationships between the contractor, the TCEQ, and the EPA. Tracks deliverables to ensure that tasks are completed as specified in the contract. Responsible for ensuring that the project deliverables are submitted on time and are of acceptable quality and quantity to achieve project objectives. Serves on planning team for NPS projects. Participates in the development, approval, implementation, and maintenance of the QAPP. Assists the TCEQ QAS in technical review of the QAPP. Responsible for verifying that the QAPP is followed by the contractor. Notifies the TCEQ QAS of particular circumstances which may adversely affect the quality of data derived from the collection and analysis of samples. Enforces corrective action.

**Anju Chalise****NPS Quality Assurance Specialist**

Assists Lead QAS with NPS QA management. Serves as liaison between NPS management and Agency QA management. Responsible for NPS guidance development related to program quality assurance. Serves on planning team for NPS projects. Participates in the development, approval, implementation, and maintenance of the QAPP.

**Cathy Anderson****NPS Data Manager**

Responsible for coordination and tracking of NPS data sets from initial submittal through NPS Project Manager review and approval. Ensures that data is reported following instructions in the SWQM Data Management Reference Guide (DMRG) (January 2012, or most current version). Runs automated data validation checks in SWQMIS and coordinates data verification and error correction with NPS Project Managers' data review. Generates SWQMIS summary reports to assist NPS Project Managers' data reviews. Provides training and guidance to NPS and Planning Agencies on technical data issues. Reviews QAPPs for valid stream monitoring stations. Checks validity of parameter codes, submitting entity code(s), collecting entity code(s), and monitoring type code(s). Develops and maintains data management-related standard operating procedures (SOP) for NPS data management. Serves on planning team for NPS projects.

**North Central Texas Council of Governments (NCTCOG)****Sam Brush****NCTCOG Project Manager**

Responsible for ensuring tasks and other requirements in the contract are executed on time and are of acceptable quality. Monitors and assesses the quality of work. Coordinates attendance at conference calls, training, meetings, and related project activities with the TCEQ. Responsible for verifying the QAPP is followed and the project is producing data of known and acceptable quality. Ensures adequate training and supervision of all monitoring and data collection activities. Complies with corrective action requirements.

**Doug Anthony****NCTCOG QAO**

Responsible for coordinating development and implementation of the QA program. Responsible for writing and maintaining the QAPP. Responsible for maintaining records of QAPP distribution, including appendices and amendments. Responsible for maintaining written records of sub-tier commitment to requirements specified in this QAPP. Responsible for identifying, receiving, and maintaining project quality assurance records. Responsible for coordinating with the TCEQ QAS to resolve QA- related issues. Notifies the contractor Project Manager and TCEQ Project Manager of particular circumstances which may adversely affect the quality of data.

**Scott Miller****NCTCOG Data Manager**

Responsible for the acquisition, verification, and transfer of data to the TCEQ NPS Project Manager. Oversees data management for the project. Provides the point of contact for the TCEQ

NPS Project Manager to resolve issues related to the data and assumes responsibility for the correction of any data errors.

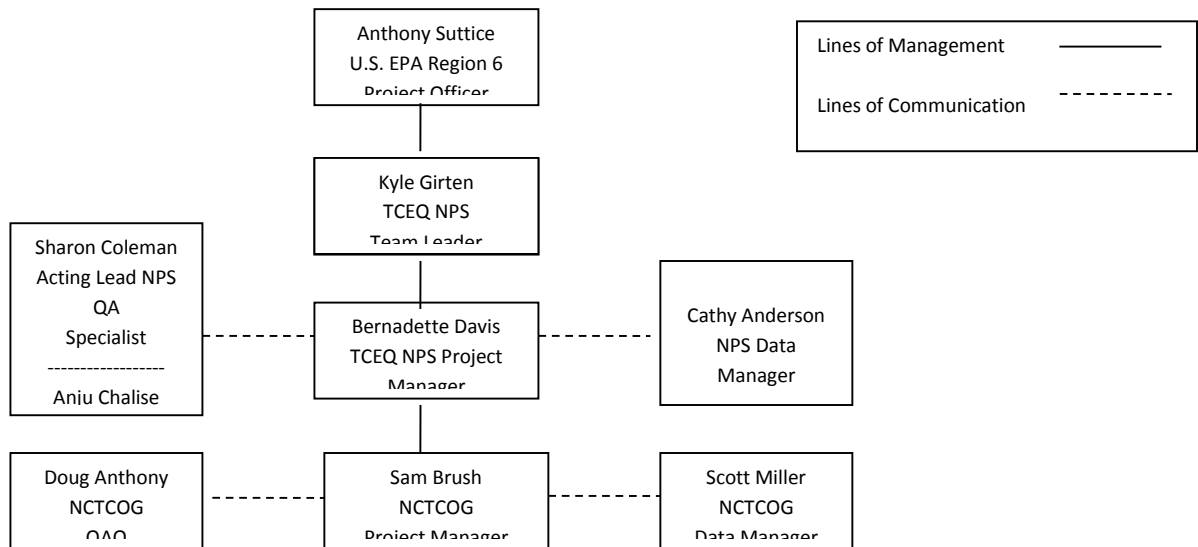
## U.S. EPA Region 6

### Anthony Suttice

#### EPA Project Officer

Responsible for managing the CWA Section 319 funded grant on the behalf on EPA. Assists the TCEQ in approving projects that are consistent with the management goals designated under the State's NPS management plan and meet federal guidance. Coordinates the review of project workplans, draft deliverables, and works with the State in making these items approvable. Meets with the State at least semi-annually to evaluate the progress of each project and when conditions permit, participate in a site visit on the project. Fosters communication within EPA by updating management and others, both verbally and in writing, on the progress of the State's program and on other issues as they arise. Assists the regional NPS coordinator in tracking a State's annual progress in its management of the NPS program. Assists in grant close-out procedures ensuring all deliverables have been satisfied prior to closing a grant.

**Figure A4.1. Organization Chart - Lines of Communication**



## **A5 PROBLEM DEFINITION/BACKGROUND**

The 12-county North Central Texas Metropolitan Planning Region (Region) is growing rapidly. By the 2040 Census the population is estimated to increase by an additional 4.1 million people over the 2010 US Census figure. Wastewater infrastructure can be an appreciable source of fecal bacteria, and the Region has a large number of water bodies already with contact recreation impairments based on elevated indicator bacteria levels. The increase in population will continue to impact the quality of the region's water resources and drive the need for expanded and improved wastewater infrastructure. Wastewater utilities and water quality managers have a need for current information and data from which to make informed decisions on both the local and regional levels. Additionally, the State of Texas' Water Quality Management Plan (WQMP) relies on accurate local data.

As part of an annual 604(b) grant project, the North Central Texas Council of Governments (NCTCOG) has assisted the Texas Commission on Environmental Quality (TCEQ) in collecting and assessing a variety of data sources related to wastewater infrastructure and discharge permits in the Region. This information includes:

- permit information and status of permitted facilities,
- permitted outfall locations, and
- sanitary sewer service area boundaries.

NCTCOG collects, analyzes, and places the data in a coordinated set of databases and spatial datasets. NCTCOG then submits the collected data to TCEQ on an annual basis for inclusion in the State WQMP, uses it to support regional water quality projects, and makes it available locally to support wastewater infrastructure decisions and related efforts.

This QAPP is reviewed by the TCEQ to help ensure that data generated for the purposes described above are scientifically valid and legally defensible. ~~This process will ensure that all data submitted to SWQMIS have been collected and analyzed in a way that helps to guarantee their reliability and therefore can be used in programs deemed appropriate by the TCEQ.~~

## **A6 PROJECT/TASK DESCRIPTION**

The objective of this project plan is to document how NCTCOG will acquire, review, and compile data related to wastewater infrastructure in the Region. This project will involve four primary objectives.

The first objective is to maintain and update a database of information regarding permitted wastewater facilities in the Region. NCTCOG has previously constructed a Wastewater Treatment Permit Database (WWTPD) in Microsoft Access that allows the controlled input of data obtained from permit



notices. NCTCOG converts the information in paper notices received from the TCEQ into the WWTPD via quality-assured data entry. Notices to be input include new wastewater discharge permits, permit renewals, and permit data revisions. In addition to paper sources, each facility is located on the EPA's "Enforcement and Compliance History Online (ECHO) system (<http://www.epa.echo.gov/echo/index.html>), which links to discharge reports and varying other data, including copies of permits, etc. Outdated data is identified and removed from the WWTPD on an annual basis. Average daily flow data is collected using the USEPA ECHO online search, specifically searching effluent data in the Permit Compliance System (PCS) and Integrated Compliance Information System (ICIS) databases. The average daily flow data are the basis for calculations of sufficiency of plant capacity and watershed wastewater loading.

The second objective is to maintain and update a spatial dataset of wastewater treatment plant outfall locations. NCTCOG obtains a raw set of outfall locations from the TCEQ, and analyzes them against existing data. Where discrepancies exist, staff members investigate to ensure that the outfall database matches the records produced in the WWTPD described in the first objective. The Wastewater Treatment Outfall Database (WWTOD) is updated annually.

The third objective is to maintain and update a spatial dataset of the service area boundaries for wastewater treatment facilities in the region. The dataset includes all permitted domestic facilities, and is drawn from various data sources, including county Central Appraisal District spatial data sets for Municipal Utility Districts, proprietary local boundaries data from NCTCOG's GIS, and updated boundary data obtained from wastewater service providers. The Wastewater Service Area Database (WWSAD) is updated annually.

The fourth objective is to use the data generated in the first three tasks to update an evaluation of the spatial relationships between wastewater service areas and service capacities, and to evaluate future needs by comparing average daily flow rates, permitted capacities, and projected population growth. The purpose of this effort is to provide support for local decision-makers in considering the potential feasibility of pursuing regionalization of wastewater infrastructure on local or regional bases.

#### SECONDARY DATA NEEDED

The secondary data needed for this project and to meet project objectives is restricted to four primary sources.

Data needed for the first objective (WWTPD) are the notices regarding wastewater permit actions (i.e. new permits, permit renewals, permit information changes, etc.) issued via mail by the TCEQ, compared with data from the EPA's "Enforcement and Compliance History Online (ECHO) system.

The data needed for the second objective (WWTOD) are the outfall locations contained in a spatial (GIS) dataset provided by the TCEQ.

Data needed for the third objective (WWSAD) are District, Municipal Utility Districts, and municipality boundaries provided by the Central Appraisal Districts (CADs) for each county in the Region, supplemented *I* confirmed by EPA ECHO data and comparison with aerial photographs. The fourth objective uses the data generated in the first three tasks to update an evaluation of the spatial relationships between wastewater service areas and service capacities, and to project future needs by comparing average daily flow rates, permitted capacities, current and projected population growth.

The following table summarizes the data needed for each of these four objectives.

Table A6.1

<b>Geospatial Data</b>	<b>Source</b>	<b>Date(s)</b>	<b>Analysis and/or Processing**</b>	<b>Data Use</b>
The outfall locations for permitted municipal wastewater treatment facilities	A component of the National Hydrography Dataset downloadable at the Geospatial Data Gateway maintained by USDA Natural Resources Conservation Service	Data are maintained year to year; changes since the previous year are entered in database	Data are compared with previous years outfall locations to detect changes in permitted dischargers	Any added or deleted outfalls are accounted for by contact with permit-holders, TCEQ notifications or comparison with previous discharge reports
Spatial dataset showing permitted Wastewater Treatment Plant locations	Notices of new wastewater discharge permits, permit renewals, and permit data revisions generated by the Texas Commission of Environmental Quality, Office of the Chief Clerk, MC 105, P.O. Box 13087, Austin Texas 78711-3087	Data are maintained year to year; changes since the previous year are entered in database	Data are compared with previous years Wastewater Treatment Providers to detect changes	Any added or deleted Wastewater Treatment facilities are accounted for by contact with permit-holders, TCEQ notifications or comparison with previous discharge reports
Spatial dataset showing boundaries	GIS Shapefiles and paper maps acquired	Data are maintained	Service areas are revised in ArcMap if	Service boundary data are overlaid with US

of the areas served by the Wastewater Treatment Plants	from the Wastewater Treatment Service Providers	year to year; changes since the previous year are entered in database	there are changes for year to year; Traffic Survey Zone data is overlaid and processed to yield current and projected populations within the service area	Census data and NCTCOG Research and Information Services population projections to predict whether current / planned treatment capacities are sufficient
<b>Geospatial Data</b>	<b>Source</b>	<b>Date(s)</b>	<b>Analysis and/or Processing**</b>	<b>Data Use</b>
US 2010 Census of population and employment in the Region	2010 Census Redistricting Data (Public Law (P.L.) 94-171) Summary File-Texas; prepared by the U.S. Census Bureau, 2011	New data every 10 years	Census figures for population and employment	Predict whether current / planned treatment capacities are sufficient – see above
Hydrologic data / Watershed Boundary Dataset	GIS Shapefiles and databases from US Department of Agriculture	Maintained by USDA – dates not specified	Watershed and Stream layers used in computing wastewater loading per watershed	Calculate watershed and stream ‘loading’ of municipal waste water
NCTCOG Population forecast – 2040	Shapefiles and database produced by NCTCOG Research and Information Services	Updated semiannually by NCTCOG Research and Information Services	Population increase estimates are overlaid and processed to yield projected populations within the service areas in 2040	To calculate population within service areas and watersheds through 2040
City Boundaries	Shapefiles and database produced by NCTCOG Research and Information Department	Updated annually by NCTCOG Research and Information Services	City boundaries are overlaid on other data layers to determine population, discharge and other	To predict whether current / planned treatment capacities are sufficient on a per city basis

			data on a per city basis	
Traffic Survey Zones	Shapefiles and database produced by NCTCOG Research and Information Department	Updated periodically by NCTCOG Research and Information Services	Overlay on other geospatial datasets to calculate population figures in relation to other geographies	To calculate the population within other geographical datasets

\*NCTCOG's Research & Information Services department performs demographic and economic research on such topics as population, housing, and employment estimates; population, household, and employment projections; development monitoring; major employers; land use; and tabulation/analysis of Census data. The department also provides support to a regional Geographic Information System (GIS) and NCTCOG's internal computer network. Custom maps, data analysis, and special products are provided on a fee-for-service basis from [www.nctcog.org/ris](http://www.nctcog.org/ris).

In the preparation of this report NCTCOG used GIS layers for **City and County Boundary Data, Hydrology, Highways, Traffic Survey Zones.**

As part of the review among the three databases, project staff identify any permits for which no outfall exists, based on the updated outfall data described in the second objective. These permits are reviewed for date of last permit renewal or action, date of last staff revision, and existence of duplicate entries in the WWTPD. Those permits that are not readily identified as outdated/redundant data are compared against the corresponding permit status listing in TCEQ's Central Registry<sup>1</sup>, and compared with EPA's Enforcement and Compliance History Online (ECHO) database.

If the permit is active in the TCEQ's database, it remains in the WWTPD. From time to time, ad hoc changes may be made based on unsolicited data received from permittees (e.g., a City letting us know that a given WWTF is no longer in operation, and the permit is obsolete.) This review process, including substantive changes made, will be documented and included in the Final Report for this project.

The analysis is completed using GIS to compare plant/outfall locations with a variety of other factors, including proximity to other service, proximity to high growth areas, capacity of existing plants, age of plants, and proximity to impaired waterways.

Beginning in 2011, NCTCOG has used the Watershed Boundary Dataset as the spatial matrix in which these data are presented. The relationship of wastewater infrastructure within its physical setting is

preserved, and the impacts of wastewater discharges and opportunities for regionalization of systems are represented graphically. This update involves incorporating new or enhanced permit, outfall and service area boundary data into the existing GIS.

The WWTPD, WWTOD, and WWSAD are reviewed annually for discrepancies, to ensure that there are matching entries in each dataset for every relevant permitted wastewater discharger, linked together by the TCEQ permit identifier. This review takes place after acquisition of updated data, and the process and results are recorded in the Final Report for the project. Although discrepancies in the data are not uncommon, NCTCOG attempts to correct any for which we have the data resources to do so, comparing EPA, TCEQ, County appraisal, and aerial photography data, as well as questioning wastewater service providers. For all datasets, the most current data available is to be used. Only data concerning wastewater permits, outfalls, and service area boundaries falling within the Region will be used.

The data are used locally on an *ad hoc* basis to support local planning decisions and water quality efforts (e.g., to evaluate spatial distribution of wastewater **treatment** plants with flows over 1 million gallons a day [MGD] located within the watershed of an impaired waterway).

The preliminary data acquired from the TCEQ, CADs and ECHO is described in Sections 1.2 and 1.3. These data will be updated on at least an annual basis. These data are the basis for the analysis.

The most current service area data is loaded into ArcMap, along with any newly acquired data. Existing boundaries in the current dataset are adjusted to match new data if required, and existing base map data are used to digitize boundaries based on roads or hydrographic descriptions. The boundaries are then edited to remove any overlaps that might cause double-counting. Area is recalculated on the new service area boundaries to establish the base areas for population calculations. Then current Traffic Safety Zone boundaries are loaded, each of which is associated with a 2035 and 2040 projected population value.

The North Central Texas Council of Governments Transportation Department creates long-range demographic forecasts for use in infrastructure planning in North Central Texas, and is the source of the population figures that are part of the Traffic Survey Zone Dataset. These forecasts are the result of a process that includes use of various specialized, statistical models to allocate regional projections of population to planning districts. The multi-stage process began with control totals for population and employment growth in the twelve counties that comprise the Metropolitan Planning Area. The control totals were allocated to successively smaller planning geographies first using an adaptation of the University of Texas at Austin's Gravity Land Use Model and then using a proprietary disaggregation model. NCTCOG's Transportation Department provided the technical expertise for this effort.

Using ArcMap geoprocessing tools, the new service area layer and the TSZ base layer are processed, resulting in a block of TSZ's coextensive with the bounds of the Service areas. Area is calculated for the 'intersected' TSZ's, and population proportional to that area is calculated.

The same process is followed using the service area boundaries and 2010 Census tracts to calculate the current population in each service area. To calculate population values and projections by subwatershed, the TSZ and 2010 Census data are resampled and distributed proportionately among the watersheds.

The compiled datasets (WWTPD, WWTOD, WWSAD) are compared against each other based on TCEQ permit number or other shared identifying feature, to ensure integration across all datasets (e.g. staff will ensure that for all wastewater permits in the WWTPD there is a corresponding outfall location(s) in the WWTOD, and (if applicable) a service area boundary in the WWSAD). NCTCOG staff will attempt to reconcile any discrepancies to provide an integrated final product. This review will happen annually, though there may be specific permits reviewed upon request or based on data received subsequent to the annual review, on an ad hoc basis. All reviews and changes are documented in the Final Report. Service areas, populations and projections are then displayed in maps and tables.

### **Amendments**

Amendments to the QAPP may be necessary to reflect changes in project organization, tasks, schedules, objectives, and methods; address deficiencies and nonconformances; improve operational efficiency; and/or accommodate unique or unanticipated circumstances. Requests for amendments are directed from the contractor Project Manager to the TCEQ Project Manager in writing using the QAPP Amendment shell.

The changes are effective immediately upon approval by the TCEQ NPS Project Manager and Quality Assurance Specialist, or their designees, and the EPA Project Officer (if necessary).

Amendments to the QAPP and the reasons for the changes will be documented, and full copies of amendments will be forwarded to all persons on the QAPP distribution list by the Contractor QAO. Amendments shall be reviewed, approved, and incorporated into a revised QAPP during the annual revision process or within 120 days of the initial approval in cases of significant changes.

### **ANNUAL QAPP REVIEWS AND REVISIONS**

This QAPP shall be reviewed annually by the NCTCOG Project Manager. A letter certifying this annual review must be submitted to the TCEQ Project Manager no later than 90 days prior to the QAPP anniversary date. Amendments approved since QAPP approval (or most recent annual review, if applicable) should be included along with the letter as an attachment. Also, if any organizational changes have occurred, these should be conveyed within the certification letter. If changes (beyond organizational changes) are necessary, a QAPP amendment must be approved before the annual review may be certified. The TCEQ Project

Manager is required to provide certification of annual reviews to the TCEQ QA Manager and EPA Region 6 Project Officer no later than 30 days before QAPP anniversary dates. If the QAPP expires, work described within this document must be halted.

If extensive changes are required (as determined by the TCEQ Project Manager, in consultation with the TCEQ Lead QA Specialist), or if the project will extend beyond the third QAPP anniversary date, a full QAPP revision is required. This is accomplished by submitting a cover letter, a document detailing changes made, and a three full copies of the fully updated QAPP (including three sets of signature pages).

## **A7 - QUALITY OBJECTIVES AND CRITERIA**

For the purpose of this project, the intent is to acquire, compile and integrate three datasets related to wastewater infrastructure in the Region, and to utilize previously compiled data to update GIS analyses. As indicated in Section 2.2 the data sources were selected because they were sole sources of the data (WWTPD), most feasible source of information (WWTOD), or the most accurate for the needs of this project (WWSAD). The data from TCEQ for the WWTPD and WWTOD have already undergone quality assurance processes, and therefore the quality requirements for this data relate to the processing completed by NCTCOG. The raw data from the CADs for the WWSAD undergoes rigorous scrutiny by the submitters, and the compiled effort (the WWSAD) is compared against the quality-assured data from the WWTOD and WWTPD for consistency. The regional forecast data is modeled by NCTCOG's Research and Information Department, under a separate project, but is subject to close scrutiny by local and regional partners as well as internal clients. This data is the regional standard for forecast data, and is used in a wide array of regional projects.

### **Quality Requirements**

For the WWTPD, the notices from TCEQ are preliminarily assumed to be accurate. However, comparison of information between the WWTPD, WWTOD, and WWSAD helps eliminate any potential error in the raw TCEQ data. Therefore, the primary quality concern is in the process of entering the data from the notices into the existing Access database (the WWTPD). Data entry is done by NCTCOG project staff. To ensure accuracy of the data entry the Access database has been designed to limit typographical or other errors by incorporating drop down menus and other limited selection devices wherever possible.

For the WWTOD, the outfall locations dataset from TCEQ is preliminarily assumed to be accurate as it is produced by the regulating agency directly. However, NCTCOG staff compares the changes between the last previous dataset obtained from the TCEQ with the current dataset. Any discrepancies are noted, and examined by staff. The NCTCOG PM and project staff review the corresponding records in the WWTPD and WWSAD (if applicable), to ensure consistency of the change across the three datasets. The annual review process is described in greater detail in section 1.4, and is documented in the Final Report for this project.

For the WWSAD, NCTCOG project staff compares the boundary data from the previous iteration of the database to new raw data to identify changes. Any discrepancies (overlapping boundaries, missing boundaries, etc.) are investigated by project staff. Discrepancies are investigated using the TCEQ's Central Registry query, review of GIS or CAD Service Area files obtained from the WWT providers and their contractors, and discussions with the permitted facilities in question.

For the GIS analyses, the bulk of the data used is described in the preceding paragraphs. The regional forecast data is compiled under the quality objectives of NCTCOG's Research and Information Services.<sup>5</sup> These data are used to determine wastewater discharges and treatment capacities, evaluating spatial proximity of project data to high growth areas and similar factors.

**Quality Requirements Disclaimer**

NCTCOG's general assumption is that data originating from the TCEQ achieves an original level of quality sufficient to meet the needs of this project. NCTCOG makes a reasonable effort to verify this accuracy, but some details cannot be readily or feasibly verified on an individual datum basis. The additional methodologies described in Section 3.1 are intended to reduce any potential for error to the greatest degree practicable. The forecast data is inherently forward-looking, and therefore cannot be field-verified.

**A9 - DOCUMENTS AND RECORDS**

NCTCOG will maintain the project data and documentation in accordance with the times and methods listed in Table 4.4.1. All reasonable and proper precautions will be taken to maintain the integrity of the data. Because the datasets are "living" documents, they are modified from time to time to incorporate new or changed data (e.g., changes in permit limits, etc.).

<b>Data</b>	<b>Retention Time</b>	<b>Retention Media</b>
Electronic datasets	7+ Years	Electronic
QAPPs, amendments and appendices	7+ Years	Electronic and Paper
Contract documents	7+ Years	Electronic and Paper
Maps and Reports	7+ Years	Electronic and Paper



## B9 NON-DIRECT MEASUREMENTS

Data not collected under this QAPP, but that meet the data quality objectives of this QAPP may be useful in satisfying the data and informational needs for this project. All data used will be clearly identified in the final project report.

Existing geospatial data available from various local, regional, state, and federal organizations may be used for project cartographic and illustrative purposes. These types may include land use, precipitation, soil type, ecoregion, TCEQ monitoring location, TCEQ permitted outfall, gage location, city/county/state boundary, stream hydrology, reservoir, drought, road, watershed, municipal separate storm sewer system, urbanized area, basin, railroad, recreational area, area landmark, aerial photography, and park information. The above data come from the following reliable sources: USGS, TNRIS, TCEQ, US Census Bureau, and USDA. Geospatial data from these sources are accepted for use in this project maps based on the reputability of these data sources and the fact that there are no known comparable sources for these data. Geospatial data will be cited in reports.

This project will involve performing spatial analyses and calculations on several of the existing datasets described above in Table A6.1. These are:

Table B9.2

Geospatial Data	Source	Date(s)	Analysis and/or Processing**	Data Use
Spatial dataset showing boundaries of the areas served by the Wastewater Treatment Plants	GIS Shapefiles and paper maps acquired from the Wastewater Treatment Service Providers	Data are maintained year to year; changes since the previous year are entered in database	Service areas are revised in ArcMap if there are changes for year to year; Traffic Survey Zone data is overlaid and processed to yield current and projected populations within the service area	Service boundary data are overlaid with US Census data and NCTCOG Research and Information Services population projections to predict whether current / planned treatment capacities are sufficient

Geospatial Data	Source	Date(s)	Analysis and/or Processing**	Data Use
NCTCOG Population forecast – 2040	Shapefiles and database produced by NCTCOG Research Information Services	Updated semiannually by NCTCOG Research and Information Services	Population increase estimates are overlaid and processed to yield projected populations within the service areas in 2040	To calculate population within service areas and watersheds through 2040

While NCTCOG general assumption is made that data originating from the TCEQ achieves an original level of quality sufficient to meet the needs of this project. NCTCOG makes a reasonable effort to verify this accuracy, but some details cannot be readily or feasibly verified on an individual datum basis. The additional methodologies described in Section 3.1 are intended to reduce any potential for error to the greatest degree practicable. The forecast data is inherently forward-looking, and therefore cannot be field-verified.

As the project progresses, additional data sources and/or data types may be identified as necessary to complete project tasks. Once identified, the NCTCOG will notify the TCEQ Project Manager and request approval prior to use. This will not require immediate amendment of the QAPP unless it's deemed to be a major data source by the TCEQ Project Manager (If data will be analyzed or used for any purposes beyond data compilation or summary statistics, the QAPP must be amended prior to use). All data sources will be clearly documented in final project report and within annual updates to the QAPP.

**B10 DATA MANAGEMENT**

**Data Handling**

Data are processed using the Microsoft Access 2000 suite of tools and applications. Data integrity is maintained by the implementation of password protections which control access to the database and by limiting update rights to a select user group. No data from external sources are maintained in the database. The database administrator is responsible for assigning user rights and assuring database integrity.

**Hardware and Software Requirements**

Hardware configurations are sufficient to run Microsoft Access 2000 under the Windows NT operating system in a networked environment. Information Resources staff are responsible for assuring hardware configurations meet the requirements for running current and future data management/database software as well as providing technical support. Software development and database administration are also the responsibility of the information resources department. Research and Information Services develops applications based on user requests and assures full system compatibility prior to implementation.

### **Data Management Process**

Since no data are gathered from the field, the Data Management Process involves only the maintenance and updating of ArcMap Shapefiles, which are administered by NCTCOG's Research and Information Services Department. These files are accessed through NCTCOG's GIS Server. Shapefiles obtained from the Wastewater Treatment Service Providers are confirmed by discussion with their GIS personnel and verification by comparison with aerial photography.

## **C2 REPORTS TO MANAGEMENT**

### **Reports to TCEQ Project Management**

All reports detailed in this section are contract deliverables and are transferred to the TCEQ in accordance with contract requirements.

Quarterly Progress Report - Summarizes the Contractor's activities for each task; reports monitoring status, problems, delays, and corrective actions; and outlines the status of each task's deliverables.

Final Project Report - Summarizes the Contractor's activities for the entire project period including a description and documentation of major project activities; evaluation of the project results and environmental benefits; and a conclusion.

<b>Task No.</b>	<b>Deliverable</b>	<b>Due Date</b>
<b>1.1</b>	Project oversight status	With QPR's
<b>1.2</b>	QPR FY14 Q-1	12/15/2013
<b>1.2</b>	QPR FY14 Q-2	3/15/2014
<b>1.2</b>	QPR FY14 Q-3	6/15/2014
<b>1.2</b>	QPR FY14 Q-4	9/15/2014
<b>1.3</b>	Reimbursement Forms (FY14 Q-1)	12/30/2013
<b>1.3</b>	Reimbursement Forms (FY14 Q-2)	3/30/2014
<b>1.3</b>	Reimbursement Forms (FY14 Q-3)	6/30/2014
<b>1.3</b>	Reimbursement Forms (FY14 Q-4 June)	7/15/2014

<b>Task No.</b>	<b>Deliverable</b>	<b>Due Date</b>
<b>1.3</b>	Reimbursement Forms (FY14 Q-4 July)	8/15/2014
<b>1.3</b>	Reimbursement Forms (FY14 Q-4 August)	10/15/2014
<b>1.4</b>	<u>Post Award Meeting</u>	<u>30 days after contract execution</u>
<b>1.4</b>	Quarterly Conference Call w/ Notes	10/31/2013
<b>1.4</b>	Quarterly Conference Call w/ Notes	1/31/2014
<b>1.4</b>	Quarterly Conference Call w/ Notes	4/30/2014
<b>1.4</b>	Quarterly Conference Call w/ Notes	7/31/2014
<b>2.1</b>	QAPP Update	<u>10/20/2013</u>
<b>3.1</b>	WQMP Public Notice: Public Participation	3/23/2014
<b>3.1</b>	WQMP Public Hearing	5/8/2014
<b>3.1</b>	Locally-Adopted WQMP Update	5/30/2014
<b>3.1</b>	WQMP Final Draft	6/29/2014
<b>4.1</b>	Response to SRF Project Review Requests	<u>Within 30 days</u>
<b>5.1</b>	Draft Final Report	7/15/2014
<b>5.1</b>	Final Report	8/12/2014

### **Reports by TCEQ Project Management**

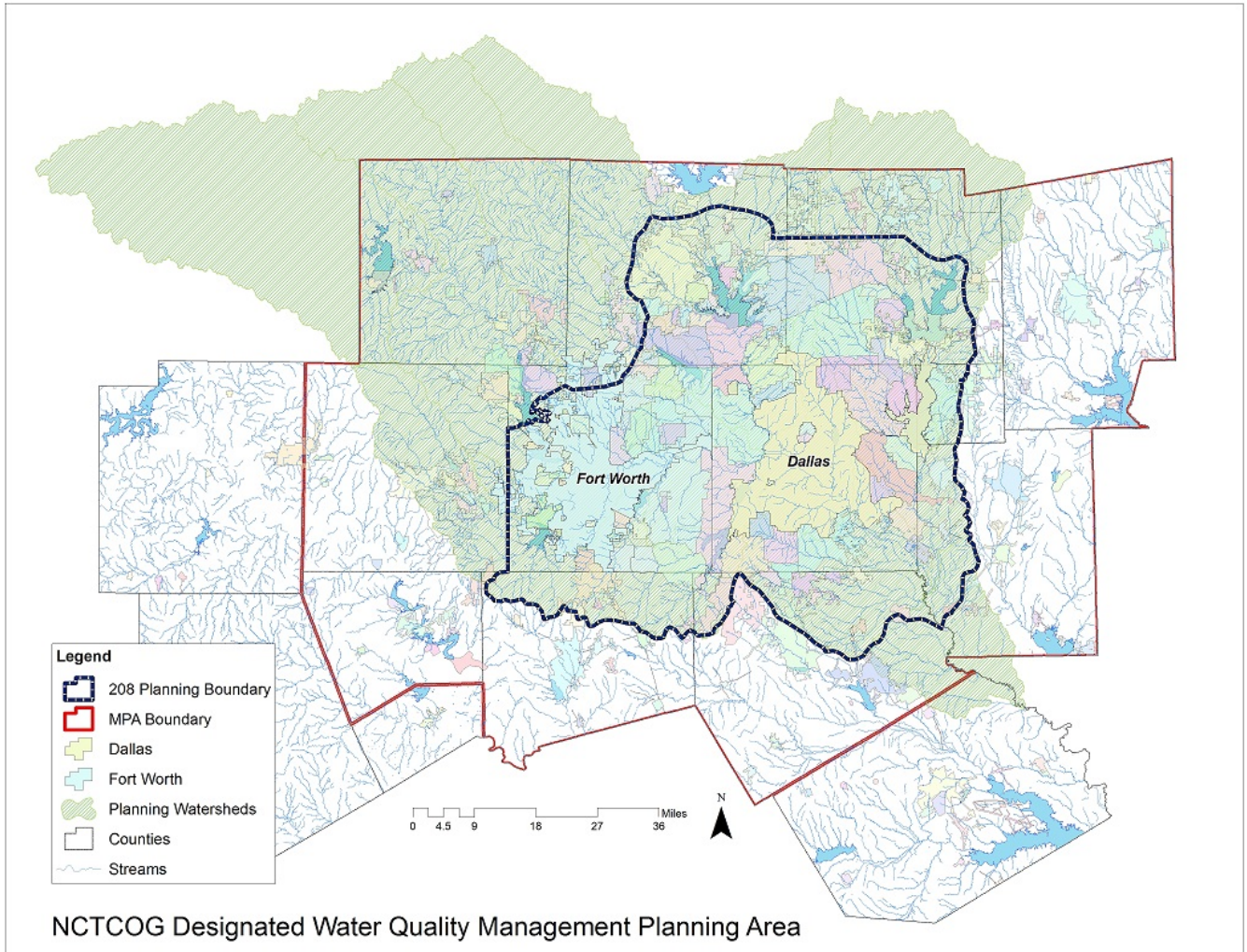
Contractor Evaluation - The Contractor participates in a Contractor Evaluation by the TCEQ annually for compliance with administrative and programmatic standards. Results of the evaluation are submitted to the TCEQ Financial Administration Division, Procurement and Contracts Section.

### **D1 DATA REVIEW, VERIFICATION, AND VALIDATION**

For the purposes of this document, data verification is a systematic process for evaluating performance and compliance of a set of data to ascertain its completeness, correctness, and consistency using the methods and criteria defined in the QAPP. Validation means those processes taken independently of the data-generation processes to evaluate the technical usability of the verified data with respect to the planned objectives or intention of the project. Additionally, validation can provide a level of overall confidence in the reporting of the data based on the methods used.

The NCTCOG Data Manager will be responsible for ensuring that all data are properly reviewed and verified. Finally, the NCTCOG Project Manager, with the concurrence of the NCTCOG QAO, is responsible for validating that all data to be reported meet the objectives of the project and are suitable for reporting to TCEQ.

# APPENDIX A – AREA LOCATION MAP



## APPENDIX B CONTRACT SCOPE OF WORK

# NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS

## SCOPE OF WORK

### Problem/Need Statement:

North Central Texas has a need for strong water quality management planning efforts in order to plan for adequate regional wastewater treatment service and effective storm water and Nonpoint Source (NPS) management that result in maintenance and improvement of water quality in the Upper Trinity River Basin. NCTCOG currently projects that the population of our region will increase from approximately 5.1 million in 2000 to approximately 9.2 million in 2030. The regional growth projected by NCTCOG's 2040 forecasts continues to present challenging planning frontiers for wastewater treatment and a wide array of water quality related issues for strategic regional planning.

### General Project Description:

The NCTCOG is the designated water quality management planning agency for North Central Texas. Since 1977 NCTCOG has pursued a wide range of water quality initiatives, anchored in the annual amendments to the Water Quality Management Plan (WQMP) for North Central Texas. NCTCOG staff collaborates with members of the Water Resources Council in compiling wastewater treatment information and strategies for the eight joint systems and over twenty community systems. Data on service areas and arrangements, management agency designation recommendations, plant discharge limits, planned capacity expansions, projected wastewater demands and other information are all integrated each year to present any necessary updates and amendments to the regional plan. NCTCOG provides administrative and coordinative support for the Water Resources Council and Texas Commission on Environmental Quality (TCEQ) in the development of the WQMP, and facilitates any additional activities addressing water quality issues that arise for the North Central Texas area. For 2013-2014, NCTCOG staff will develop the WQMP Update, with most information already organized by the 10 and 12 digit Hydrologic Unit Code (HUC) boundaries. The work activities will seek to update and maintain some of the basic regional water quality planning efforts including updates on designation status of wastewater treatment and/or collection entities with NCTCOG's planning area.

### TASK 1: PROJECT ADMINISTRATION

**Goal:** To effectively coordinate and monitor all technical and financial activities performed under this contract, prepare regular progress reports, and manage project files and data.

**TASK 1.1 PROJECT OVERSIGHT** – NCTCOG will provide technical and fiscal oversight of the NCTCOG project staff and/or subgrantee(s)/subcontractor(s) to ensure Tasks and Deliverables are acceptable and are completed as scheduled and within the budget. With the TCEQ Project Manager's authorization, the NCTCOG may secure the services of subgrantee(s)/subcontractor(s)

as necessary for technical support, repairs, and training. Project oversight status will be provided to the TCEQ with the Quarterly Progress Reports (QPRs).

**TASK 1.2 QPRs** – The NCTCOG will submit QPRs to the TCEQ by the 15th of the month following each state fiscal quarter. Progress reports will contain a level of detail sufficient to document the activities that occurred under each task during the quarter and will contain a comprehensive tracking of deliverable status under each task. Progress reports will be distributed to all project partners.

**TASK 1.3 REIMBURSEMENT FORMS** – Invoices must be submitted to the individual named in the Notices, TCEQ Project Representatives and Records Location at quarterly intervals and monthly during the last quarter of the contract. Request for reimbursement must be submitted within 30 days after the close of each quarter. For the last fiscal quarter of the Contract (June-August), reimbursement requests are due on a monthly basis. The Performing Party will submit the monthly reimbursement request documents within 15 days after the close of each month with the exception of the final billing which is due within 45 days after the close of the Contract.

**TASK 1.4 CONTRACT COMMUNICATION** – The NCTCOG will participate in a post award meeting with the TCEQ. The NCTCOG will maintain regular telephone and/or email communication with the TCEQ Project Manager regarding the status and progress of the project in regard to any matters that require attention between QPRs. This will include a call or meeting in October, January, April, and July. Minutes recorded, items discussed, and decisions made during each contact will be attached or included with each QPR. Matters that must be communicated to the TCEQ Project Manager in the interim between QPRs may include:

- Requests for prior approval of activities or expenditures for which the contract requires advance approval or that are not specifically included in the scope of work,
- Notification in advance when NCTCOG has scheduled public meetings or events, initiation of construction, or other major task activities under this contract, and
- Information regarding events or circumstances that may require changes to the budget, scope of work, or Schedule of Deliverables. These events or circumstances must be reported within 48 hours of discovery.

**Deliverables:**

- Project Oversight
- Quarterly Progress Reports
- Reimbursement Forms
- Quarterly Contract Conference Calls

**TASK 2: QUALITY ASSURANCE PROJECT PLAN (QAPP)**

**Goal:** To update or develop QAPPs for Task 3.1 in the Scope of Work consistent with the United States Environmental Protection Agency (EPA) requirements for Quality Assurance Project Plan (QAPP) for acquired or geospatial data to ensure environmental data acquired is of known and acceptable quality. This effort will involve review of the QAPP for the WQMP and development of any new QAPPs determined to be needed for any appropriate data compilation

or development efforts in this Scope of Work. New QAPPs will be determined in coordination with TCEQ.

**TASK 2.1: QAPP UPDATES / AMENDMENTS** – NCTCOG will provide input to TCEQ 60 days prior to the end of the effective period of the QAPP (December 31, 2013) and will develop annual QAPP revisions no less than 45 days prior to the end of the effective period of the QAPP. Changes in data collection can only occur after QAPP amendments are approved by the authorities that reviewed and approved the original QAPP.

**Deliverables:**

The QAPP for this project is in accordance with EPA Requirements for Quality Assurance Project Plans, EPA QA/R-5 and has coverage from December 2012 through December 2013. This QAPP will be updated and/or amended as needed.

**TASK 3: WATER QUALITY MANAGEMENT PLAN REVIEW/UPDATE**

**GOAL:** To maintain key elements of the approved WQMP and develop appropriate data and service information to result in a simple WQMP Update which contains information that has been revised from previous plans. NCTCOG will conduct analysis and portray updated service area maps for the 13 regional watersheds in the Upper Trinity River Basin.

The WQMP Update will contain: revised current and projected populations for incorporated entities in the NCTCOG planning area; illustration of current wastewater service areas for joint and community systems oriented by the new 12-digit HUC geographic framework; new or updated NCTCOG-recommended Management Agency Designations received since the last WQMP Update; written recommendations to the TCEQ regarding conformance review of state revolving loan fund projects, new and renewal wastewater permits, or other projects that represent modifications to the WQMP; and updates, as available, for wastewater treatment plant flows within service areas which will be provided in an appendix for public information use and will not be included for certification.

NCTCOG will provide the TCEQ Project Manager with the written report of the WQMP Update

The WQMP amendments will be adopted by NCTCOG's Executive Board following a public hearing and endorsement by NCTCOG's Water Resources Council, and forwarded to TCEQ along with WQMP information, for consideration of certification to the State's WQMP. The amendment will include a list of NCTCOG's recommended modifications, if any, to the designated management agency list for wastewater service from 2010 through the year 2040; descriptions of any significant service area modifications or changes to service providers since the 2013 WQMP Update; revised or updated population estimates and projections for entities within the NCTCOG planning area, presented both by local government corporate boundary and joint or community system service area; a description presented as an appendix detailing WQMP conformance; and Review actions for the 208/201 coordination items conducted during 2013/2014.

**Deliverables:**



- **Public participation period for WQMP Update with public hearing to be held prior to NCTCOG adoption (1/1/2014 – 4/28/2014).**
- Locally-Adopted (by NCTCOG Executive Board) WQMP Update - NCTCOG-adopted Draft WQMP Update hard copies furnished for State review and complete WQMP data in digital format on appropriate digital media (May 30, 2014).
- Final Draft Water Quality Management Plan with responses to any state or federal review comments, ready for State Certification. Ten hardcopy originals plus one digital original of the final WQMP on appropriate digital media (June 29, 2014).

**Task 4: WATER QUALITY MANAGEMENT PLAN (WQMP) CONFORMANCE REVIEW FOR CLEAN WATER STATE REVOLVING FUND (CWSRF) PROJECTS AND NEW OR RENEWAL WASTEWATER PERMIT APPLICATIONS**

**Goal: To review CWSRF applications, new wastewater permit applications, or renewal applications to ensure conformance with the WQMP for North Central Texas.**

**Task 4.1** NCTCOG staff will respond to requests from the Texas Commission on Environmental Quality for specific wastewater facility project reviews, primarily through evaluation and comparison of demographic projections in the facility plans, and also through consideration of regional treatment strategies and effective service arrangements to meet wastewater treatment needs.

**Deliverables:**

- Provide written comments to the TCEQ regarding each CWSRF project within the NCTCOG region, indicating determination of project conformance with the latest adopted Water Quality Management Plan for North Central Texas. (Within 30 days of receipt of TCEQ request for review).

**Task 5: FINAL REPORT**

**Goal: To provide the TCEQ with a comprehensive report on the success of the activities under this Contract.**

**Task 5.1** NCTCOG will provide a report of activities conducted under this Contract. This comprehensive report will provide analysis of all activities and deliverables under this Scope of Work.

The report will include the following information:

- Title
- Table of contents
- Executive Summary
- Introduction
- Project Significance and Background
- Project Studies and Coordination Activities

- Methods
- Results and Observations
- Discussion
- Summary
- References
- Appendices

**Task 5.2** NCTCOG will incorporate all comments received on the Draft Report to prepare a Final Report summarizing all project activities, findings, and the contents of all previous deliverables, referencing and/or attaching them as web links or appendices.

**Deliverables:**

- Draft Final Report (July 15, 2014)
- Final Report (August 12, 2014)

<b>Task No.</b>	<b>Deliverable</b>	<b>Due Date</b>
<b>1.1</b>	Project oversight status	With QPR's
<b>1.2</b>	QPR FY14 Q-1	12/15/2013
<b>1.2</b>	QPR FY14 Q-2	3/15/2014
<b>1.2</b>	QPR FY14 Q-3	6/15/2014
<b>1.2</b>	QPR FY14 Q-4	9/15/2014
<b>1.3</b>	Reimbursement Forms (FY14 Q-1)	12/30/2013
<b>1.3</b>	Reimbursement Forms (FY14 Q-2)	3/30/2014
<b>1.3</b>	Reimbursement Forms (FY14 Q-3)	6/30/2014
<b>1.3</b>	<u>Reimbursement Forms (FY14 Q-4 June)</u>	<u>7/15/2014</u>
<b>1.3</b>	<u>Reimbursement Forms (FY14 Q-4 July)</u>	<u>8/15/2014</u>
<b>1.3</b>	<u>Reimbursement Forms (FY14 Q-4 August)</u>	<u>10/15/2014</u>
<b>1.4</b>	<u>Post Award Meeting</u>	<u>30 days after contract</u>
<b>1.4</b>	Quarterly Conference Call w/ Notes	10/31/2013
<b>1.4</b>	Quarterly Conference Call w/ Notes	1/31/2014
<b>1.4</b>	Quarterly Conference Call w/ Notes	4/30/2014
<b>1.4</b>	Quarterly Conference Call w/ Notes	7/31/2014
<b>2.1</b>	QAPP Update	<u>10/20/2013</u>
<b>3.1</b>	WQMP Public Notice: Public Participation	3/23/2014
<b>3.1</b>	WQMP Public Hearing	5/8/2014
<b>3.1</b>	Locally-Adopted WQMP Update	5/30/2014
<b>3.1</b>	WQMP Final Draft	6/29/2014
<b>4.1</b>	Response to SRF Project Review Requests	<u>Within 30 days</u>
<b>5.1</b>	Draft Final Report	7/15/2014
<b>5.1</b>	Final Report	8/12/2014



**North Central Texas Council of Governments  
Water Quality Management Plan QAPP**

Date submitted to TCEQ:  
12/17/2013

Samuel Brush  
Project Manager  
North Central Texas Council of Governments  
P.O. Box 5888  
Arlington, TX 76005-5888  
(817) 695-9213  
sbrush@nctcog.org

Funding Source:  
Federal ID 1741555756  
Nonpoint Source Program  
Office of Water, Planning and Implementation Section  
Texas Commission on Environmental Quality  
P.O. Box 13087, MC- 203  
Austin, Texas 78711-3087

This QAPP is effective for a period of one year from approval date.  
Questions concerning this QAPP should be directed to:  
Samuel Brush  
North Central Texas Council of Governments

A2 TABLE OF CONTENTS  
A3 DISTRIBUTION LIST .....47

Section 1.0 – Project Objectives, organization, and responsibilities .....	47
1.1 Purpose.....	48
1.2 Objectives .....	48
1.3 Secondary Data Needed.....	49
1.4 Data Analyses .....	51
1.5 Project Participants and Responsibilities .....	51
TCEQ.....	51
North Central Texas Council of Governments.....	52
Figure 1.5.1 Organization Chart .....	53
Section 2.0 - Sources of secondary data .....	54
2.1 Secondary Data Required .....	54
2.2 Source Selection Rationale .....	54
2.3 Secondary Data Sources .....	55
Section 3.0 – Assuring Quality of secondary data .....	55
3.1 Quality Requirements .....	55
3.2 Quality Requirements Disclaimer.....	56
Section 4.0 –Data Reduction, Data Validation, and Data Reporting .....	56
4.1 Data reduction procedures .....	56
4.2 Data validation procedures.....	56
4.3 Final Project Documents.....	56
4.4 Data Retention and Archiving.....	57
Table 4.4.1 – Data Retention Times and Methods.....	58
Appendix A – Project Area Map.....	59
Appendix B – Joint and Community Treatment Plants .....	61
Appendix C – Project Scope of Work.....	64
SCOPE OF WORK.....	65
Problem/Need Statement: .....	<b>Error! Bookmark not defined.</b>
General Project Description:.....	<b>Error! Bookmark not defined.</b>
Objective 1: Project Administration.....	<b>Error! Bookmark not defined.</b>
Measures of Success.....	<b>Error! Bookmark not defined.</b>
Deliverables: .....	<b>Error! Bookmark not defined.</b>
Objective 2: Quality Assurance .....	<b>Error! Bookmark not defined.</b>
Goal:.....	<b>Error! Bookmark not defined.</b>
Measure of Success: .....	<b>Error! Bookmark not defined.</b>
Deliverables: .....	<b>Error! Bookmark not defined.</b>
Task 2.1.....	<b>Error! Bookmark not defined.</b>

Task 2.2.....	<b>Error! Bookmark not defined.</b>
Task 2.3.....	<b>Error! Bookmark not defined.</b>
<b>OBJECTIVE 3: WATER QUALITY MANAGEMENT PLAN REVIEW AND UPDATE .....</b>	<b>Error!</b>
<b>Bookmark not defined.</b>	
Goal:.....	<b>Error! Bookmark not defined.</b>
Task 3.1.....	<b>Error! Bookmark not defined.</b>
Measure of Success: .....	<b>Error! Bookmark not defined.</b>
Deliverables: .....	<b>Error! Bookmark not defined.</b>
Task 3.1 .....	<b>Error! Bookmark not defined.</b>
Task 3.2.....	<b>Error! Bookmark not defined.</b>
Task 3.3.....	<b>Error! Bookmark not defined.</b>
Task 3.4.....	<b>Error! Bookmark not defined.</b>
<b>OBJECTIVE 4: WATER QUALITY MANAGEMENT PLAN CONFORMANCE REVIEW FOR STATE REVOLVING FUND PROJECTS AND NEW OR RENEWAL WASTEWATER PERMIT APPLICATIONS .....</b>	<b>Error! Bookmark not defined.</b>
Goal: .....	<b>Error! Bookmark not defined.</b>
Task 4.1.....	<b>Error! Bookmark not defined.</b>
Measure of Success: .....	<b>Error! Bookmark not defined.</b>
Deliverables .....	<b>Error! Bookmark not defined.</b>
Task 4.1.....	<b>Error! Bookmark not defined.</b>
Task 4.2.....	<b>Error! Bookmark not defined.</b>
<b>OBJECTIVE 5: FINAL REPORT .....</b>	<b>Error! Bookmark not defined.</b>
Goal:.....	<b>Error! Bookmark not defined.</b>
Task 5.1.....	<b>Error! Bookmark not defined.</b>
<i>Task 5.1</i> .....	<b>Error! Bookmark not defined.</b>
<i>Task 5.2</i> .....	<b>Error! Bookmark not defined.</b>
Quarterly Progress Reports.....	69

**A3 Distribution List**

**U.S. Environmental Protection Agency Region 6  
State/Tribal Section  
1445 Ross Avenue  
Suite # 1200  
Dallas, TX 75202-2733**

Teresita Mendiola, Project Officer  
(214) 214-665-7144

**Texas Commission on Environmental Quality  
P.O. Box 13087  
Austin, Texas 78711-3087**

Bill Carter, NPS Project Manager  
MC-203  
(512) 239-1315

Kyle Girten, NPS Quality Assurance Specialist  
MC-165  
(512) 239-0425

**North Central Texas Council of Governments  
616 Six Flags Drive  
Arlington, TX 76011**

Samuel Brush, Project Manager  
(817) 695-9213

Scott Miller, Data Manager  
(817) 695-9238

Doug Anthony, Quality Assurance Officer (QAO)  
(817) 695-9139

The North Central Texas Council of Governments Quality Assurance Officer will provide copies of this project plan and any amendments or revisions of this plan to each person on this distribution list and to each sub-tier participant other than TCEQ and EPA staff. The Lead Organization QA Officer will provide documentation of this transmittal to the TCEQ Project Manager within two weeks of QAPP approval. This documentation will be maintained as part of the Lead Organization’s quality assurance records and as part of the NPS project file.

The TCEQ Project Manager is responsible for providing copies of the project plan and any amendments or revisions of this plan to TCEQ and EPA staff other than the TCEQ QA Specialist. Copies must be provided within two weeks of QAPP approval, and documentation of this transmittal will be available for review and maintained as part of the NPS project file.

**Section 1.0 – Project Objectives, organization, and responsibilities**

## 1.1 Purpose

The 16-county North Central Texas Region (Region) is growing rapidly. By the 2040 Census the population is estimated to increase by an additional 4.1 million people. Wastewater infrastructure can be an appreciable source of fecal bacteria, and the Region has a large number of water bodies already with contact recreation impairments based on elevated indicator bacteria levels. The increase in population will continue to impact the quality of the region's water resources and drive the need for expanded and improved wastewater infrastructure. Wastewater utilities and water quality managers have a need for current information and data from which to make informed decisions on both the local and regional levels. Additionally, the State of Texas' Water Quality Management Plan (WQMP) relies on accurate local data.

As part of an annual 604(b) grant project, the North Central Texas Council of Governments (NCTCOG) has assisted the Texas Commission on Environmental Quality (TCEQ) in collecting and assessing a variety of data sources related to wastewater infrastructure and discharge permits in the Region. This information includes:

- permit information and status of permitted facilities,
- permitted outfall locations, and
- sanitary sewer service area boundaries.

NCTCOG collects, analyzes, and coordinates the data into a coordinated set of databases and spatial datasets. NCTCOG then submits the collected data to TCEQ on an annual basis for inclusion in the State WQMP, uses it to support regional water quality projects, and makes it available locally to support wastewater infrastructure decisions and related efforts.

## 1.2 Objectives

The objective of this project plan is to document how NCTCOG will acquire, review, and compile data related to wastewater infrastructure in the Region. This project will involve four primary objectives.

1. The first objective is to maintain and update a database of information regarding permitted wastewater facilities in the Region. NCTCOG has previously constructed a Wastewater Treatment Permit Database (WWTPD) in Microsoft Access that allows the controlled input of data obtained from permit notices. NCTCOG converts the information in paper notices received from the TCEQ into the WWTPD via quality-assured data entry. Notices to be input include new wastewater discharge permits, permit renewals, and permit data revisions. In addition to paper sources, each facility is located on the EPA's "Enforcement and Compliance History Online (ECHO) system (<http://www.epa-echo.gov/echo/index.html>), which links to discharge reports and varying other data, including copies of permits, etc. Outdated data is identified and removed from the WWTPD on an annual basis. Average daily flow data is collected using the USEPA ECHO online search, specifically searching effluent data in the Permit Compliance System (PCS) and Integrated Compliance Information System (ICIS) databases. The average daily flow data are the basis for calculations of sufficiency of plant capacity and watershed wastewater loading.

2. The second objective is to maintain and update a spatial dataset of wastewater treatment plant outfall locations. NCTCOG obtains a raw set of outfall locations from the TCEQ, and analyzes them against existing data. Where discrepancies exist, staff members investigate to ensure that the outfall database matches the records produced in the WWTPD described in the first objective. The Wastewater Treatment Outfall Database (WWTOD) is updated annually.

3. The third objective is to maintain and update a spatial dataset of the service area boundaries for



wastewater treatment facilities in the region. The dataset includes all permitted domestic facilities, and is drawn from various data sources, including county Central Appraisal District spatial data sets for MUDs, proprietary local boundaries data from NCTCOG's GIS, and updated boundary data obtained from wastewater service providers. The Wastewater Service Area Database (WWSAD) is updated annually.

4. The fourth objective is to use the data generated in the first three tasks to update an evaluation of the spatial relationships between wastewater service areas and service capacities, and to evaluate future needs by comparing average daily flow rates, permitted capacities, and projected population growth. The purpose of this effort is to provide support for local decision-makers in considering the potential feasibility of pursuing regionalization of wastewater infrastructure on local or regional bases.

As part of the review among the three databases, project staff identify any permits for which no outfall exists, based on the updated outfall data described in the second objective. These permits are reviewed for date of last permit renewal or action, date of last staff revision, and existence of duplicate entries in the WWTPD. Those permits that are not readily identified as outdated/redundant data are compared against the corresponding permit status listing in TCEQ's Central Registry<sup>1</sup>, and compared with EPA's "Enforcement and Compliance History Online (ECHO)"<sup>2</sup>. If the permit is active in the TCEQ's database, it remains in the WWTPD. From time to time, ad hoc changes may be made based on unsolicited data received from permittees (e.g., a City letting us know that a given WWTF is no longer in operation, and the permit is obsolete.) This review process, including substantive changes made, will be documented and included in the Final Report for this project.

The analysis is completed using GIS to compare plant/outfall locations with a variety of other factors, including proximity to other service, proximity to high growth areas, capacity of existing plants, age of plants, and proximity to impaired waterways.

Beginning in 2011, NCTCOG has used the Watershed Boundary Dataset as the spatial matrix in which these data are presented. The relationship of wastewater infrastructure within its physical setting is preserved, and the impacts of wastewater discharges and opportunities for regionalization of systems are represented graphically. This update involves incorporating new or enhanced permit, outfall and service area boundary data into the existing GIS.

The WWTPD, WWTOD, and WWSAD are reviewed annually for discrepancies, to ensure that there are matching entries in each dataset for every relevant permitted wastewater discharger, linked together by the TCEQ permit identifier. This review takes place after acquisition of updated data, and the process and results are recorded in the Final Report for the project. Although discrepancies in the data are not uncommon, NCTCOG attempts to correct any for which we have the data resources to do so, comparing EPA, TCEQ, County appraisal, and aerial photography data, as well as questioning wastewater service providers. For all datasets, the most current data available is to be used. Only data concerning wastewater permits, outfalls, and service area boundaries falling within the Region will be used.

The data is used locally on an ad hoc basis to support local planning decisions and water quality efforts (e.g., to evaluate spatial distribution of wastewater treatment plants with flows over 1 million gallons a day [MGD] located within the watershed of an impaired waterway).

### 1.3 Secondary Data Needed

The secondary data needed for this project and to meet project objectives is restricted to four primary sources.

---

<sup>1</sup> <http://www12.tceq.state.tx.us/crpub/index.cfm?fuseaction=addnid.IdSearch>

<sup>2</sup> <http://www.epa-echo.gov/cgi-bin/get1cReport.cgi?tool=echoamp>

Data needed for the first objective (WWTPD) are the notices regarding wastewater permit actions (i.e. new permits, permit renewals, permit information changes, etc.) issued via mail by the TCEQ, compared with data from the EPA’s “Enforcement and Compliance History Online (ECHO) system.

The data needed for the second objective (WWTOD) are the outfall locations contained in a spatial (GIS) dataset provided by the TCEQ.

Data needed for the third objective (WWSAD) are District, MUD, and municipality boundaries provided by the Central Appraisal Districts (CADs) for each county in the Region, supplemented / confirmed by EPA ECHO data and comparison with aerial photographs.

The fourth objective uses the data generated in the first three tasks to update an evaluation of the spatial relationships between wastewater service areas and service capacities, and to project future needs by comparing average daily flow rates, permitted capacities, current and projected population growth.

**Population Data**

2010 Census Redistricting Data (Public Law (P.L.) 94-171) Summary File— Texas; prepared by the U.S. Census Bureau, 2011

**City Boundary Data; Hydrologic Data; Traffic Survey Zone Data; Service Area Boundary Data; Wastewater Outfall Data**

The boundary and hydrologic GIS datasets cover (at a minimum) the geographic extent of the Metropolitan Planning Area; the Traffic Survey Zone dataset has a 10 county extent, and includes all the area within the EPA “208 Planning Boundary”. The GIS Service Area Boundary dataset is updated continually based on information supplied by Regional and Community wastewater service providers.

Citation information for these GIS datasets:

**Originator:** North Central Texas Council of Governments

**Purpose:** Mapping and Analysis

**Publication Date:** May, 2007

**Maintenance and Update Frequency:** Continually

**Geospatial Data Presentation Form:** vector digital data

**Online Linkage:** <<http://www.dfwmaps.com/clearinghouse/>>

**Aerial Photography Data**

Color aerial photography was acquired using a Z/I Digital Mapping Camera (Z/I DMC) which has been confirmed accurate by the USGS digital sensor evaluation program.

<b>Altitude of Capture</b>	4,800' above mean terrain	<b>Forward Overlap</b>	60%
<b>Focal Length</b>	120 mm (4.72")	<b>Sidelap</b>	25%
<b>Imagery Scale</b>	1"= 1015' (Photo scale 1: 12190 )	<b>Coordinate System</b>	Texas State Plane, North Central Zone
<b>Capture Period</b>	January-March 2007	<b>Horizontal Datum</b>	NAD 83
<b>Conditions</b>	Leaf off, cloud free, 30 degree to 20 degree sun angle	<b>Units</b>	US Survey Feet

**Wastewater Outfall Data**

This dataset is downloaded annually from the TCEQ website.

## 1.4 Data Analyses

The preliminary data acquired from the TCEQ, CADs and ECHO is described in Sections 1.2 and 1.3. This data will be updated on at least an annual basis. These data are the basis for the analysis.

The most current service area data is loaded into ArcMap, along with any newly acquired data. Existing boundaries in the current dataset are adjusted to match new data if required, and existing base map data are used to digitize boundaries based on roads or hydrographic descriptions. The boundaries are then edited to remove any overlaps that might cause double-counting. Area is recalculated on the new service area boundaries to establish the base areas for population calculations. Then current Traffic Safety Zone boundaries are loaded, each of which is associated with a 2035 and 2040 projected population value.

The North Central Texas Council of Governments Transportation Department creates long-range demographic forecasts for use in infrastructure planning in North Central Texas, and is the source of the population figures that are part of the Traffic Survey Zone Dataset. These forecasts are the result of a process that includes use of various specialized, statistical models to allocate regional projections of population to planning districts. The multi-stage process began with control totals for population and employment growth in the twelve counties that comprise the Metropolitan Planning Area. The control totals were allocated to successively smaller planning geographies first using an adaptation of the University of Texas at Austin's Gravity Land Use Model and then using a proprietary disaggregation model. NCTCOG's Transportation Department provided the technical expertise for this effort.

Using ArcMap geoprocessing tools, the new service area layer and the TSZ base layer are processed, resulting in a block of TSZ's coextensive with the bounds of the Service areas. Area is calculated for the 'intersected' TSZ's, and population proportional to that area is calculated.

The same process is followed using the service area boundaries and 2010 Census tracts to calculate the current population in each service area. To calculate population values and projections by subwatershed, the TSZ and 2010 Census data are resampled and distributed proportionately among the watersheds.

The compiled datasets (WWTPD, WWTOD, WWSAD) are compared against each other based on TCEQ permit number or other shared identifying feature, to ensure integration across all datasets (e.g. staff will ensure that for all wastewater permits in the WWTPD there is a corresponding outfall location(s) in the WWTOD, and (if applicable) a service area boundary in the WWSAD). NCTCOG staff will attempt to reconcile any discrepancies to provide an integrated final product. This review will happen annually, though there may be specific permits reviewed upon request or based on data received subsequent to the annual review, on an ad hoc basis. All reviews and changes are documented in the Final Report.

Service areas, populations and projections are then displayed in maps and tables.

## 1.5 Project Participants and Responsibilities

### Description of Responsibilities

TCEQ

**Kerry Niemann**, NPS Program Team Leader

Responsible for supervising the TCEQ NPS Team and staff. Oversees the development of QA guidance for the NPS Team to ensure it is within pertinent frameworks of the TCEQ. Reviews and/or approves all NPS projects, QA audit responses, QAPPs, agency QMPs, corrective action reports, work plans, and contracts. Enforces corrective action where QA protocols are not met. Ensures TCEQ NPS personnel are fully trained.

**Bill Carter**, NPS Project Manager

Responsible for ensuring that the project delivers data of known quality and quantity on schedule to achieve project objectives. Provides the primary point of contact between the Houston-Galveston Area Council and the TCEQ. Tracks and reviews deliverables to ensure that tasks in the work plan are completed as specified in the contract. Reviews and approves QAPPs and any amendments or revisions and ensures proper distribution of approved/revised QAPPs to TCEQ participants and the EPA. Responsible for verifying that the QAPP is followed by the Houston-Galveston Area Council. Notifies the NPS QAS, NPS QA Coordinator, and NPS Program Team Leader of significant project nonconformances and corrective actions taken as documented in CARs and/or quarterly progress reports.

**Kyle Girtten**, Monitoring Division, NPS Quality Assurance Specialist

Assists the NPS Program Manager and Project Manager on QA-related issues. Coordinates, reviews and approves QAPPs and amendments or revisions. Prepares and distributes annual audit plans. Conveys QA problems to appropriate TCEQ management. Monitors implementation of corrective actions. Coordinates and conducts audits. Ensures maintenance of QAPPs and audit records for the NPS program.

**Anju Chalise**, TCEQ NPS Project Quality Assurance Specialist

Assists Lead QAS with NPS QA management. Serves as liaison between NPS management and Agency QA management. Responsible for NPS guidance development related to program quality assurance. Serves on planning team for NPS projects. Participates in the development, approval, implementation, and maintenance of the QAPP.

NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS

**Sam Brush**, North Central Texas Council of Governments, Project Manager

The NCTCOG Project Manager is responsible for ensuring that all tasks and other requirements in the contract are executed on time and with the quality assurance/quality control requirements as defined by the contract and in the project QAPP; assessing the quality of participant work; submitting accurate and timely deliverables to the TCEQ NPS Project Manager; and coordinating attendance at conference calls, trainings, meetings, and related project activities with the TCEQ. Responsible for verifying that the QAPP is distributed and followed by the NCTCOG.

**Doug Anthony**, North Central Texas Council of Governments, Quality Assurance Officer

Responsible for coordinating development and implementation of the NCTCOG QA program. Responsible for writing and maintaining QAPPs and monitoring their implementation. Responsible for maintaining records of QAPP distribution, including appendices and amendments. Responsible for identifying, receiving, and maintaining project quality assurance records. Responsible for compiling and submitting the QA report. Responsible for coordinating with the TCEQ QAS to resolve QA-related issues. Notifies the NCTCOG Project Manager and TCEQ Project Manager of particular circumstances which may adversely affect the quality of data. Coordinates and monitors nonconformances and corrective actions. Also implements or ensures implementation of corrective actions needed to resolve nonconformances noted during assessments.

**Scott Miller**, North Central Texas Council of Governments, Data Manager

Responsible for the acquisition, verification, and transfer of data to the TCEQ NPS Project Manager. Oversees data management for the project. Provides the point of contact for the TCEQ NPS Project Manager to resolve issues related to the data and assumes responsibility for the correction of any data errors.

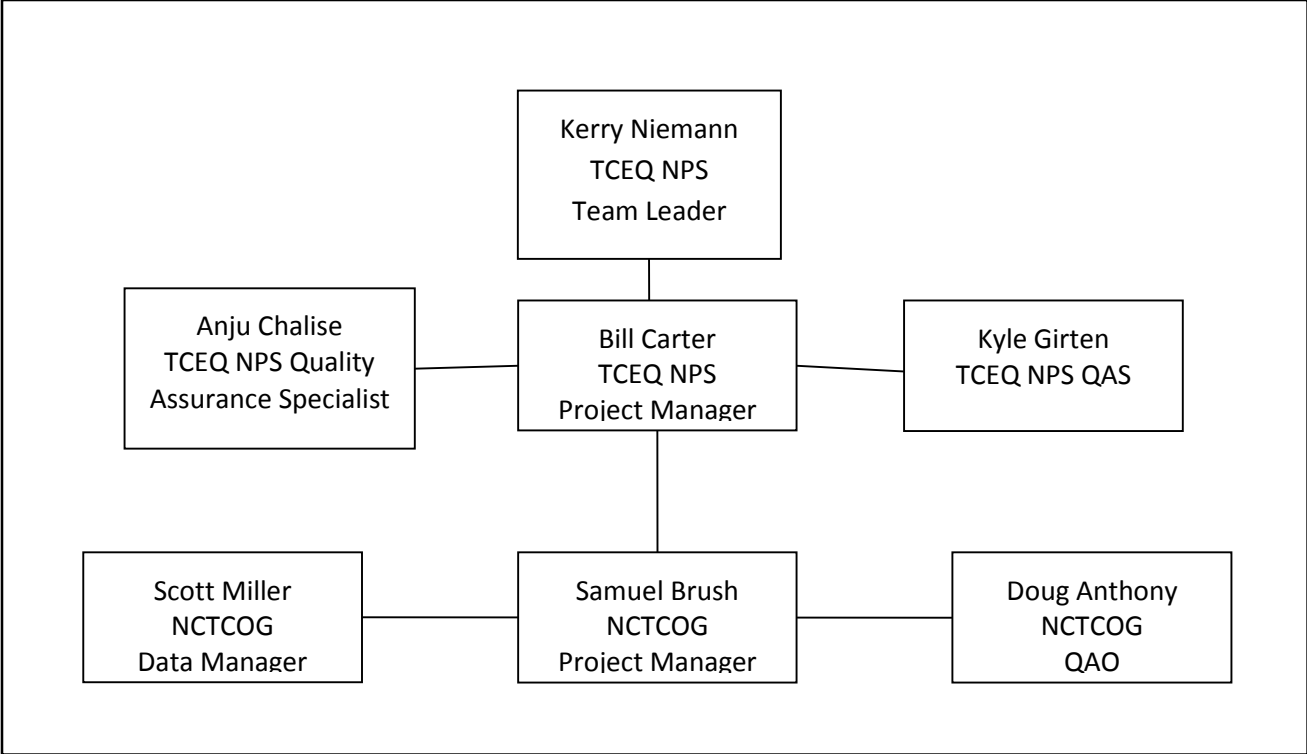


FIGURE 1.5.1 ORGANIZATION CHART

## Section 2.0 - Sources of secondary data

### 2.1 Secondary Data Required

For this project, the sources of secondary data for each of the four primary objectives are as follows:

**WWTPD** – The source of data for the WWTPD are physical notices sent via mail by the TCEQ to NCTCOG, as well as USEPA ECHO online search, specifically searching effluent data in the ‘PCS’ and ‘ICIS-NPDES’ databases. This online search complements and confirms the TCEQ notices. These notices are in regard to actions concerning wastewater permits in the Region. The actions include approved new permits, renewal of existing permits, major and minor modifications of permits, changes to permit information (i.e. names, addresses, etc. not requiring formal modifications), notices of intent to apply for permits, notices of preliminary approval of permits, and other notices deemed appropriate to disseminate by the TCEQ. Data from these permits is entered into an existing Microsoft Access database.

**WWTOD** – The source of data for the WWTOD is a GIS dataset disseminated by the TCEQ. NCTCOG updates this dataset at least twice per year, dependent on the frequency at which TCEQ releases an update. The source of the dataset to which the new data is compared is the previously released dataset from the TCEQ. This data is provided in standard ArcGIS formats.

**WWSAD** – The source of data for the WWSAD are NCTCOG GIS datasets compiled from the Community and Joint Wastewater Service Providers<sup>3</sup> operating in the region. This data is provided in standard ArcGIS formats.

**Updated GIS Analyses** – The source of data for the updated GIS analyses are the products of the first three objectives, as completed during the FY2011 contract year. Additionally, proprietary regional forecast data produced by NCTCOG is used to provide spatial data for growth areas/population projections.

### 2.2 Source Selection Rationale

The sources of data used under this project were selected under previous contracts and efforts with the TCEQ for these objectives. For the WWTPD, the TCEQ notices and EPA “Enforcement and Compliance History Online (ECHO) system are the sources of these data. For the WWTOD, the TCEQ outfall locations GIS dataset are the standard source for these data, which maintains consistency between efforts by NCTCOG and other entities. Additionally, no readily available or logistically feasible alternative exists (e.g., X/Y coordinate data are not provided in permits, which would therefore necessitate that staff directly field-verify via GPS the coordinates for each outfall, which would be cost and time prohibitive for the purposes of this project.) For the WWSAD, multiple boundary sources exist. TCEQ, NCTCOG proprietary data, Certificates of Convenience and Necessity (CCN) and Regional Treatment Facility information are the basis for determining service area boundaries. Service area mapping is an iterative process in which the wastewater service providers are consulted and boundaries are adjusted by mutual consent.

The regional forecast data is selected to provide high growth areas because it is the sole existing source covering the entire regional area, and has been utilized in other related projects and efforts. These data is the regional standard for population/growth trends forecasting.

---

<sup>3</sup> A list of Joint and Community Service Providers is provided as **Appendix B**

These data are utilized under multiple efforts<sup>4</sup>, so their use for these objectives ensures consistency. The data used for the WWSAD are updated from the previous year's WQMP, based on service area information from Joint and Community providers. The regional forecast data used in the updated GIS analyses are the regional standard for population and demographic change projection, and were therefore used to assure consistency with other related efforts throughout the region and internal to NCTCOG.

### **2.3 Secondary Data Sources**

The permit notices compiled for the WWTPD are available from the TCEQ's Water Quality Division by request at 512-239-4671. The spatial outfall dataset used for the WWTPD is available on the TCEQ's website at <http://www.tceq.state.tx.us/gis/sites.html>. The spatial service area boundaries used for the WWSAD are available from the CADs for each of the Region's counties, as will be specified in the final data summarization report for this project. The regional forecast data used to generate high growth areas in the updated GIS analyses is available upon request from NCTCOG at <http://www.nctcog.org/ris/demographics/forecast.asp>.

## **Section 3.0 – Assuring Quality of secondary data**

For the purpose of this project, the intent is to acquire, compile and integrate three datasets related to wastewater infrastructure in the Region, and to utilize previously compiled data to update GIS analyses. As indicated in Section 2.2 the data sources were selected because they were sole sources of the data (WWTPD), most feasible source of information (WWTPD), or the most accurate for the needs of this project (WWSAD). The data from TCEQ for the WWTPD and WWTPD have already undergone quality assurance processes, and therefore the quality requirements for this data relate to the processing completed by NCTCOG. The raw data from the CADs for the WWSAD undergoes rigorous scrutiny by the submitters, and the compiled effort (the WWSAD) is compared against the quality-assured data from the WWTPD and WWTPD for consistency. The regional forecast data is modeled by NCTCOG's Research and Information Department, under a separate project, but is subject to close scrutiny by local and regional partners as well as internal clients. This data is the regional standard for forecast data, and is used in a wide array of regional projects.

### **3.1 Quality Requirements**

For the WWTPD, the notices from TCEQ are preliminarily assumed to be accurate. However, comparison of information between the WWTPD, WWTPD, and WWSAD helps eliminate any potential error in the raw TCEQ data. Therefore, the primary quality concern is in the process of entering the data from the notices into the existing Access database (the WWTPD). Data entry is done by NCTCOG project staff. To ensure accuracy of the data entry the Access database has been designed to limit typos or other errors by incorporating drop down menus and other limited selection devices wherever possible.

For the WWTPD, the outfall locations dataset from TCEQ is preliminarily assumed to be accurate as it is produced by the regulating agency directly. However, NCTCOG staff compares the changes between the last previous dataset obtained from the TCEQ with the current dataset. Any discrepancies are noted, and examined by staff. The NCTCOG PM and project staff review the corresponding records in the WWTPD

---

<sup>4</sup> The purpose of this data is to serve internal and external projects that involve an evaluation of wastewater infrastructure in the area. While there are several standing efforts this data serves (e.g., compilation by the TCEQ as part of the State Water Quality Management Plan), most of its uses are ad hoc, and cannot be projected in advance. In the past, these uses include a variety of water quality, watershed management, municipal planning, and regional planning initiatives. These may range from Watershed Protection Plans and Total Maximum Daily Load studies, to municipal Capital Improvement Planning projects. The intent is for this data to serve local planning needs as they arise.

and WWSAD (if applicable), to ensure consistency of the change across the three datasets. The annual review process is described in greater detail in section 1.4, and is documented in the Final Report for this project.

For the WWSAD, NCTCOG project staff compares the boundary data from the previous iteration of the database to new raw data to identify changes. Any discrepancies (overlapping boundaries, missing boundaries, etc.) are investigated by project staff. Discrepancies are investigated using the TCEQ's Central Registry query, review of GIS or CAD Service Area files obtained from the WWT providers and their contractors, and discussions with the permitted facilities in question.

For the GIS analyses, the bulk of the data used is described in the preceding paragraphs. The regional forecast data is compiled under the quality objectives of NCTCOG's Research and Information Services.<sup>5</sup> This data is used for determining wastewater discharges and treatment capacities, evaluating spatial proximity of project data to high growth areas and similar factors.

### **3.2 Quality Requirements Disclaimer**

While NCTCOG general assumption is made that data originating from the TCEQ achieves an original level of quality sufficient to meet the needs of this project. NCTCOG makes a reasonable effort to verify this accuracy, but some details cannot be readily or feasibly verified on an individual datum basis. The additional methodologies described in Section 3.2 are intended to reduce any potential for error to the greatest degree practicable. The forecast data is inherently forward-looking, and therefore cannot be field-verified.

## **Section 4.0 –Data Reduction, Data Validation, and Data Reporting**

### **4.1 Data reduction procedures**

The primary purpose of the first three objectives of this project is to acquire and compile existing data. No further analysis is conducted on the data itself other than to evaluate discrepancies between old and current versions of the datasets, and to assure consistency across the datasets. For the final objective (updated GIS analyses), simple GIS analyses are performed to visually display spatial relationships between different datasets. Because the data used was either produced under similar objectives in preceding 604b contracts or taken from regional forecast data that underwent data/model validation processes, no further data evaluation was completed.

### **4.2 Data validation procedures**

Because of the high reliability of the data sources for this study (TCEQ, EPA ECHO, PCS and ICIS databases, regional CADs, NCTCOG regional forecast data and 6 inch resolution orthophotography), the limited data reduction procedures, and the fact that this effort is aimed solely at the acquisition, compilation, and spatial analysis of existing data, data validation procedures are limited to the two comparisons discussed in Sections 3.2 and 3.3.

- The first comparison is between the previous dataset and the current dataset for each objective.
- The second comparison is between linked records (based on TCEQ permit number) across each of the three datasets (e.g., a domestic wastewater facility with a permit in the WWTPD, will have an outfall(s) in the WWTOD, and a service area boundary in the WWSAD).

### **4.3 Final Project Documents**

---

<sup>5</sup> More information regarding this process is available at <http://www.nctcog.org/ris/demographics/index.asp>



The final deliverable for the data objectives is a series of maps and report included in the Final Report for Agreement 582-12-10089 between the NCTCOG and TCEQ. The data acquisition and compilation activities will be summarized in the Final Report for this project, and a digital copy of the datasets and hard copy map will be submitted to TCEQ. Task progress will be reflected in the quarterly progress reports. The scope of work detailing the level of effort and deliverables for these objectives is contained in Appendix B. NCTCOG makes efforts to ensure primary data received from the TCEQ and CAD is accurate, but we are unable to field-verify every outfall, or verify each detail of each permit notification with TCEQ staff.

The Regional Water Quality Management Plan is comprised of the following elements described in Task 3.1 of the Scope of Work (Appendix C)

- Current and projected populations for incorporated entities in the NCTCOG planning area;
  - Based on 2010 US Census data and population projections provided by NCTCOG’s Research and Information Services
- Current wastewater service areas for joint systems and community systems, oriented by 12-digit Hydrologic Unit Code (HUC) geographic framework;
  - Derived from previous year’s GIS files, reviewed and corrected, if necessary, by representatives of the wastewater service provider and/or city personnel responsible for mapping wastewater service area. These service areas are also assigned to each 12 digit Hydrologic Unit Code Subwatershed using GIS Analysis.
- New or updated NCTCOG-recommended Management Agency Designations received since the last WQMP update;
  - Incorporates any reviewed wastewater service area changes received from TCEQ since the previous Water Quality Management Plan.
- Written recommendations to the TCEQ regarding conformance review of state revolving loan fund projects, new and renewal wastewater permits, or other projects that represent modifications to the WQMP;
  - Based on permit modification notices received from the TCEQ, and published State Revolving Funds Projects, and incorporating review with the affected wastewater service provider.
- Responses to any specific wastewater facility project review as requested by the TCEQ;
  - Incorporates evaluation and comparison of 2010 US Census data and NCTCOG population projections, wastewater service areas for joint systems and community systems, and consideration of regional treatment strategies and effective service arrangements to meet wastewater treatment needs.
- Updated wastewater treatment plant flows based on TCEQ reports and EPA’s “Enforcement and Compliance History Online (ECHO) database.

#### 4.4 Data Retention and Archiving

NCTCOG will maintain the project data and documentation in accordance with the times and methods listed in Table 4.4.1. All reasonable and proper precautions will be taken to maintain the integrity of the data. Because the datasets are “living” documents, they are modified from time to time to incorporate new or changed data (e.g., changes in permit limits, etc.).

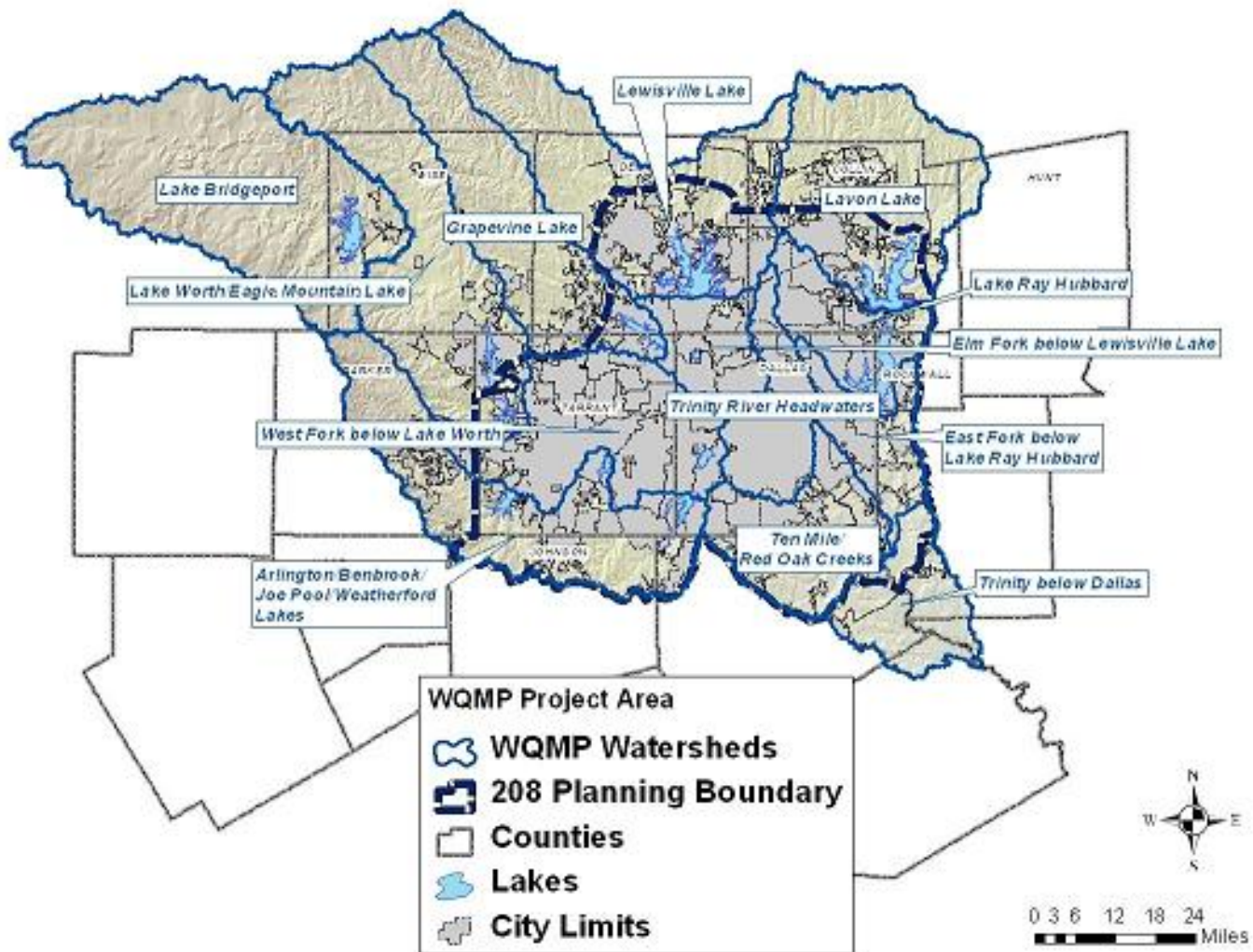
<b>Data</b>	<b>Retention Time</b>	<b>Retention Media</b>
Electronic datasets	7+ Years	Electronic

QAPPs, amendments and appendices	7+ Years	Electronic and Paper
Contract documents	7+ Years	Electronic and Paper
Maps and Reports	7+ Years	Electronic and Paper

TABLE 4.4.1 – DATA RETENTION TIMES AND METHODS

NCTCOG maintains the electronic data acquired and created for this project in project folders on network drives. Daily and weekly backups to electronic storage media are conducted for all network drives, allowing for recovery of lost data in the event of server loss. Hard copies of documents are stored for a minimum of the retention times listed in the preceding table and may be located as project folders in the Water Quality section of NCTCOG’s onsite file storage, or cataloged and placed in secure offsite storage. Due to the ongoing nature of this project, data may be maintained for longer periods than the minimum retention times. All NCTCOG servers, data backup, offsite storage, and electronic files require personnel security passwords or employee requests to appropriate NCTCOG personnel to access.

*Appendix A – Project Area Map*



*Appendix B – Joint and Community Treatment Plants*

**Joint Systems**

**North Texas Municipal Water District**

NTMWD BUFFALO CREEK PLANT  
 NTMWD FLOYD BRANCH REGIONAL WWT  
 NTMWD MUDDY CREEK REGIONAL WWTP  
 NTMWD PANTHER CREEK WWTP  
 NTMWD ROWLETT CREEK WWTP  
 NTMWD SABINE CREEK REGIONAL WWTP  
 NTMWD SEIS LAGOS WWTP  
 NTMWD SOUTH MESQUITE CREEK WWTP  
 NTMWD STEWART CREEK WEST PLANT  
 NTMWD WILSON CREEK PLANT  
 NTMWD WYLIE PLANT

**Trinity River Authority**

TRA CENTRAL REGION WASTEWATER  
 TRA DENTON CREEK REGIONAL PLANT  
 TRA MOUNTAIN CREEK REG WWTF  
 TRA RED OAK CREEK REGIONAL WWT  
 TRA TEN MILE CREEK

**Upper Trinity River Water District**

UTRWD DOE BRANCH REG WATER REC PLANT  
 UTRWD LAKEVIEW REGIONAL PLANT  
 UTRWD PENINSULA REG WATER REC PLANT (LEWISVILLE)  
 UTWRD RIVERBEND

**Community Systems**

<i>System</i>	<i>County</i>	<i>System</i>	<i>County</i>
CITY OF BLUE RIDGE WWTP	COLLIN	CITY OF DECATUR	WISE
CITY OF CELINA	COLLIN	CITY OF NEWARK WWTP	WISE
CITY OF FARMERSVILLE PLANT 1	COLLIN	CADDO MILLS WWTP 2	HUNT
CITY OF JOSEPHINE	COLLIN	CITY OF CAMPBELL	HUNT
CITY OF PRINCETON	COLLIN	CITY OF CAMPBELL WWTP	HUNT
CITY OF ANNA SLAYTER CREEK PLANT	COLLIN	CITY OF CELESTE	HUNT
CITY OF DALLAS BACHMAN WTP	DALLAS	CITY OF COMMERCE WWTF	HUNT
CITY OF DALLAS CENTRAL WWTF	DALLAS	CITY OF HAWK COVE WWTP	HUNT
CITY OF DALLAS ELM FORK WTP	DALLAS	CITY OF LONE OAK	HUNT
CITY OF DALLAS SOUTHSIDE WWTP	DALLAS	CITY OF QUINLAN WWTP	HUNT
CITY OF GARLAND ROWLETT CREEK	DALLAS	CITY OF WEST TAWAKONI	HUNT
CITY OF HUTCHINS	DALLAS	CITY OF WOLFE CITY	HUNT
CITY OF AUBREY	DENTON	CITY OF WOLFE CITY WTP	HUNT
CITY OF HACKBERRY	DENTON	GREENVILLE WW REC. CTR.	HUNT
CITY OF JUSTIN	DENTON	CITY OF CRANDALL	KAUFMAN
CITY OF KRUM	DENTON	CITY OF FORNEY	KAUFMAN
CITY OF LAKEWOOD VILLAGE	DENTON	CITY OF KAUFMAN	KAUFMAN
CITY OF AUBREY	DENTON	CITY OF KEMP	KAUFMAN
CITY OF HACKBERRY	DENTON	CITY OF MABANK	KAUFMAN
CITY OF JUSTIN	DENTON	CITY OF TERRELL KINGS CREEK	KAUFMAN
CITY OF KRUM	DENTON	CITY OF ALEDO	PARKER
CITY OF LAKEWOOD VILLAGE	DENTON	CITY OF SPRINGTOWN	PARKER
CITY OF LEWISVILLE	DENTON	CITY OF WEATHERFORD	PARKER
CITY OF PILOT POINT	DENTON	CITY OF WILLOW PARK	PARKER

*Community Systems (continued)*

<i>System</i>	<i>County</i>	<i>System</i>	<i>County</i>
CITY OF ROANOKE	DENTON	CITY OF WILLOW PARK WWTP	PARKER
CITY OF SANGER	DENTON	WILLOW PARK WWTP 2	PARKER
ROBSON RANCH TREATMENT PLANT (Denton)	DENTON	FT WORTH VILLAGE CREEK	TARRANT
CITY OF LIPAN	HOOD	GRAPEVINE - PEACH STREET	TARRANT
CITY OF TOLAR	HOOD	CITY OF HALTOM CITY	TARRANT
CITY OF TOLAR WWTP	HOOD	CITY OF HASLET	TARRANT
CITY OF CADDO MILLS	HUNT	CITY OF MANSFIELD	TARRANT
CITY OF ALVORD	WISE	CITY OF RHOME	WISE
CITY OF BOYD	WISE	RHOME WESTSIDE PLANT	WISE
CITY OF BRIDGEPORT	WISE	CITY OF RUNAWAY BAY	WISE
CITY OF CHICO	WISE	GRAPEVINE - PEACH STREET	TARRANT

*Appendix C – Project Scope of Work*



## SCOPE OF WORK

### Problem/Need Statement:

The North Central Texas area has a need for strong water quality management planning efforts in order to plan for adequate regional wastewater treatment service and effective storm water and Nonpoint Source (NPS) management that result in maintenance and improvement of water quality in the Upper Trinity River Basin. NCTCOG currently projects that the population of the region will increase from approximately 5.1 million in 2000 to approximately 9.2 million in 2030. The regional growth projected by NCTCOG's 2030 forecasts continues to present challenging planning frontiers for wastewater treatment and a wide array of water quality related issues for strategic regional planning.

### General Project Description:

The NCTCOG is the designated water quality management planning agency for North Central Texas. Since 1977, NCTCOG has pursued a wide range of water quality initiatives, anchored in the annual amendments to the Water Quality Management Plan (WQMP) for North Central Texas. NCTCOG staff collaborates with members of the Water Resources Council in compiling wastewater treatment information and strategies for the eight joint systems and over 20 community systems. Data on service areas and arrangements, management agency designation recommendations, plant discharge limits, planned capacity expansions, projected wastewater demands, and other information are all integrated each year to present any necessary updates and amendments to the regional plan. NCTCOG provides administrative and coordinative support for the Water Resources Council and TCEQ in the development of the WQMP, and facilitates any additional activities addressing water quality issues that arise for the North Central Texas area. For 2013-2014, NCTCOG staff will develop the WQMP Update, with most information already organized by the 10 and 12 digit Hydrologic Unit Code (HUC) boundaries. The work activities will seek to update and maintain some of the basic regional water quality planning efforts including updates on designation status of wastewater treatment and/or collection entities within NCTCOG's planning area.

### Task 1: Project Administration

**Goal:** To effectively coordinate and monitor all technical and financial activities performed under this Contract, prepare progress reports, conduct quarterly conference calls, and manage project files and data.

- Task 1.1**      **Project Oversight** – NCTCOG will provide technical and fiscal oversight of the NCTCOG project staff and/or subgrantee(s)/subcontractor(s) to ensure Tasks and deliverables are acceptable and are completed as scheduled and within the budget. With the TCEQ Project Manager's authorization, the NCTCOG may secure the services of subgrantee(s)/subcontractor(s) as necessary for technical support, repairs, and training. Project oversight status will be provided to the TCEQ with the Quarterly Progress Reports (QPRs).
- Task 1.2**      **QPRs** – The NCTCOG will submit QPRs to the TCEQ by the 15th of the month following each state fiscal quarter. QPRs will contain a level of detail sufficient to document the activities that occurred under each Task during the quarter and will contain a comprehensive tracking of deliverable status under each Task. QPRs will be distributed to all project partners.
- Task 1.3**      **Reimbursement Forms** – Invoices must be submitted to the individual named in the Notices, TCEQ Project Representatives and Records Location at quarterly intervals and monthly during the last quarter of the Contract. Request for reimbursement must be submitted within 30 days after the close of each quarter. For the last fiscal quarter of the Contract (June-August), reimbursement requests are due on a monthly basis. The Performing Party will submit the monthly reimbursement request documents within 15 days after the close of each month with the exception of the final billing which is due within 45 days after the close of the Contract.
- Task 1.4**      **Contract Communication** – The NCTCOG will participate in a post award meeting with the TCEQ. The NCTCOG will maintain regular telephone and/or email communication with the TCEQ Project Manager regarding the status and progress of the project in regard to any matters that require attention between QPRs. This will include a call or meeting in the months of: October, January, April, and July. Minutes recorded, items discussed, and decisions made during

each contact will be attached or included with each QPR.

Matters that must be communicated to the TCEQ Project Manager in the interim between QPRs may include:

- Requests for prior approval of activities or expenditures for which the Contract requires advance approval or that are not specifically included in the Scope of Work.
- Notification in advance when NCTCOG has scheduled public meetings or events, initiation of construction, or other major Task activities under this Contract.
- Information regarding events or circumstances that may require changes to the budget, Scope of Work, or Schedule of Deliverables. These events or circumstances must be reported within 48 hours of discovery.

**Deliverables:**

- Project Oversight.
- QPRs.
- Reimbursement Forms.
- Quarterly Conference Calls.

**Task 2: Quality Assurance Project Plan (QAPP)**

**Goal:** To update or develop QAPPs for Task 3.1 in the Scope of Work consistent with the United States Environmental Protection Agency (EPA) requirements for Quality Assurance Project Plan (QAPP) for acquired or geospatial data to ensure environmental data acquired is of known and acceptable quality. This effort will involve review of the QAPP for the WQMP and development of any new QAPPs determined to be needed for any appropriate data compilation or development efforts in this Scope of Work. New QAPPs will be determined in coordination with TCEQ.

**Task 2.1: QAPP Updates/Amendments** – NCTCOG will provide input to TCEQ 60 days prior to the end of the effective period of the QAPP (December 31, 2013) and will develop annual QAPP revisions no less than 45 days prior to the end of the effective period of the QAPP. Changes in data collection can only occur after QAPP amendments are approved by the authorities that reviewed and approved the original QAPP.

**Deliverables:**

- The QAPP for this project is in accordance with EPA Requirements for Quality Assurance Project Plans, EPA QA/R-5 and has coverage from December 2012 through December 2013. This QAPP will be updated and/or amended as needed.

**Task 3: Water Quality Management Plan Review/Update**

**Goal:** To maintain key elements of the approved WQMP and develop appropriate data and service information to result in a simple WQMP Update which contains new, amplified service information revised from previous plans.

**Task 3.1:** Develop appropriate analyses and reports to result in a WQMP Update which contains information that has been revised from previous plans. NCTCOG will conduct analysis and portray updated service area maps for the 13 regional watersheds in the Upper Trinity River Basin.

The WQMP Update will contain: revised current and projected populations for incorporated entities in the NCTCOG planning area; illustration of current wastewater service areas for joint and community systems oriented by the new 12-digit HUC geographic framework; new or updated NCTCOG-recommended Management Agency Designations received since the last WQMP Update; written recommendations to the TCEQ regarding conformance review of state revolving loan fund projects, new and renewal wastewater permits, or other projects that represent modifications to the WQMP; and updates, as available, for wastewater treatment plant flows within service areas which will be provided in an appendix for public information use and will not be included for certification.

NCTCOG will provide the TCEQ Project Manager with the written report of the WQMP Update

that will be reviewed by affected local governments and other entities within NCTCOG's planning area.

The WQMP amendments will be adopted by NCTCOG's Executive Board following a public hearing and endorsement by NCTCOG's Water Resources Council, and forwarded to TCEQ along with WQMP information, for consideration of certification to the State's WQMP. The amendment will include: a list of NCTCOG's recommended modifications, if any, to the designated management agency list for wastewater service from 2010 through the year 2040; descriptions of any significant service area modifications or changes to service providers since the 2013 WQMP Update; revised or updated population estimates and projections for entities within the NCTCOG planning area, presented both by local government corporate boundary and joint or community system service area; a description presented as an appendix detailing WQMP conformance; and Review actions for 208/201 coordination items conducted during 2013/2014.

**Deliverables:**

- Public participation period for WQMP Update with public hearing to be held prior to NCTCOG adoption (1/1/2014 – 4/28/2014).
- Locally-Adopted (by NCTCOG Executive Board) WQMP Update - NCTCOG-adopted Draft WQMP Update hard copies furnished for State Review and complete WQMP data in digital format on appropriate digital media (May 30, 2014).
- Final Draft WQMP with responses to any state or federal review comments, ready for State Certification, ten original hard copies plus one digital original of the final WQMP on appropriate digital media (June 29, 2014).

**Task 4: Water Quality Management Plan (WQMP) Conformance Review for Clean Water State Revolving Fund (CWSRF) Projects and New Or Renewal Wastewater Permit Applications**

**Goal:** To review CWSRF applications, new wastewater permit applications, or renewal applications to ensure conformance with the WQMP for North Central Texas.

**Task 4.1:** NCTCOG staff will respond to requests from the TCEQ for specific wastewater facility project reviews, primarily through evaluation and comparison of demographic projections in the facility plans, and also through consideration of regional treatment strategies and effective service arrangements to meet wastewater treatment needs.

**Deliverables:**

- Provide written comments to the TCEQ regarding each CWSRF funding proposal within the NCTCOG region, indicating the determination concerning project conformance with the latest adopted WQMP for North Central Texas. (Within 30 days of receipt of TCEQ request for review)

**Task 5: Final Report**

**Goal:** To provide the TCEQ with a comprehensive report on the success of the activities under this Contract.

**Task 5.1** NCTCOG will provide a report of activities conducted under this Contract. This comprehensive report will provide analysis of all activities and deliverables under this Scope of Work.

The report will include the following information:

- Title;
- Table of contents;
- Executive Summary;
- Introduction;
- Project Significance and Background;
- Project Studies and Coordination Activities;
- Methods;
- Results and Observations;
- Discussion;

- Summary;
- References; and
- Appendices.

**Task 5.2 Final Report** – NCTGOG will incorporate all comments received on the Draft Report to prepare a Final Report summarizing all project activities, findings, and the contents of all previous deliverables, referencing and/or attaching them as web links or appendices.

**Deliverables:**

- Draft Final Report (July 15, 2014)
- Final Report (August 12, 2014)

**SCHEDULE OF DELIVERABLES**

<b>Task No.</b>	<b>Deliverables</b>	<b>Due Date</b>
1.1	Project oversight status	With QPR's
1.2	QPR FY14 Q-1	12/15/2013
1.2	QPR FY14 Q-2	3/15/2014
1.2	QPR FY14 Q-3	6/15/2014
1.2	QPR FY14 Q-4	9/15/2014
1.3	Reimbursement Forms (FY14 Q-1)	12/30/2013
1.3	Reimbursement Forms (FY14 Q-2)	3/30/2014
1.3	Reimbursement Forms (FY14 Q-3)	6/30/2014
1.3	Reimbursement Forms (FY14 Q-4 June)	7/15/2014
1.3	Reimbursement Forms (FY14 Q-4 July)	8/15/2014
1.3	Reimbursement Forms (FY14 Q-4 August)	10/15/2014
1.4	Post Award Meeting	30 days after contract execution
1.4	Quarterly Conference Call w/ Notes	10/31/2014
1.4	Quarterly Conference Call w/ Notes	1/31/2014
1.4	Quarterly Conference Call w/ Notes	4/30/2014
1.4	Quarterly Conference Call w/ Notes	7/31/2014
2.1	QAPP Update	10/20/2013
3.1	WQMP Public Notice: Public Participation	3/23/2014
3.1	WQMP Public Hearing	5/8/2014
3.1	Locally-Adopted WQMP Update	5/30/2014
3.1	WQMP Final Draft	6/29/2014
4.1	Response to SRF Project Review Requests	Within 30 days
5.1	Draft Final Report	7/15/2014
5.1	Final Report	8/12/2014

**Attachment 2 Quarterly Progress Reports**

<b>QPR 1</b>			
<b>Deliverable</b>	<b>Due Date</b>	<b>Deliverable Status</b>	<b>Quarterly Activity and Summary</b>
<b>OBJECTIVE 1: PROJECT ADMINISTRATION</b>			
<b>Task: 1.1</b> Technical and fiscal oversight of the NCTCOG project staff			
Project Oversight	12/15/2013	Complete	Working with Bernadette Davis to secure approval of the QAPP Revision. Conducted October 10 <sup>th</sup> 2013 Water Resources Council meeting to begin looking at 2014 WQMP development and update. The Water Resources Council (WQMP oversight group) met 12/12/13, and were updated on the progress of the plan and QAPP. (see attached meeting summary.
Project Oversight	3/15/2014	Not Yet Due	
Project Oversight	6/15/2014	Not Yet Due	
Project Oversight	9/15/2014	Not Yet Due	
<b>OBJECTIVE 2: QUALITY ASSURANCE PROJECT PLAN (QAPP)</b>			
<b>Task 2.1</b> QAPP Updates/Amendments			
<b>Deliverable: QAPP Update</b>			
QAPP Update	12/15/2013	Under review by TCEQ, EPA	Received QAPP Update comments from TCEQ 12/11; returned revised QAPP to TCEQ 12/13; Approved by TCEQ 12/18
	3/15/2014	Not Yet Due	
	6/15/2014	Not Yet Due	
	9/15/2014	Not Yet Due	
<b>OBJECTIVE 3: WATER QUALITY MANAGEMENT PLAN (WQMP) REVIEW/UPDATE</b>			
<b>Task 3.1</b> Develop appropriate analyses and reports to result in a WQMP Update			
<b>Deliverables:</b>			
<b>Public Participation Period, Public Hearing (1/1/2014 – 4/28/2014)</b>			
	12/15/2013	Not Yet Due	N/A
	3/15/2014	Not Yet Due	

<b>QPR 1</b>			
<b>Deliverable</b>	<b>Due Date</b>	<b>Deliverable Status</b>	<b>Quarterly Activity and Summary</b>
	6/15/2014	Not Yet Due	
	9/15/2014	Not Yet Due	
NCTCOG-adopted Draft WQMP Update hard copies furnished for State Review (May 30, 2014) and complete WQMP data in digital format on appropriate digital media for TCEQ use will be submitted to TCEQ and shared with EPA as part of the March 31, 2014 milestone progress report.			
	12/15/2013	Not Yet Due	N/A
	3/15/2014	Not Yet Due	
	5/30/2014	Not Yet Due	
	9/15/2014	Not Yet Due	
<b>Final Draft WQMP with responses to State and Federal review comments</b>			
	12/15/2013	Not Yet Due	
	3/15/2014	Not Yet Due	
	6/15/2014	Not Yet Due	
	September 30, 2014	Not Yet Due	
<b>OBJECTIVE 4: WATER QUALITY MANAGEMENT PLAN (WQMP) CONFORMANCE REVIEW FOR CLEAN WATER STATE REVOLVING FUND (CWSRF) PROJECTS AND NEW OR RENEWAL WASTEWATER PERMIT APPLICATIONS</b>			
<b>Task 4.1 Wastewater facility project review; Regional treatment strategy review</b>			
<b>Deliverable: Provide written comments to the TCEQ regarding CWSRF project reviews, wastewater permit applications and renewals</b>			
<b>CWSRF Project reviews</b>	12/15/2013	n/a	None Received or reviewed
	3/15/2014	Not Yet Due	
	5/30/2014	Not Yet Due	
	9/15/2014	Not Yet Due	

<b>QPR 2</b>			
<b>Deliverable</b>	<b>Due Date</b>	<b>Deliverable Status</b>	<b>Quarterly Activity and Summary</b>
<b>OBJECTIVE 1: PROJECT ADMINISTRATION</b>			
<b>Task: 1.1</b> Technical and fiscal oversight of the NCTCOG project staff			
Project Oversight	12/15/2013	Complete	Working with Bernadette Davis to secure approval of the QAPP Revision. Conducted October 10 <sup>th</sup> 2013 Water Resources Council meeting to begin looking at 2014 WQMP development and update. The Water Resources Council (WQMP oversight group) met 12/12/13, and were updated on the progress of the plan and QAPP. (see attached meeting summary.
Project Oversight	3/15/2014	Complete	The QAPP was approved and effective as of Dec 19, 2013; it is effective for 3 years, until December 19, 2016. The Water Resources Council (WQMP oversight group) met February 13, 2014; at the meeting the approval of the QAPP for three years was discussed, and the committee urged NCTCOG to include more water supply information in the Water Quality Management Plan Update for 2014. Strategies for pursuing additional 319(h) grants in the future were discussed. See the attached Meeting Summary.
Project Oversight	6/15/2014	Not Yet Due	



<b>QPR 2</b>			
<b>Deliverable</b>	<b>Due Date</b>	<b>Deliverable Status</b>	<b>Quarterly Activity and Summary</b>
Project Oversight	9/15/2014	Not Yet Due	
<b>OBJECTIVE 2: QUALITY ASSURANCE PROJECT PLAN (QAPP)</b>			
<b>Task 2.1 QAPP Updates/Amendments</b>			
<b>Deliverable: QAPP Update</b>			
QAPP Update	12/15/2013	Under review by TCEQ, EPA	Received QAPP Update comments from TCEQ 12/11; returned revised QAPP to TCEQ 12/13; Approved by TCEQ 12/18
	3/15/2014	Complete	The QAPP was approved and effective as of Dec 19, 2013; it is effective for 3 years, until December 19, 2016.
	6/15/2014	Not Yet Due	
	9/15/2014	Not Yet Due	
<b>OBJECTIVE 3: WATER QUALITY MANAGEMENT PLAN (WQMP) REVIEW/UPDATE</b>			
<b>Task 3.1 Develop appropriate analyses and reports to result in a WQMP Update</b>			
<b>Deliverables:</b>			
<b>Public Participation Period, Public Hearing (1/1/2014 – 4/28/2014)</b>			
	12/15/2013	Not Yet Due	N/A
	3/15/2014	In Process	Notice was published in the Dallas Morning News and Fort Worth Star Telegram on Sunday, March 23, 2014. Notice language is attached.
	6/15/2014	Not Yet Due	
	9/15/2014	Not Yet Due	
<b>OBJECTIVE 4: WATER QUALITY MANAGEMENT PLAN (WQMP) CONFORMANCE REVIEW FOR CLEAN WATER STATE REVOLVING FUND (CWSRF) PROJECTS AND NEW OR RENEWAL WASTEWATER PERMIT APPLICATIONS</b>			
<b>Task 4.1 Wastewater facility project review; Regional treatment strategy review</b>			
<b>Deliverable: Provide written comments to the TCEQ regarding CWSRF project reviews, wastewater permit applications and renewals</b>			
CWSRF Project	12/15/2013	n/a	None Received or reviewed

<b>QPR 2</b>			
<b>Deliverable</b>	<b>Due Date</b>	<b>Deliverable Status</b>	<b>Quarterly Activity and Summary</b>
reviews			
Wastewater permit applications and renewals	12/15/2013	Complete	Several received, none requiring comment to state.
CWSRF Project reviews	3/15/2014	n/a	None Received or reviewed.
Wastewater permit applications and renewals	3/15/2014	Complete	Several received, none requiring comment to state.
	6/30/2014	Not Yet Due	
	9/15/2014	Not Yet Due	

<b>QPR 3</b>			
<b>Deliverable</b>	<b>Due Date</b>	<b>Deliverable Status</b>	<b>Quarterly Activity and Summary</b>
<b>OBJECTIVE 1: PROJECT ADMINISTRATION</b>			
<b>Task: 1.1</b> Technical and fiscal oversight of the NCTCOG project staff			
Project Oversight	12/15/2013	Complete	Working with Bernadette Davis to secure approval of the QAPP Revision. Conducted October 10 <sup>th</sup> 2013 Water Resources Council meeting to begin looking at 2014 WQMP development and update. The Water Resources Council (WQMP oversight group) met 12/12/13, and were updated on the progress of the plan and QAPP. (see attached meeting summary.
Project Oversight	3/15/2014	Complete	The QAPP was approved and effective as of Dec 19, 2013; it is effective for 3 years, until December 19, 2016. The Water Resources Council (WQMP oversight group) met February 13, 2014; at the meeting the approval of the QAPP for three years was discussed, and the committee urged NCTCOG to include more water supply information in the Water Quality Management Plan Update for 2014. Strategies for pursuing additional 319(h) grants in the future were discussed. See the attached Meeting Summary.
Project Oversight	6/15/2014	Complete	The Draft WQMP was posted on NCTCOG's website, and the Public Meeting was held prior to the Water Resources Council (WRC) meeting on May 8 <sup>th</sup> , 2014. At that meeting the Draft Water Quality Management Plan was presented and approved for adoption by the NCTCOG Executive Board at their next meeting. NCTCOG staff also briefed the WRC on upcoming meetings concerning management strategies for PCB impaired streams in the Region.
Project Oversight	9/15/2014	Not Yet Due	
<b>OBJECTIVE 2: QUALITY ASSURANCE PROJECT PLAN (QAPP)</b>			
<b>Task 2.1</b> QAPP Updates/Amendments			
<b>Deliverable: QAPP Update</b>			

QAPP Update	12/15/2013	Under review by TCEQ, EPA	Received QAPP Update comments from TCEQ 12/11; returned revised QAPP to TCEQ 12/13; Approved by TCEQ 12/18
	3/15/2014	Complete	The QAPP was approved and effective as of Dec 19, 2013; it is effective for 3 years, until December 19, 2016.
	6/15/2014	Complete	The QAPP was approved and effective as of Dec 19, 2013; it is effective for 3 years, until December 19, 2016.
	9/15/2014	Not Yet Due	
<b>OBJECTIVE 3: WATER QUALITY MANAGEMENT PLAN (WQMP) REVIEW/UPDATE</b>			
<b>Task 3.1</b> Develop appropriate analyses and reports to result in a WQMP Update			
<b>Deliverables:</b>			
<b>Public Participation Period, Public Hearing (1/1/2014 – 4/28/2014)</b>			
	12/15/2013	Not Yet Due	
	3/15/2014	In Process	Notice was published in the Dallas Morning News and Fort Worth Star Telegram on Sunday, March 23, 2014. Notice language is attached (Attachment 1)
	6/15/2014	Complete	<ul style="list-style-type: none"> <li>• Update population projections using NCTCOG 2013 estimates.</li> <li>• Updated service area boundaries with providers</li> <li>• Calculated Average Daily Flow for all wastewater treatment plants in the region</li> <li>• Mapped Average Daily Flow by watershed</li> <li>• Created watershed and subwatershed present population and population projections.</li> <li>• Public Meeting was conducted on May 8, 2014 at 9:30 a.m. Public comments received at the Water Resources Council meeting following the public meeting are attached, along with our Responses / Answers</li> <li>• Draft WQMP was accepted by WRC in May 8, 2014 meeting</li> <li>• Staff incorporated comments and answered questions from the public meeting and WRC acceptance meeting.</li> </ul>

			<ul style="list-style-type: none"> <li>Draft WQMP to be submitted June 29, 2014</li> </ul>
	9/15/2014	Not Yet Due	
<b>OBJECTIVE 4: WATER QUALITY MANAGEMENT PLAN (WQMP) CONFORMANCE REVIEW FOR CLEAN WATER STATE REVOLVING FUND (CWSRF) PROJECTS AND NEW OR RENEWAL WASTEWATER PERMIT APPLICATIONS</b>			
<b>Task 4.1 Wastewater facility project review; Regional treatment strategy review</b>			
<b>Deliverable: Provide written comments to the TCEQ regarding CWSRF project reviews, wastewater permit applications and renewals</b>			
CWSRF Project reviews	12/15/2013	n/a	None Received or reviewed
Wastewater permit applications and renewals	12/15/2013	Complete	Several received, none requiring confirmation of population projections or conformance with the Water Quality Management Plan.
CWSRF Project reviews	3/15/2014	n/a	None Received or reviewed.
Wastewater permit applications and renewals	3/15/2013	Complete	Several received, none requiring confirmation of population projections or conformance with the Water Quality Management Plan.
CWSRF Project reviews	6/30/2014	n/a	None Received or reviewed.
Wastewater permit applications and renewals	6/30/2014	Complete	Several received, none requiring confirmation of population projections or conformance with the Water Quality Management Plan.
	9/15/2014	Not Yet Due	

## **Attachment 1 – Notice of Public Meeting**

Public Hearing – 2014 Water Quality Management Plan Update for North Central Texas

May 8, 2014, 10 a.m., William J. Pitstick Executive Board Room, 616 Six Flags Drive, Arlington. North Central Texas Council of Governments (NCTCOG) invites local governments, citizens, and organizations to comment on the 2014 Water Quality Management Plan (WQMP) Update, the Clean portion of NCTCOG's SEE Safe Clean & Green Regional Environmental Corridors Plan. NCTCOG administers the Plan for the designated planning area pursuant to the federal Clean Water Act. Submit oral/written testimony during the hearing or send written comments referencing the 2014 WQMP by May 7, 2014, to NCTCOG, Environment & Development, P.O. Box 5888, Arlington, TX 76005-5888; fax 817.695.9191. A review draft of amended sections will be available at [www.nctcog.org](http://www.nctcog.org) or contact Doug Anthony at [danthony@nctcog.org](mailto:danthony@nctcog.org); 817.695.9139. If you have a disability requiring special arrangements, please call 817.695.9231, 72 hours prior to hearing.