# AGREEMENT

This Agreement is made and entered into this 18th day of October, 1995 by and between the City of Redlands hereinafter referred to as "City," and HDR Engineering, Inc., hereinafter referred to as "Consultant."

In consideration of the mutual promises, covenants and conditions hereinafter set forth, City and Consultant agree as follows:

Section 1. Engagement of Consultant. Consultant shall perform professional engineering and consulting services in connection with City's operation of its California Street Landfill. The specific services are described in Exhibit "A," attached hereto and incorporated herein by this reference. All services to be performed under this Agreement shall be performed in a professional manner, and Consultant represents that it is skilled and has the professional expertise necessary to perform the services at the level of competency presently maintained by other practicing engineering and consulting firms performing the same type of work.

Section 2. Responsibilities of City. City will provide Consultant access to information City possesses pertinent to the services. Consultant shall be entitled to rely upon the accuracy of City-supplied information. City will further provide access to and make all provisions for Consultant to enter upon City-owned property as required by Consultant to perform its services under this Agreement.

Section 3. Period of Service. Consultant shall proceed with the services under this Agreement promptly and carry out the work diligently, in accordance with the schedule set forth in Exhibit "A".

Section 4. Payments to Consultant.

A. Payment for the services in this Agreement shall be based on a time and materials basis, in accordance with the Cost Estimate included in Attachment A, at the hourly rates shown in the Solid Waste fee schedule, included in Attachment A. The total amount of compensation for this Project shall not exceed the estimate, unless the scope of the Project is materially changed and agreed to by the City and Consultant.

B. Consultant shall bill City within thirty days following the close of each month by submitting an invoice indicating the work performed, who performed the work, and the detailed cost of all work including backup material. Payments by City to Consultant shall be made within thirty (30) days after receipt and approval of Consultant's invoice, by warrant payable to HDR Engineering, Inc. All notices, bills and payments shall be made in writing and may be given by personal delivery or by mail. Notices, bills and payments sent by mail should be addressed as follows:

City

City of Redlands
Municipal Utilities Department
Attn: Valorie Shatynski
P. O. Box 3005
Redlands, CA 92373

Consultant

HDR Engineering, Inc.
Attn: Mark Urquhart, P.E.
5175 Hillsdale Circle
El Dorado Hills, CA 95762

When so addressed, such notices shall be deemed given upon deposit in the United States mail; in all other instances, notices, bill and payments shall be deemed given at the time of actual delivery. Changes may be made in the names and addresses of the person to whom notices, bills, and payments are to be given by giving notice pursuant to this paragraph.

Section 5. Insurance and Indemnification

A. Consultant shall obtain and maintain during the period of its services policies of insurance having the following minimum coverage limits:

Comprehensive general public liability: $1,000,000 per occurrence, $2 million in aggregate

Vehicle liability insurance: $500,000

Worker's compensation insurance: in accordance with State of California statutory limits.

Consultant shall provide City with Certificates of Insurance evidencing such insurance for services under this Agreement, with the exception of workers' compensation. City shall be named as an additional insured in all insurance policies and such insurance shall be primary with respect to City and non-contributing to any insurance or self-insurance maintained by City.

B. Consultant shall indemnify, hold harmless and defend City and its elected officials, officers, agents and employees from and against all claims, loss, damage, charge or expense, to which they or any of them may be put or subjected to arising out of or resulting from any willful or negligent act or actions, omission or failure to act on the part of the Consultant, its employees, agents and suppliers for whose acts or omissions any of them may be liable in the performance of the services described in this Agreement.

Section 6. Attorney's Fees. In the event any legal action is commenced to enforce or interpret any of the terms or provisions of this Agreement, the prevailing party shall, in addition to any costs or other relief, be entitled to the recovery of its reasonable attorneys' fees.

Section 7. Assignment. Consultant shall not sublet or assign any of the services covered by this Agreement, except with the prior written approval of City and in strict compliance with the terms, provisions and conditions of the Agreement.

Section 8. Key Personnel. The Consultant's key personnel for the performance of the services are as follows:

Mark Urguhart, P.E. and Clay Rumbaoa, E.I.T.

Consultant agrees that these key persons shall not be replaced without concurrence from the City.

Section 9. Drawings and Records. It is understood and agreed by and between the parties that all document, records, drawings, and other documents developed by Consultant pursuant to this Agreement shall become the property of City and shall be delivered to City if and when requested. Any reuse of such documents for other projects and any use of incomplete documents will be at City's sole risk, and City agrees to indemnify, defend, and hold harmless Consultant for same.

Section 10. Independent Contractor. Consultant is for all purposes under this Agreement an independent contractor. All personnel provided by Consultant pursuant to the provisions of this Agreement shall be employed by Consultant for its account only, and in no event shall Consultant or any personnel retained by it be deemed to have been employed by City or engaged by City for the account of or on behalf of City.

Section 11. Termination. This Agreement may be terminated by City, without cause, upon seven (7) days written notice to Consultant. Upon receipt of a termination notice, Consultant shall promptly discontinue all services affected and deliver to City copies of any data, design calculations, drawings, specifications, reports, estimates, summaries and such other information and materials as may have been accumulated by Consultant in performing services under this Agreement. If this Agreement is terminated by City, an adjustment to Consultant's compensation shall be made, but no amount shall be allowed for anticipated profit or unperformed services.

Section 12. Books and Accounts. Consultant shall maintain books and accounts of all project related payroll costs and expenses and incidental expense. Books shall be available at all reasonable times for examination by City at the office of Consultant.

Section 13. Entire Agreement. This Agreement represents the entire agreement between the parties hereto as to the matters contained and any negotiations, proposals or oral agreements integrated herein and superseded by this Agreement. This Agreement may be amended only by written agreement signed by the parties hereto.

Section 14. Governing Law. This Agreement is to be governed by and construed in accordance with the laws of the State of California.

IN WITNESS WHEREOF, duly authorized representatives of City and Consultant have signed in confirmation of this Agreement.

CITY OF REDLANDS

Mayor

Attest:

City Clerk

HDR ENGINEERING, INC.

~~President~~ Vice President

## PROJECT UNDERSTANDING

The City of Redlands owns and operates the California Street Sanitary Landfill. The Landfill is currently approaching the final design grades as prepared by Kleinfelder. The City realizes that increasing the efficiency in operating the landfill will lead to increased waste capacity and will result in additional life for the landfill.

On August 7, 1995, HDR met with Ms. Valorie Shatynski, City Solid Waste Manager, to discuss the City's need for services in operations and design to optimize the landfill operations, efficiency, and capacity. The City requested a proposal from HDR to provide design grading information and operations procedures. The objectives are to (1) provide information and guidance to site operators to facilitate continued operations within the final design parameters, (2) reduce site inefficiencies, including fill cell construction and soil cover operations, and (3) provide a design grading plan to maximize the existing landfill space.

Because the City is approaching the limits of currently permitted capacity at the landfill, guidance to the site operators is necessary. This guidance will allow the City to maintain fill plans, slopes, and grades in accordance with the final design criteria. Additionally, this guidance will allow the City to plan and extend fill space beyond the current final plans on the existing fill area. This will result in extension of waste capacity at the landfill, which will give the City the additional time required to either permit a lateral expansion, or to arrange for other solid waste disposal options.

## SCOPE OF WORK

Following is a proposed scope of services to achieve the project objectives. They are divided into two tasks for design and operation, respectively. Each task contains an understanding and description of services.

### Task 1 - Design Plan

***Understanding and Assumptions.*** The current design plan (Kleinfelder Drawings C-11) shows a maximum elevation of 1218 feet. Side slopes are a maximum of 1.7:1 (H:V) on the lower slope and 3:1 (H:V) on the upper slope. Kleinfelder performed a slope stability for the maximum fill configuration, which yielded acceptable factors of safety per CCR, Title 23, Chapter 15. Due to the City's desire to extend the height of the existing landfill, as feasible, to increase the capacity, a new approach is proposed by HDR.

HDR's approach will be to hold the new side slopes to a 3:1 inclination for constructibility and extend the proposed final grading plan, as practical, with the required benches. The main constraints in increasing the fill height will be the minimum width of the landfill required to effectively operate (the unit is long and narrow).

We propose to reanalyze the slope stability, as needed, to support the vertical expansion design using site specific geotechnical information from the Kleinfelder input data. We propose a computer analysis using PC-Stable and a deformation analysis, similar to the Kleinfelder addendum to the Slope/Stability Report.

Based on our discussions with the City concerning site condition and configuration; HDR has assumed that the existing drainage system is adequate and that a drainage analysis, other than the conceptual layout on the vertical expansion, will not be revisited until the Final Closure Plan, or a horizontal expansion is considered.

***Subtask 1a - Draft Grading Plan - -***

HDR will compile a draft plan and three cross-sections for City approval. The increased waste volume will be calculated.

***Subtask 1b - Draft Slope Stability Analysis - -***

HDR will perform a slope stability analysis to accompany the draft grading plan. It will include computer calculations using PC-Stable and a deformation analysis using data from the existing Kleinfelder addendum, as needed. The analysis will evaluate slope stability of the existing unlined landfill including the proposed grades from the design plan in Task 1.

***Subtask 1c - Meeting and Concurrence by City - -***

HDR will attend a meeting with the City to:

- Explain results of Subtasks 1a and 1b.
- Obtain approval of the results.
- Obtain approval to proceed with developing grading sheets for Task 2.

To minimize costs, we have assumed that HDR will be provided a computer disk with the most recent topographic map and Kleinfelder's final grading plan. We prefer the files in Micro Station, but can convert other formats.

## Task 2 - Operations Control

***Understanding and Assumptions.*** The City desires to reduce cover soil usage and implement a grade control program at the site. HDR staff will meet with appropriate City operations and management staff to provide and describe an operations methodology.

Current daily cover usage is high because of the sandy soils available from the borrow site. We will review the City's information on imported soil alternatives for daily cover, and maintenance, in compliment with the tarping program. Recommendations will be made for suitability. HDR will also recommend specific

operations techniques to limit the amount of soil that is placed and cell construction to maximize efficiency of the tarping program.

HDR will develop grading sheets for field staking. We would require that a land survey firm is used to initially survey the site (coordinated with the topographic survey in October 1995), provide additional benchmarks, and control fence post/stakes on key grid points and the initial round of grade stakes. After this is accomplished, HDR will meet with the City engineer and site operator to instruct them on reading grade stakes, setting new grade stakes, surveying grades stakes, and calculating fill elevation from operations and design plans to be provided by HDR. The goal will be for HDR to train the operators to ultimately perform survey grade staking independently. Data would then be sent to HDR for review and site utilization calculations to tie with design planning.

We have assumed that the City could contract directly with the survey firm. This will save some costs in HDR subcontracting. HDR's proposal includes developing specifications for the City's surveyor to perform Subtask S2. We have assumed that the City will use a local firm, familiar with the site, who could provide the data in electronic format. This could be coordinated with the aerial survey for this year.

It will be important that the key original stakes set by the surveyor are not disturbed and that the operators carry on a system of regularly setting new stakes for upcoming operation before all the old ones are destroyed. To this end, we recommend that the solid waste operators obtain survey equipment (level, rod, tape, and rod and survey book) to be used by HDR with the operations personnel.

The subtasks below outline the proposed program.

***Subtask S2 - Field Surveyor Services - -***

The City's surveyor or contracted surveyor (Hereafter, "surveyor") will field stake the site and provide:

***Benchmarks.*** We recommend that three permanent benchmarks (one at each end of the site at a minimum) are installed or verified by the surveyor in conformance with requirements of Title 23, CCR will be included. This may include re-establishment of the existing benchmark used for previous aerials. Permanent benchmarks for closure must be certified by a registered surveyor and be out of traffic and protected by site operators.

***Slope Stakes.*** Based on coordinates provided by HDR from the HDR design plan, (Task 1) the surveyor will stake fill grades, at 100 foot intervals along the grid at a finished point near the toe, top of the existing slope; and at the point of the proposed design side slope. Grid coordinates and fill heights (calculated by the surveyor in the field based on HDR design grade elevation provided) will be marked by the surveyor on the stakes.

***Grid Stakes.*** To aid in routine grade surveys and construction staking, the surveyor will provide (as directed by HDR) selected fence post stakes (a 100 X 100 square at three intervals along the landfill). These will provide a more durable set that can be used to set stakes as the active lift approaches this area. (Landfill operators can visually pull a tape along grid the line of two consecutive accurate stakes). One set of these should also be marked for the aerial survey in addition to targets.

The surveyor will also provide grade stakes for roughly 800 feet of length of the fill in 100 foot intervals with coordinates, elevation, and fill height. (This will help the operators become familiar with filling to the stakes prior to performing surveys.) HDR will provide the proposed fill elevation. During event 1, HDR will monitor the surveyor and instruct a designated landfill operator in the survey methods, grade stake information, and filling procedures per the stakes.

***Subtask 2a - Operations Plan Instruction - -***

HDR staff will develop an operations plan drawing for site operators. The plan will incorporate information on the following:

- Traffic and progression of fill.
- Orientation of working face.
- Size of daily cell.
- Wet weather operations.

HDR will meet with site operators to explain the plan. We assume that two plan sheets would be provided. This will be coordinated concurrently with HDR's monitoring of the surveyor in Subtask S2 above.

***Subtask 2b - Grading Plan Survey Sheets, Staking, and Calculations - -***

The goal of the Subtask S2, initial field surveyor staking, includes providing precise stakes on the grid so that HDR can train the site operators to perform their own field staking. The key stakes originally set by the surveyor will be maintained to the extent possible until the operators can be trained to reset stakes (using tape measurement) as the fill progresses.

We assume that HDR would provide two personnel for the first staking event with the City personnel (Event 2) and train a landfill operator(s) hands-on during this event. We assume that the second survey (Event 3) would be performed by one HDR staff using the designated trained landfill operator as a helper. This event would be similar, except that the landfill operator would be expected to perform all facets of the survey proficiently. As proficiency is reached, HDR could evaluate the potential for operators to perform surveys independently.

HDR will provide the fill grades for tops of lifts, grade breaks, or final waste grades so that grades stakes can be set. These will be provided on grading plan sheets. The

grading plan sheets would be used for surveys by HDR and operators after the original surveyor survey (Subtask S2, above) and all subsequent surveys. Plan sheet provided will include the following:

- Existing or final contours in faded format.
- Grid points to be surveyed.
- A space by each grid point for data entry.
- A blank to enter the elevation of survey grade.
- Design grade (approximate for lift or precise final grade).
- A blank to enter a fill (to tenth of foot) to the design grade.

The existing grade is viewed through the level and entered. The design grade on the plan (D) is given on the grade sheet (by HDR). The level operator will calculate the fill and enter it on the grade sheet. The information is orally given to the rod person to enter on the stake (walkie-talkies are advantageous for this).

The duration and number of grading survey sheets would depend upon fill progression and protection of stakes. A six week period may be appropriate for re-staking.

The grades from surveys by landfill operators would be copied for HDR's office. Calculations would be performed in CADD by HDR to determine the landfill volume used. These volumes would then be used to estimate soil usage and site life remaining.

### Task 3 - Daily Cover Evaluations

HDR will provide input regarding operations for placement of the City's alternate daily cover system and weekly soil cover methods. This will be done through conferring with City staff and assisting site operators regarding cover operations.

## BUDGET

Attachment 1 is the estimated budget for the proposed scope of work. It is based on billing rates for the specific senior engineer and project manager proposed under this proposal and average rates for other support staff shown. All actual billing rates charged will be based on a fixed multiplier of 3.1 times individual staff salaries to include overhead and profit. The rates for all labor will be within the ranges shown on Attachment 3.

The estimated budget is $26,444. The breakdown by subtasks and work elements is shown on Attachment 1. We have assumed:

1. One meeting for Task 1 by two HDR staff.

2. Four hours to coordinate specifications with the City's surveyor (Subtask S2).

3. One meeting by the project manager to discuss the operations plan at the same point as surveyor Event 1.

4. The second field event would be attended by two HDR staff members (Mark Urquhart and Clay Rumbaoa).

5. The third field event will be attended by with one HDR staff member (Clay Rumbaoa).

6. The City would provide the land survey under Subtask S2, according to specification furnished by HDR. Our budget for grade plans assumed that staking information from the surveyor survey would be available in electronic format.

7. That the City would provide all materials for field surveys, including level, tripod, direct elevation rod, grade stakes, hubs, two tape measures (one 100 ft min. and one 200 ft), recommended walkie talkies, if possible, and other materials.

8. To save costs, the latest aerial topographic map and the current final grading plans for the site would be available on disk in a format usable by HDR for Task 1. We assume that the topographic map would be according to the coordinate system to be used for closure. If the existing final grading plan by Kleinfelder is not available on disk, this would only be a minor (a few hours) budget impact to the proposed work.

9. The parameters in the Kleinfelder analysis will be usable in stability and deformation analysis for revised final grades, by a subconsultant to HDR. Based on review of the Kleinfelder study, we have assumed that approximately $2,500 will be required, provided that the existing information is usable for a majority of the new slope stability analysis. The slope stability analysis will include analysis of the increased grades for the existing site but does not include slope stability for a horizontal expansion.

10. Additional work to that covered in this proposal will be performed on a time and materials basis according to agreement between the City and HDR.

## SCHEDULE

HDR is available to begin work immediately. One week advance notice is preferred for project kick-off and key events. Attachment 2 contains a list of proposed task schedule durations and assumptions followed by a bar chart schedule (Figure 1). The detailed schedule is for planning only. The actual dates will be coordinated with the City.

## PROJECT TEAM

We are proposing a tight team to closely coordinate the design plans with the field operations. Mark Urquhart, P.E., will serve as project manager and direct all technical work. He will perform review of grading plans, attend meetings to discuss the project with the City staff assigned to the work, perform the first field staking event, and provide training of City field staff. Clay Rumbaoa will serve as senior engineer and assist Mark closely. He will perform design of the grading plans, oversee slope stability analyses, perform all three proposed field staking events by HDR, and develop grade staking plans and calculations. HDR will subcontract with Carlton Engineering, a geotechnical firm, to perform a slope stability analysis to support the design. Dave Jermstad is of Carlton Engineering and is a registered geologist with over 15 years experience. He has performed numerous slope stability analysis including analysis of landfill stability under Title 14 CCR. We have included resumes for key HDR project staff assigned to the City's project.

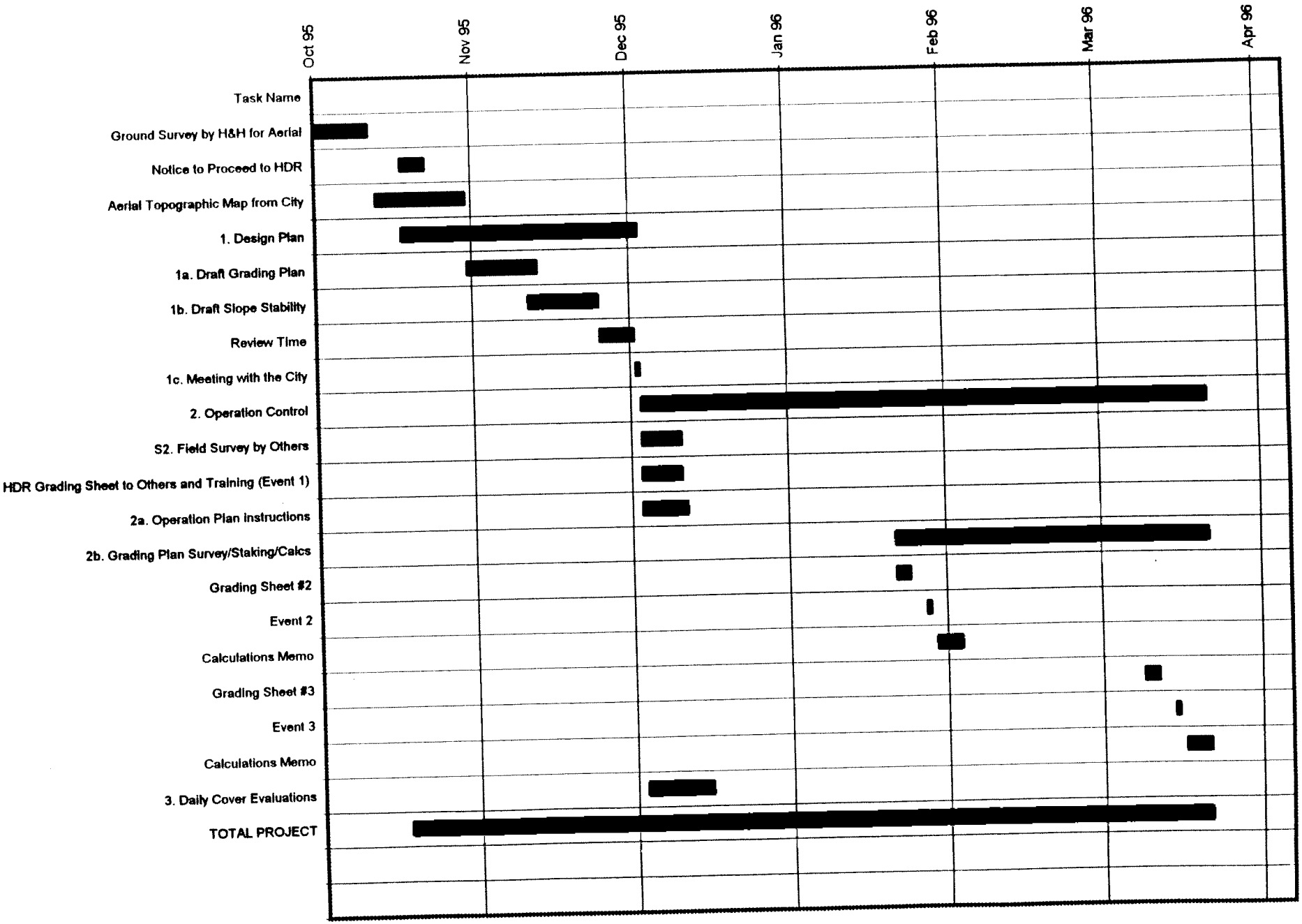
ATTACHMENT 1 - COST ESTIMATE
REDLANDS DESIGN AND OPERATIONS

| | LABOR | | | | | | | | | EXPENSES | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Senior Consultant | Project Manager | Senior Engineer | Staff Engineer | Tech/ CAD | Word Processor | Admin. | Labor Hours | Labor Cost | Computer | Repro. | Phone | Travel | Subs | Misc. | Expense Cost | Total |
| *Rates* | $140 | $111 | $108 | $72 | $60 | $45 | $45 | | | | | | | | | | |
| *Staff Proposed* | | MJU | CRR | M. S. | Assign | Assign | Assign | | | | | | | | | | |
| Task 1 | | | | | | | | 0 | $0 | $1 | | $50 | | | | $51 | $51 |
| 1a - Draft Grading Plan | | 8 | 16 | | | | | 24 | $2,610 | $120 | $30 | | | | | $150 | $2,760 |
| 1b - Draft Slope Stability | | 4 | 8 | | | | | 12 | $1,305 | $60 | $10 | | | $2,500 | | $2,570 | $3,875 |
| 1c - Meeting (2) | | 10 | 4 | | | | | 14 | $1,539 | | | | $250 | | | $250 | $1,789 |
| 1d - Grading Plan | | | 8 | | 2 | | | 10 | $962 | $40 | $50 | | | | | $90 | $1,072 |
| Task 2 | | | | | | | | 0 | $0 | | | $50 | | | $100 | $150 | $150 |
| S2 - Field Surveyor | | 4 | | | | | | 4 | $443 | | | | | | | $0 | $443 |
| 2a - Operations Plan Drawing/Instruction | | 12 | 6 | | | 3 | | 21 | $2,111 | $40 | $20 | | $250 | | | $310 | $2,421 |
| 2b - Grading Sheets/Staking/Calculations | | 3 | 3 | | | | | 6 | $656 | $20 | | | | | | $20 | $676 |
| S2 - Grading Sheet | | 3 | 6 | | | | | 9 | $979 | $40 | $20 | | | | | $60 | $1,039 |
| S2 + Event 1 (Two HDR Staff) | | 10 | | | | | | 10 | $1,108 | | | | $250 | | | $250 | $1,358 |
| - Grading Sheet 2 | | 1 | 3 | | | | | 4 | $434 | $20 | $20 | | | | | $40 | $474 |
| + Event 2 (One HDR Staff) | | 10 | 8 | | | | | 18 | $1,970 | | | | $50 | | | $50 | $2,020 |
| - Calculations/memo | | 2 | 4 | | | 1 | | 7 | $698 | $40 | | | | | | $40 | $738 |
| - Grading Sheet 3 | | 1 | 3 | | | | | 4 | $434 | $20 | $20 | | | | | $40 | $474 |
| + Event 3 (One HDR staff) | | | 8 | | | | | 8 | $862 | | | | $50 | | | $50 | $912 |
| - Calculations/Memo | | 2 | 4 | | | 1 | | 7 | $698 | $40 | | | | | | $40 | $738 |
| Task 3. Daily Cover Evaluations | | | | | | | | 0 | $0 | | | $50 | | | | $50 | $50 |
| - Letter report | 6 | 18 | 4 | | | 4 | | 32 | $3,446 | | $20 | | | | | $20 | $3,466 |
| Project Management | | 15 | | | | | 5 | 20 | $1,887 | | | $50 | | | | $50 | $1,937 |
| Total Hours | 6 | 103 | 86 | 0 | 2 | 9 | 5 | 210 | | | | | | | | | |
| Grand Total | $840 | $11,415 | $9,157 | $0 | $120 | $405 | $225 | | $22,163 | $441 | $190 | $200 | $850 | $2,500 | $100 | $4,281 | $26,444 |

# ATTACHMENT 2 - SCHEDULE
## CITY OF REDLANDS
## DESIGN AND OPERATIONS FOR CALIFORNIA STREET LANDFILL

| Task Name | Start | End | Duration | Assumptions |
|---|---|---|---|---|
| *Ground Survey by H&H for Aerial* | 10/1/95 | 10/12/95 | 11 | *Ground survey precedes aerial.* |
| *Notice to Proceed to HDR* | 10/18/95 | 10/23/95 | 5 | *Approval by Council on 10/17/95.* |
| *Aerial Topographic Map from City* | 10/13/95 | 10/31/95 | 18 | *2-1/2 weeks to obtain plot and CADD file.* |
| **1. Design Plan** | **10/18/95** | **12/4/95** | 47 | Overall duration for Task 1; see subtasks. |
| 1a. Draft Grading Plan | 10/31/95 | 11/14/95 | 14 | Kleinfelder and aerial CADD files available. |
| 1b. Draft Slope Stability | 11/12/95 | 11/26/95 | *14* | For vertical expansion (may need more for horizontal). |
| *Review Time* | *11/26/95* | *12/3/95* | *7* | *May vary depending upon City.* |
| 1c. Meeting with the City | 12/3/95 | 12/4/95 | 1 | Results in approval to proceed with staking per plan. |
| **2. Operation Control** | **12/4/95** | **3/25/96** | 112 | Overall duration for Task 2; see subtasks. |
| *S2. Field Survey by Others* | *12/4/95* | *12/12/95* | *8* | *Coordinated after Subtask 1c.* |
| HDR Grading Sheet to Others and Training (Event 1) | 12/4/95 | 12/12/95 | 8 | One day HDR meeting at site during survey S2. |
| 2a. Operation Plan Instructions | 12/4/95 | 12/13/95 | 9 | Meeting would be at same point as HDR grading sheet. |
| 2b. Grading Plan Survey/Staking/Calcs | 1/23/96 | 3/25/96 | 62 | Overall duration for Task 2b; see subtasks phasing. |
| Grading Sheet #2 | 1/23/96 | 1/26/96 | 3 | Assumed six weeks from event 1 staking by surveyor. |
| Event 2 | 1/29/96 | 1/30/96 | 1 | One field day by HDR- date shown only approximate. |
| Calculations Memo | 1/31/96 | 2/5/96 | 5 | Follows field event data gathering. |
| Grading Sheet #3 | 3/12/96 | 3/15/96 | 3 | Assumed six weeks from event 2 staking. |
| Event 3 | 3/18/96 | 3/19/96 | 1 | One field day by HDR - date shown only approximate. |
| Calculations Memo | 3/20/96 | 3/25/96 | 5 | Follows field event data gathering. |
| **3. Daily Cover Evaluations** | **12/4/95** | **12/17/95** | 13 | Overall duration for Task 3. |
| **TOTAL PROJECT** | **10/18/95** | **3/25/96** | 159 | Overall project - including periodic grade control. |

# Figure 1. Project Schedule



**ATTACHMENT 3**
**HDR ENGINEERING, INC.**
**CHARGES FOR SOLID WASTE PROFESSIONAL SERVICES**
**EFFECTIVE JANUARY 1, 1995**

## LABOR

| Title | Grade | Hourly Rate |
|---|---|---|
| Company Officer/Principal in Charge | E-10 | $145.00 - 160.00 |
| Senior Consultant QA/QC | E-9 | 125.00 - 145.00 |
| Principal Engineer | E-8 | 125.00 - 145.00 |
| Project Manager | E-6 | 110.00 - 125.00 |
| Senior Engineer | E-5 | 100.00 - 115.00 |
| Associate Engineer | E-4 | 90.00 - 105.00 |
| Assistant Engineer | E-3 | 80.00 - 95.00 |
| Staff Engineer | E-2 | 70.00 - 85.00 |
| Junior Engineer | E-1 | 65.00 - 75.00 |
| Technician Manager | T-5 | 65.00 - 75.00 |
| Senior Technician | T-4 | 50.00 - 65.00 |
| Technician | T-3 | 45.00 - 60.00 |
| Assistant Technician | T-2 | 40.00 - 55.00 |
| Administrative Manager | M-5 | 55.00 - 70.00 |
| Senior Administrator | M-4 | 55.00 - 65.00 |
| Administrator | M-3 | 45.00 - 55.00 |
| Assistant Administrator | M-2 | 35.00 - 45.00 |
| Administrative Assistant | C-5 | 40.00 - 50.00 |
| Word Processor | C-4 | 30.00 - 45.00 |
| Secretary | C-3 | 28.00 - 40.00 |
| Clerk | C-2 | 25.00 - 38.00 |
| Construction Manager | | 100.00 -115.00 |
| Resident Engineer | | 90.00 - 110.00 |
| Senior Inspector | | 60.00 - 70.00 |
| Inspector | | 45.00 - 60.00 |

## EXPENSES

**In-House Expenses** -

| | |
|---|---|
| HDR Computer for CAD Applications (Hourly) | $ 15.00 |
| HDR Computer for Engineering/ Spread Sheets/Word Processing (Hourly) | $ 10.00 |
| Vehicle Mileage (Per Mile) | $ .30 |

**Outside Expenses** - At Cost Plus 10%
Hired Services - Subconsultants, typing services, etc.
Miscellaneous Supplies - Publications, printing, equipment rental, etc.

HDR

# MARK J. URQUHART, P.E.

## EDUCATION

B.S., Civil Engineering, California State University, Sacramento, 1983

## REGISTRATION

Civil Engineering, California License #41199, 1986

## EXPERIENCE

Mr. Urquhart's professional experience has been focused on solid waste management in California, including permitting, design, construction, land use, and closure planning for landfills, transfer stations, or Materials Recovery Facilities (MRFs). Significant projects have included site development design and permitting for a Class II ash disposal facility and a Class III Landfill; permit reports for numerous solid waste facilities; and design, permitting, and construction monitoring for a transfer station/materials recovery facility expansion. While employed with the San Joaquin County Solid Waste Division, he managed engineering for all county solid waste engineering projects including design, operations, and regulatory compliance work for three municipal solid waste landfills, a municipal solid waste transfer station, and site development of a new Class III landfill. Selected projects include:

### Landfill Design, Operations and Regulatory Compliance

Performed closure planning and regulatory compliance for the 28th Street Landfill for the City of Sacramento, California. Work included development of a final grading plan, periodic calculation of site volumes and utilization, drainage calculations, field engineering and phasing of operations for the remaining landfill unit. Provided technical guidance to the landfill equipment operators construct final fill grades. Attended regulatory agency meetings and wrote a report recommending monitoring programs for corrective action and activities needed for regulatory compliance.

Directed field operations and performed field engineering required for the Harney lane Sanitary Landfill in Lodi, California. This involved training of operators in performing surveys for construction according to operations and grading plans. Developed calculation program to guide fill staking, and to track remaining site life and cover soil utilization. Equipment operators were instructed on cell size, compaction methods and cover procedures in order to save cover soil and meet the closure schedule. Winter operations plans were prepared for the LEA to include provisions for cover soil, drainage and operations phasing. Performed field engineering for construction of drainage ditches and final site face overside drains by county forces.

Directed and prepared preliminary feasibility study, preliminary design report, land use permit application, leachate management plan, and AB 2296 site identification and description element for the development of a proposed Jaeger Ash Landfill for Sutter County, California.

Prepared a preliminary design report involving development of the existing 77 acre Foothill Sanitary Landfill to ultimately include 17 lined units comprising 550 acres in Linden, California. This included a geotechnical investigation and liner design report. Authored an operations plan for the county's use in entering a long-term operations agreement with a private operator. Prepared the Report of Disposal Site Information (RDSI), Periodic Site Review (PSR), and Report of Waste Discharge (RWD).

Prepared groundwater SWAT proposal and report, construction bid plans and specifications for computerized scale system, and a Hazardous Waste Exclusion Program. Co-authored the final cover CQA plan and slope stability report.

Prepared the RDSI, RWD, PSR, and a hazardous waste exclusion program for Corral Hollow Sanitary Landfill in Tracy, California. Directed implementation of air and water Solid Waste Assessment Tests (SWATs) and Subchapter 15 water monitoring plan.

Wrote the Construction Quality Assurance (CQA) plan for installation of Phase II final cover for the Kiefer Sanitary Landfill for Sacramento County, California. Reviewed County design plans. The project was put on hold due to other operational issues.

Oversaw development of preliminary engineering plans, Subchapter 15 groundwater monitoring plans, draft Environmental Impacts Report, and draft permit documents for North County Sanitary Landfill and Recycling Center in Lodi, California.

Prepared RWD, RDSI, and PSR Report for the Cove Contractor's Landfill in Stockton, California. The reports included conceptual closure plans, groundwater, and vadose zone modeling of contaminant transport, and a remediation feasibility study.

Assisted in compilation of phasing plans for the development and expansion of the Savage Canyon Landfill for the City of Whittier, California.

Directed site assessment and closure for the inactive asbestos landfill and surface impoundments for J-M Manufacturing in Stockton, California. This included investigation of site surface soil, surface water, surface impoundments and landfills, and regulatory compliance.

## Solid Waste Management Planning

Assisted with a system-wide planning study for the Sacramento County Solid Waste Authority, California, to select potential sites for waste management facilities. Evaluation included potential transfer stations, MRFs, household hazardous waste collection facilities, and composting facilities.

Assisted the City of Whittier, California, in developing short- and long-term capital improvement plans for the Savage Canyon Sanitary Landfill. This included an evaluation of site lives for development alternatives and projecting required short-term tipping fee adjustments.

Assisted in development of AB 939 planning document development for El Dorado County, California. Included source reduction and recycling, non-disposal facility, and siting elements.

Authored a concept paper on yard waste collection and composting options for the El Dorado Hills Community Services District, California.

## Transfer Station and Materials Recovery/Processing, Planning, Design, and Permitting

Project manager for a 500-tpd solid waste material recovery facility expansion study for Yuba-Sutter Disposal, Inc., California.

Served as project manager and civil engineer for design, permitting, and construction inspection for the new expanded Lovelace Road Transfer Station for San Joaquin County, California. Work included development of final construction bid specifications and the Report of Station Information (RSI). The plans included a new transfer building, recycling areas, a retention pond, and an office and maintenance building. The plans called for demolition of the existing transfer station under a schedule allowing continuous operation of the facility during construction.

Assisted in preparing a feasibility study for the development of a transfer station/MRF in El Dorado County, California. This included a cost analysis for landfill operations and primary collection using balefill versus open top transfer systems.

Performed analysis of permitting requirements for siting a composting facility on a closed landfill in Contra Costa County, California. Design requirements for integrating the facility with closure construction activities were outlined.

Prepared a siting study for three small volume transfer stations for El Dorado County, California. Included development and utilization of a site ranking criteria system, search for and study of potential sites, evaluation of collection haul routes and waste generation patterns, development of a conceptual station layout, and preparation of a report which estimated costs and recommended sites for development.

### Site Remediation and Closure

Served as project manager for site assessment for closure two inactive asbestos disposal facilities.

Served as project manager and engineer for site assessment, removal, and disposal of metals affected soil.

## PROFESSIONAL ENDEAVORS

HDR Engineering, Inc., 1992-Present

Kleinfelder, Inc., 1989-1992
San Joaquin County Department of Public Works, Solid Waste Division, 1984-1989
R.B. Welty & Associates, 1984
Sharpe Army Depot, Facilities Engineering Division, 1983-1984

## PROFESSIONAL AFFILIATIONS

SWANA - Member and Secretary of California Chapters Legislative Task Force
Member of the American Public Works Association

## AWARD

SWANA, Gold Rush Chapter, Outstanding Sustaining Member of the Year, 1993 - 1994

# CLAY R. RUMBAOA, E.I.T.

## EDUCATION

B.S., Civil Engineering, Bradley University, Peoria, IL, 1983

## REGISTRATION

Engineer-in-Training

## EXPERIENCE

Mr. Rumbaoa has over 11 years experience in civil engineering, specializing in environmental and landfill engineering. Some of his projects include the following:

Performed a review of the five-year capital improvement plan budget for the County of San Diego, California. Recommended revised budgets for expenditures at their active and inactive landfills, and prioritized projects on compliance requirements.

Prepared facility and engineering plans (drawings and report) for the Subtitle D horizontal expansion of the Hanes Mill Road Landfill in Winston-Salem, North Carolina. This involved preparing base and final grading plans, erosion and sediment calculations, leachate generation estimates, slope stability analysis, and construction and development plans.

Prepared a five-year engineering review for the Savage Canyon Landfill in the City of Whittier, California (132-acre facility). Completed a five-year capital budget improvement for the site.

Prepared landfill improvements for the Santiago Canyon Landfill in Orange County, California. The improvements included realignment of a perimenter road, drainage and slope modification.

Provided technical assistance and construction management for the implementation of Phase I & II of the design for San Marcos Landfill in San Marcos, California. This involves responding to questions concerning the design, coordinating survey stakeout data, and managing required tests and the installation of the liner. Assisted previously in the completion of the vertical expansion design for the 210-acre San Marcos Landfill in northern San Diego County. Tasks performed included leachate production analyses, resulting in the implementation of a leachate collection and removal system; grading design including base, phasing and final grades; provision of a drainage network that best routes run-off and run-on to surface impoundments; and preparation of construction plans, specifications and cost estimates for the bid package. Also prepared a Preliminary and Final Closure and Post-Closure Maintenance Plan, RDSI and five-year engineering review.

Responsible for management and preliminary landfill expansion design, including the base and final grades, liner system, water balance, leachate collection system, fill sequencing, hydrology of the site, desilting basin and soil stockpile for Antelope Valley Landfill in Antelope Valley, California. Assisted in the permitting process of the site through the Local Enforcement Agency, California Integrated Waste Management Board and Regional Water Quality Control Board. Prepared a Report of Disposal Site Information, Report of Waste Discharge, and a Preliminary and Final Closure and Postclosure Maintenance Plan.

Assisted in the completion of the Phase II design of the 400-acre Frank R. Bowerman Landfill in Orange County, California. This included the design of the base grades, leachate collection and removal system using the HELP Model and water balance methods, drainage design to accommodate 100-year, 24-hour storm sub and toe drains, and preparing soil balance analyses to

manage the ongoing operation and construction of the phase. He also performed construction cost estimates for the completed design and provided technical support during construction.

Provided engineering services to company owned landfills, hauling divisions, and transfer stations while working for Waste Management of North America. Major personal accomplishments and responsibilities include design, management, plans and specifications, contractor and consultant procurement for removal and installation of underground petroleum and waste oil tanks as well as all above ground facilities at all California divisions; lead engineer in the development and design of expansion to existing northern California landfills from 108 acres to 225 acres involving preparation of conceptual, permit and construction design for expansion as well as developmental cost; and composed reports for tank management plan, closure plan for landfills and a gas monitoring plan.

Designed and prepared specifications and cost estimates for site improvement projects; coordinated and supervised contractor performance; provided weekly reports to management resulting in a significantly more efficient operation; prepared a work plan to implement soil and groundwater interim remedial action; and became proficient in CADAM (computer aided design and manufacturing) for Lockhead Missile and Space Company.

Contributed to the retrofit design of a landfill in accordance to RCRA standards; provided quality assurance and quality control in the installation of a bentonite slurry wall; installed monitoring and extraction wells; researched site history, as required by state regulatory agency, utilizing field surveys, aerial photography, regulatory agency files, library materials, resulting in completion of a report to the Regional Water Quality Control Board; performed pump tests to determine aquifer properties; and successfully trained new technicians in field work techniques.

## PROFESSIONAL ENDEAVORS

HDR Engineering, Inc., 1990-Present

Waste Management of North America, 1989-1990
Lockheed Missile and Space Company, 1987-1989
Canonie Environmental Services Corporation, 1984-1987

## PROFESSIONAL AFFILIATIONS

Member, American Society of Civil Engineers
Member, Southern California Waste Management Forum
Member, Solid Waste Management Association in North America