



Memorandum

MONTEREY REGIONAL WASTE MANAGEMENT DISTRICT

Reviewed by Wmm Date 3/13/09
General Manager

DATE: March 6, 2009
TO: General Manager
FROM: Senior Engineer
SUBJECT: Award of Contract to Whitson Engineers for Aerial Mapping Services

RECOMMENDATION: That the Board of Directors authorize the award of a contract to Whitson Engineers, of Monterey, California, to provide surveying services related to the site aerial mapping and photo exhibit preparation. The cost for these services will be billed on a time and materials basis, with a not-to-exceed amount of \$15,225. Funding for this work has been included in the FY 2009/10 Environmental Services Budget.

BACKGROUND

The ground surface elevations at an active landfill site are in a state of constant flux. It is important to maintain an accurate topographic map of the site, one that reflects current conditions. A current site topographic map is a very useful tool in the planning, design engineering, and operations of the District facilities. Aerial mapping of the site has been performed in accordance with an approximate bi-annual schedule, on the following dates:

- September 10, 1986
- March 30, 1989
- December 5, 1990
- October 8, 1993
- October 7, 1996
- October 5, 1998
- October 3, 2000
- July 7, 2002
- October 8, 2004
- July 6, 2006
- February 5, 2008

WHITSON PROPOSAL

Attached is a proposal from Whitson Engineers to perform an aerial survey of the landfill to update the existing site topographic map, dated February 5, 2008. New topographic mapping will be provided at 1 inch = 100 feet, with 2-foot contours. A revised color photo exhibit of the site, at a scale of 1 inch = 200 feet, suitable for framing will also be provided for display in the Boardroom and elsewhere around the site. The photo exhibit is often referred to during staff and Board meetings, and helps to orient new visitors to the site.

Other services included in Whitson's proposal:

- The updated topo mapping will be used as a basis for determining the remaining airspace in Modules 1-4, so that we can accurately plan for the construction timing of the next landfill liner, Module 5.
- Using the updated topo, Whitson will also provide refuse volume calculations and exhibit preparation, comparing the current elevations to the elevations of the last survey performed on February 5, 2008. From this volume of airspace consumed, and knowing the tonnage of refuse placed, we can calculate the Airspace Utilization Density (AUD) achieved between February 5, 2008 and the time of the new survey. The higher the AUD, the more efficient the landfill operation is.
- The new LFG horizontal collectors currently under construction in Module 1 will also be located vertically and horizontally and added to our "as-built" database.

- Finally, the updated topo will allow Whitson to calculate the volume of sand removed from the sand pit to determine if Don Chapin has met his contractual obligation to move a minimum of 250,000 tons per year. April ends the first year of Chapin's ten-year contract for sand excavation and marketing services.

In the spring of 2008, Chapin performed significant site grading and constructed two large water storage ponds, after the District last updated the aerial mapping of the site (in February 2008). These significant site changes will be recorded in the updated aerial photo exhibit and topographic mapping. In addition, the District has recently performed filling and grading in the western side of the parcel leased to Sunland for composting. The site map in this area needs to be updated for inclusion in the upcoming Regional Organics Composting RFP. Therefore, we are proposing to fly the site now rather than on the normal 2-year cycle.

A local civil engineering firm, Whitson Engineers, has provided general surveying services to the District for many years. As indicated in the March 5, 2009 proposal from Whitson Engineers, the cost for the above work is estimated to be \$15,225. Whitson Engineers has established 8 existing control points at the site, and it is most cost-effective to continue to use them to update our site mapping.

Staff is recommending approval of Whitson's proposal, and would like to schedule the flyover for April 2009.

CONCLUSION

Whitson Engineers has submitted a proposal for surveying services that is the most responsive to the District's needs. It is therefore recommended that the Board of Directors authorize the General Manager to execute an agreement with Whitson Engineers to provide surveying services related to the site aerial mapping and photo exhibit preparation. Adequate funding has been included in the FY 2009-10 Environmental Services Budget to cover the costs of these services.



Richard D. Shedden
Senior Engineer

Attachment

WE WHITSON ENGINEERS

9699 Blue Larkspur Lane • Suite 105 • Monterey, CA 93940
831 649-5225 • Fax 831 373-5065

March 5, 2009

Rick Shedden, P.E.
Monterey Regional Waste Management District
Post Office Box 609
Marina, California 93933-0609

Via email rshedden@mrwmd.org

**Re: Proposal for Surveying Services
MRWMD Landfill and Recycling Facility Site**

Dear Rick:

Per your request, we are proposing to provide the following surveying services, in connection with the subject project:

Scope of Services

1. **Supplemental Ground Survey-LFG Collection Wells:** Tie into existing horizontal and vertical control. Locate 3 new horizontal LFG collection wells.
2. **Aerial Photomapping:** Obtain aerial mapping of the **entire** MRWMD Landfill and Recycling Facility site. Re-establish/remark 8 existing control points. We anticipate approximately one day of fieldwork to resurvey and mark the existing and new control points and verify pre-marks on the day of the flight. Provide digital aerial mapping for the subject area. Mapping will be done at 1"=100' with 2' contours. Site will be flown in April 2009.
3. **Chapin Sand Pit Volume Calculations:** Based on the previous annual survey, dated February 5, 2008 and the current survey, calculate earthwork volumes for the Chapin Sand Pit for the time period between February 2008 and the new mapping. Provide the District with an exhibit of the Sand Pit survey with depth of cut and volume calculations shown on the face of the exhibit.
4. **Refuse Volume Calculations:** Based on the previous annual survey, dated February 5, 2008, calculate the refuse volume for the time period between February 5, 2008 and the new mapping.
5. **Biosolid Volume Calculations:** Based on the survey dated October 7, 1996, calculate the volume of biosolids stockpiled on the south slope of Module 3 for the time period between October 7, 1996 and the new mapping.

Deliverables

Work products to be delivered include a revised Photo Exhibit of the entire MRWMD Landfill and Recycling Facility site, topographic map, and three Volume Calculation exhibit maps.

Exclusions:

The following work is specifically excluded from the Surveyor's Scope of Services:

1. Design services
2. Construction Staking
3. Changes in scope of the survey work
4. Resetting of property corners
5. Preparation of record of survey or other recorded map.
6. Any work not specifically included in the above Scope of Services

Please note that upon your request, we could provide the above services at an additional cost.

Our lump sum fee for the services described in the above Scope of Services is \$15,225, broken down per task as follows:

Task 1	\$1,030
Task 2	\$11,360
Task 3	\$945
Task 4	\$945
Task 5	\$945

Actual billings will be on a percent complete basis as work is completed. Authorized Additional Services will be on a time and materials basis in accordance with the rates shown on the Cost Estimate for Surveying Services. We will schedule the work as soon as we receive the signed Authorization to Proceed.

If you have any questions or need more information, please give me a call.

Sincerely,



Richard P. Weber, P.E., LS
RCE 55219
Principal

Authorization to Proceed on Tasks _____

By: _____

Date: _____

Printed Name: _____

Title: _____

MPWMD - 2009 Annual Survey

Cost Estimate for Surveying Services

Scope of Services		PE	LS	AS1	AS2	2P	1PRTS	1P	ET	HOURS	FEE
1	Locate 3 LFG Collection Wells		1.0		2.0		3.0			6.0	\$ 1,030
2	Establish Control and Set Panels for Aerial Photomapping Aerial Photomapping 3" Digital Color Orthophotography		1.0		1.0	8.0				10.0	\$ 2,340
3	Volume Exhibit/Calculations - Chapin Sand Pit	1.0			5.0				2.0	8.0	\$ 945
4	Refuse Volume Calculations	1.0			5.0				2.0	8.0	\$ 945
5	Biosolid Volume Calculations	1.0			5.0				2.0	8.0	\$ 945
	Subtotal	3.0	2.0	0.0	18.0	8.0	3.0	0.0	6.0	40.0	
	Rate	\$ 195	\$ 150	\$ 130	\$ 110	\$ 260	\$ 220	\$ 160	\$ 100		
	Cost	\$ 585	\$ 300	\$ -	\$ 1,980	\$ 2,080	\$ 660	\$ -	\$ 600		
T33	LEGEND										
	PE	Principal Engineer				\$ 195					
	LS	Land Surveyor				\$ 150					
	AS1	Associate Surveyor/Engineer				\$ 130					
	AS2	Assistant Surveyor/Engineer				\$ 110					
	2P	2 Person Survey Crew				\$ 260					
	1P RTS	1 Person Survey Crew				\$ 220					
	1P	1 Person Survey Crew				\$ 160					
	ET	Engineering Technician				\$ 100					
	AD	Administrative Support				\$ 65					
	*RTS=Robotic Total Station Rates are Prevailing Wage effective 2/22/2006										