

MEMORANDUM

TO: Dr. Tom Hayes
CC: Annalisa Peace, Carol Mendoza Fisher, and Robert Moyer
FROM: Creative Geospatial Solutions
DATE: March 30, 2011
SUBJECT: **Progress Report on Centralized Wastewater Infrastructure across the Edwards Aquifer Recharge and Transition Zones**

Dear Dr Hayes;

This report outlines the current progress and status of the Centralized Wastewater Infrastructure across the Edwards Aquifer Recharge and Transition Zones. It contains a list of the work completed, current assignments and remaining tasks. It also includes challenges we have experienced and the minor changes to the proposed project outline as a result. Though we have experienced some difficulties, we assure you the project will remain in compliance of the original plan and timeline to the best of our abilities and we are confident the end result of our project will be useful to the Greater Edwards Aquifer Alliance and the general public.

Sincerely,

Creative Geospatial Solutions

ENCLOSED: A copy of the updated budget and a list of contacts

PROJECT DESCRIPTION

Purpose:

By providing a complete dataset of wastewater lines that fall within the Edward's Aquifer Recharge and Transition Zones, our goal is to aid in public education and provide a means for a quick response to wastewater infrastructure complications.

Background:

Covering over ten counties, the Edwards Aquifer provides water for nearly two million people. It serves as a principle source of water for the natural environment of Central Texas, which many species depend on including countless endangered and threatened species. Among many others are the Texas Blind Salamander, the San Marcos Salamander, the San Marcos Gambusia, and Texas Wild Rice.

The water in the aquifer is kept clean by a process which acts as a filtration system for natural elements, such as soil and leaves. But this process does not protect the aquifer from man-made substances, such as fertilizers and motor oil. Any contamination of groundwater can be detrimental to the health and safety of humans as well as any plant or animal species relying on it. Among the many potential sources of pollution, wastewater infrastructure can be difficult to monitor because it is placed underground. In an effort to make wastewater infrastructure more transparent and easier to locate, Creative Geospatial Solutions is working to create a comprehensive map of all wastewater pipelines in the recharge and transition zones of the Edwards Aquifer. We are also performing change detection on remote sensing images to gain knowledge of development trends.

Scope:

The scope of our project includes six counties located above the Edwards Aquifer Recharge and Transition Zones: Travis, Hays, Comal, Medina, Uvalde, and Bexar counties.

WORK COMPLETED

Currently, Creative Geospatial Solutions has successfully gathered data from nine Municipal Utility Districts (MUD) and service providers. We have created a base map of the state of Texas, the counties involved, and the Edwards Aquifer recharge and transition zones. An initial map of pipeline locations has also been created which we update each time we receive new data. We estimate 15% of the total data needed for our comprehensive map has been acquired and have attached a list of contact information for each service provider successfully contacted.

CURRENT TASKS

We are currently awaiting data transfers and replies from multiple MUD's. At this time, our chief task is data collection and gathering contact information for individual MUD's.

REMAINING TASKS

We will continue contacting the MUD's and collecting as much data as possible. As we aim to stay on the proposed schedule and have limited control over what we can collect due to the private ownership of the data, once 65% of the data is collected we plan to continue onto the next project step. After data collection is complete, we will finish the pipeline location map and create a web page with static maps. We will also be performing change-detection analysis on remote sensing images to show trends in development and expansion of wastewater infrastructure across the Edwards Aquifer Recharge and Transition zones.

CHALLENGES

Our main challenge thus far has been data collection. Initially, we predicted the Texas Commission on Environmental Quality (TCEQ) would provide 75% of the pipeline location data. Upon further research, we realized TCEQ does not possess the legal right to acquire or publish privately owned shape files. This data belongs to the individual MUD's and therefore TCEQ had no data to give us. Thus number of data sources increased from the 15 expected to 67. After contacting multiple service providers, it is clear the data requested is sensitive and many MUD's spoken with have been highly protective of it, with some requiring contractual agreements and others requesting a letter of support from our professor. Another challenge encountered in the data collection phase has been coping with the amount of time it takes for MUD's to transfer the data to us. As a result of these challenges, we have spent more time for data collection than previously proposed.

PROJECT CHANGES

At this point in time, we feel a few changes to our initial proposal are necessary. Due to the sensitivity of the data we have changed our focus of analysis from spill occurrences to trends in urban growth and our final map will now be given in the form of images instead of shapefiles. As you will find in the attached budget, slight changes have been made to compensate for the additional time spent in data collection and decrease in the time expected for analysis. Our final deliverables will now consist of a CD containing a detailed report, a website with static maps and maps with GIS data (not including pipeline location shapefiles), and a PowerPoint presentation.

CONCLUSION

Creative Geospatial Solutions will provide all deliverables as planned on May 6th, 2011. Though we have met a few obstacles, we feel it has only better prepared us for future project tasks. We will continue as scheduled and while we anticipate the possibility of more challenges, we foresee no more changes to our project. We are confident our project will result in valuable information to the Greater Edwards Aquifer Alliance and the general public.

Appendix 1

Budget

GIS Project Manager

Total Hours	80	
Hourly Pay	\$46	
Total Pay		\$3,680

Data Collection

Total Hours (10 hrs/week * 4 weeks* 3 consultants + 10 hrs/week*4 weeks*2 consultants)	200	
Hourly Pay	\$28	
Total Pay		\$5,600

Data Analysis

Total Hours (10 hrs/week*2 weeks*2 consultants)	40	
Hourly Pay	\$30	
Total Pay		\$1,200

GIS Web Developer

Total Hours (10hrs/week* 8 weeks*1 consultant)	80	
Hourly Pay	\$43	
Total Pay		\$3,440

Equipment Cost (10 weeks)

Supplies (\$150/workstation* 4 workstations)	\$600	
Maintenance (\$200/workstation* 4 workstations)	\$800	

Depreciation (\$8,000 {total value of computers/36 (equip life in months)* 2.5 (month equipment will be in exclusive use for project)	\$555.56	
Total Equipment Costs		\$1,955.56

Data & Software

Purchased Data	\$2,500	
Software License for 10 weeks	\$5,000	
Total Data & Software Costs		\$7,500

Travel Expenses

125 miles @ \$0.51 cents/mile		\$63.75
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TOTAL COSTS **\$23,439.31**

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Regulated Entity Name (Customer)	County	Notes (initials/status)	Notes (initials/status)	Notes (initials/status)
BOERNE STAGE FIELD (BRUCE, ROBERT HAROLD)	BEXAR			
BRIDGEWOOD HILLS WASTEWATER TREATMENT FACILITY (LEON SPRINGS UTILITY COMPANY)	BEXAR			
CAMP BULLIS (US DEPARTMENT OF THE ARMY)	BEXAR			
CAMP STANLEY (US DEPARTMENT OF THE ARMY)	BEXAR			
CITY OF FAIR OAKS RANCH	BEXAR	Needs Letter- info is "as built drawings"	Mr. Emmons ()	
CITY OF SAN ANTONIO (CSA)	BEXAR	emailed... waiting to hear back		
DOS RIOS WATER RECYCLING CENTER (SAWS)	BEXAR	larry.phillips@saws.org	waiting to receive data	
FAIR OAKS PLANT (CITY OF FAIR OAKS RANCH)	BEXAR			
HOLBROOK RD ALONG SALADO CREEK (SAWS)	BEXAR	larry.phillips@saws.org	waiting to receive data	
LEON CREEK WATER RECYCLING CENTER WASTEWATER TREATMENT FACILITY (SAWS)	BEXAR	larry.phillips@saws.org	waiting to receive data	
MARTINEZ II PLANT (SARA)	BEXAR	rrodriguez@sara-tx.org	received data	
MARTINEZ III WWTP (SARA)	BEXAR	rrodriguez@sara-tx.org	received data	
MITCHELL LAKE (SAWS)	BEXAR	larry.phillips@saws.org	waiting to receive data	
ODO J RIEDL (CIBOLO CREEK MUNICIPAL AUTHORITY)	BEXAR			
SALADO CREEK WATER RECYCLING (SAWS)	BEXAR	larry.phillips@saws.org	waiting to receive data	
SALATRILLO CREEK (SARA)	BEXAR	rrodriguez@sara-tx.org	received data	
SAN ANTONIO RANCH (SAWS)	BEXAR	larry.phillips@saws.org	waiting to receive data	
SAN ANTONIO RANCH WATER RECYCLING CENTER WASTEWATER TREATMENT FACILITY (SAWS)	BEXAR	larry.phillips@saws.org	waiting to receive data	
SAWS MEDIO CREEK (SAWS)	BEXAR	larry.phillips@saws.org	waiting to receive data	
SCHERTZ WWTP (CITY OF SCHERTZ)	BEXAR	GIS Dept. 210-619-1183	received data	
TIMBERWOOD DEVELOPMENT CO.	BEXAR	Have not located contact info		
UPPER MARTINEZ PLANT (SARA)	BEXAR	rrodriguez@sara-tx.org	received data	
BULVERDE 46 WATER RECYCLING CENTER (SJWTX , Inc.)	COMAL	No central sewer lines/individual septic systems. No data		
CIBOLO VALLEY WWTP (SOUTH CENTRAL WATER COMPANY)	COMAL	Outdated contact info		
GRUENE ROAD PLANT (NEW BRAUNFELS UTILITIES)	COMAL	?		
JOHNSON RANCH WWTP (DH JB PARTNERSHIP LTD)	COMAL	?		
KUEHLER ROAD NORTH (NEW BRAUNFELS UTILITIES)	COMAL	?		
LAKE DUNLAP (CANYON REGIONAL WATER AUTHORITY)	COMAL	?		
NORTHCLIFFE WWTP (GUADALUPE-BLANCO RIVER AUTHORITY)	COMAL	GBRA		
REBECCA LAKE WWTP (REBECCA LAKE UTILITY COMPANY)	COMAL	?		
RIVER CROSSING CARRIAGE HOUSES WWTP (RIVER CROSSING CARRIAGE HOUSES LTD)	COMAL	?		
SOUTH KUEHLER (NEW BRAUNFELS UTILITIES)	COMAL	?		
CITY OF CASTROVILLE	MEDINA	830-931-4090		
COUNTRY VIEW ESTATES WWTP (AQUA UTILITIES INC)	MEDINA	?		
COUNTRY VIEW WTP (AQUA UTILITIES INC)	MEDINA	?		
HILLS OF CASTLE ROCK WATER RECYCLING FACILITY (BP REAL ESTATE INVESTMENTS LTD)	MEDINA	?		

