

## Exhibit "D" - Scope of Work

### EXHIBIT "D"

#### SCOPE OF WORK

FSI is proposing to complete work tasks necessary for compliance with the current Air Quality Management District permits for the Union Mine Disposal Site and the Assembly Bill 32 (AB-32) regulations that are included in Title 17 California Code of Regulations (CCR) Sections 95460 through 95476. The tasks to be completed are summarized below.

#### **Task 1 – Leachate Mound Pumping**

FSI will use a portable submersible electric pumping system to remove leachate from gas well EW-21 on the northwest corner of the landfill. During the wet season, the leachate level in this well may rise above the top of the well screen and obstruct the flow of gas. FSI will pump down the mounded leachate as necessary to restore gas flow from the well. Any leachate removed from the gas well will be temporarily contained on FSI trucks and discharged into the Class II Impoundment. The additional monitoring that will be completed is summarized below.

#### **Task 2 – Monthly Wellhead Monitoring**

FSI will monitor the 23 landfill gas extraction wells for the permit-required parameters. FSI will confirm with Landfill personnel that the gas control systems are operation before mobilizing to the site to complete the routine monitoring task. Routine monitoring schedules will be provided upon request. Once per month, all of the landfill gas wells will be monitored for the following parameters using the Landtec GEM 2000 instrument. The instrument will be field calibrated before each use and factory calibrated at recommended intervals.

- Well head pressure (static)
- Methane concentration (percent)
- Carbon dioxide concentration (percent)
- Oxygen concentration (percent)
- Nitrogen concentration (percent)
- Landfill gas temperature (Fahrenheit)

Monitoring results that meet the permit criteria will be logged as they are measured. Well heads not meeting the 37-2 criteria or other site specific requirements will be identified in the field and corrective action initiated. FSI will use tape, caulk, and/or tools to repair and tighten well heads where the oxygen or pressure is not within specifications. Vacuum to the well heads may also be increased. These wells will then be immediately retested and the data recorded. Well heads that cannot be field repaired will be verbally reported to the designated representative within 24 hours. The monthly monitoring results will also be summarized in a spreadsheet and transmitted within two weeks of collection via electronic mail. Wells that cannot be field-repaired as described

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above will be highlighted in the transmittal. FSI will also maintain a binder of landfill gas monitoring data at the septage plant offices. The binder will be updated each month. Please note that costs to complete re-monitoring of wells that are not within specification are excluded from this task. Re-monitoring work will be completed under the general assistance task described below.

### **Task 3 – Quarterly Landfill Surface Emission Monitoring**

FSI will monitor the surface of the landfill along approximately 25-foot intervals in 50,000 square feet grids across the landfill using Title 17, CCR Section 95471-compliant Trimble SiteFID™ Landfill Gas Monitors. Surface emission testing will be completed quarterly; measurements will be logged as they are collected. Local wind speed data for each monitoring period will also be measured and recorded. Monitoring results will be summarized and reported with the monthly monitoring data described above. Any instantaneous or integrated landfill surface exceedence will be verbally reported to the designated Landfill representative within 24 hours of recording the measurement. Following corrective action performed by Landfill personnel, re-monitoring of areas where surface emission exceedences were recorded will be performed within the required regulatory time frames. Please note that costs to complete any necessary re-monitoring work will be completed under the general assistance task described below.

### **Task 4 – Quarterly Perimeter Probe Testing and Component Leak Testing**

FSI will monitor the 10 perimeter probes and two landfill structures once per quarter using the instrumentation described above. Testing will be performed in conjunction with a routine monthly visit. Measurements will be logged as they are collected and compared to the criteria enforced by CalRecycle. Measurements in excess of the criteria will be verbally reported to a designated Landfill representative. FSI will also leak test components under positive pressure that contain landfill gas once per quarter. Pipes, flanges, fittings, valves, sample ports, and connectors between the blower and the flare will be tested. Results will be summarized and included in the monthly monitoring reports.

### **Task 5 – Annual Reporting**

FSI will prepare an annual report as required by Title 17, CCR Section 94570(b)(3). The annual reporting budget assumes that County of El Dorado personnel will comply with all of the recordkeeping requirements included in Section 95470(a) and provide FSI with all the data necessary to prepare the report. FSI will compile the report and insert the required monitoring data from the work tasks described above. The annual report will be prepared for submittal by March 15 of each calendar year as required by the regulations.

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### **Task 6 – General Assistance**

FSI recommends establishing a general assistance task to cover any necessary re-monitoring work that may be required. FSI will not use general assistance budget without prior approval. FSI will notify a designated Landfill representative when re-monitoring is required and request authorization to use Task 6 budget. Specific cost estimates for any necessary re-monitoring work can be prepared upon request.

### **SCHEDULE**

FSI will initiate work on these tasks during 2012 within two weeks of receiving approval to proceed. Work tasks will be completed according to the frequencies specified in the Air Quality Management District permit and the AB-32 requirements.

### **BUDGET**

The budget requested to complete the work tasks described above during 2012 are summarized on the following page. Assumptions used to prepare the budget are included in the Exhibit.