

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER NO. 94-286

WASTE DISCHARGE REQUIREMENTS  
FOR  
VALLEY COMMUNITIES, INC.  
AND  
GENERAL PARTNERS OF RESPONSIBLE BIOSOLIDS MANAGEMENT  
SLUDGE APPLICATION TO LAND  
KERN COUNTY

1. Responsible Biosolids Management (RBM), a general partnership comprised of Mr. Jon Coffin and Mr. Steve Stockton, on its own behalf and that of Valley Communities, Inc., a California corporation, submitted a Report of Waste Discharge, *Operational Manual for Land Application of Biosolids*, and site-specific information for the farm owned and operated by Valley Communities, Inc. on 21 March 1994, for a project to beneficially reuse wastewater treatment plant sewage sludge (sludge).
2. RBM reportedly provides administrative and management support on behalf of Valley Communities, Inc., with regards to coordinating sludge transportation and application activities. As such, RBM submits monitoring reports and ensures that sludge is managed in accordance with this Order. Valley Communities, Inc., and RBM are hereafter referred to collectively as Discharger.
3. The Board adopted Wastewater Reclamation Requirements Order No. 88-172 for portions of the site. Order No. 88-172 regulates the application of Bakersfield Plant 3 effluent at the facility for Sections 1 and 12 of T31S, R25E and all or part of Sections 5, 6, 7, 8, 9, 15, 16, 17, and 18 of T31S, R26E, MDB&M.
4. The Discharger proposes to apply stabilized, non-hazardous sludge from municipal wastewater treatment facilities to cropland as a fertilizer and soil amendment. Sludge will be incorporated into the soil within hours of application. Typical sludge generators may include the City of Santa Barbara WWTP, City of Los Angeles Hyperion WWTP, and Carpenteria Sanitary District WWTP. Sludge generators will have U.S. Environmental Protection Agency (EPA) approved pretreatment programs. Sources without pretreatment programs are subject to the approval of the Executive Officer.
5. The EPA has promulgated sludge reuse regulations in 40 CFR 503, *Standards for the Use or Disposal of Sewage Sludge*, which establish management criteria for protection of ground and surface waters, set application rates for heavy metals, and establish stabilization and disinfection criteria.
6. The *Operational Manual for Land Application of Biosolids (Operational Manual)* complies with the Department of Health Service's *Manual of Good Practice for Landspreading of Sewage Sludge*, April 1983, and is consistent with 40 CFR 503. The *Operational Manual* is



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12. Soils are mostly loam, sandy loams, and fine sandy loams. The soils are deep, generally in excess of 60 inches, with moderately slow to very slow permeability. Soil pH is alkaline, ranging from 7.9 to 10.5. The Sodium Adsorption Ratio (SAR) is generally between 5 and 20. Topography is flat with slopes not exceeding 1%. Soils with a pH less than 6.5 will not be used for sludge application.
13. The fields are flood irrigated. Tail water and runoff water is collected and returned to the source fields or to adjacent fields owned and operated by the Discharger.
14. The application sites are within the Kern Delta Hydrologic Area (No. 557.10). Surface water drainage is south-westerly toward or eventually tributary to the Buena Vista Lake Bed. The application fields are not within a 100-year flood plain.
15. The Board adopted a Water Quality Control Plan for the Tulare Lake Basin (hereafter Basin Plan) which contains water quality objectives for all waters of the basin. These requirements implement the Basin Plan.
16. Lake Webb lies within the Buena Vista Lake Bed. The beneficial uses of Lake Webb, a valley floor water, are agricultural supply, industrial supply, industrial process supply, water contact and non-contact water recreation, warm fresh water habitat, wild life habitat, preservation of rare and endangered species, and ground water recharge.
17. Depth to ground water in the area ranges from 125 feet to 140 feet. The general trend of regional ground water is southwesterly.
18. The beneficial uses of underlying ground water are domestic, industrial, and agricultural supply.
19. Precipitation in the area averages 7 inches annually.
20. The sludges proposed for application are non-hazardous, decomposable waste that will be applied as a soil amendment pursuant to published regulations and guidelines and, as such, are exempt from the requirements of Title 23, California Code of Regulations (CCR), Section 2510, et seq., (Chapter 15) per Section 2511(f).
21. The City of Bakersfield prepared a Supplemental Environmental Impact Report (EIR) in May 1984 for the site. The EIR determined there were significant unmitigatable effects associated with the approval and use of the I-5 disposal site, including:
  - a. The conversion of approximately 2560 acres of Valley Mesquite Savannah and Valley Saltbrush Scrub to irrigated crop lands; and

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- b. The loss of habitat for several sensitive species, including
  - San Joaquin Kit Fox (*Vulpes macrotis* ssp. *mutica*),
  - Blunt-Nosed Leopard Lizard (*Gambelia silus*),
  - Burrowing Owl (*Speotyto cunicularia*), and
  - San Joaquin Antelope Squirrel (*Ammospermophilus nelsonii*)
  
- 22. The City of Bakersfield adopted Resolution No. 48-84 on 18 July 1984 which certified the EIR in accordance with the California Environmental Quality Act (Public Resources Code, Section 21000, et seq.) and the State CEQA Guidelines. Resolution No. 48-84 included a Statement of Overriding Considerations which found that it was economically infeasible to mitigate the loss of species habitat, and that the benefits from the proposed project outweighed the unavoidable adverse and significant environmental effects identified.
  
- 23. The Board has reviewed the EIR and Resolution 48-84 and concurs that the project as approved will not have a significant effect on water quality.
  
- 24. The Board consulted with the California Department of Fish and Game regarding impacts to threatened and endangered species which could occur as a result of the project. Consequently, the Department prepared a Biological Opinion which included specific conditions required to avoid jeopardy and minimize take. These conditions are included in this Order.
  
- 25. The Board notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge, and provided them an opportunity for a public hearing and to submit their written views and recommendations.
  
- 26. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

**IT IS HEREBY ORDERED** that Valley Communities, Inc. and the general partners of Responsible Biosolids Management, their agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

**A. Prohibitions:**

1. Discharge of tailwater, field runoff water, or sludge to surface waters or surface water drainage courses is prohibited.

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- 2. Discharge of sludges not meeting Class A or Class B criteria, as defined in 40 CFR 503, is prohibited.
- 3. Discharge of waste classified as "hazardous" or "designated," as defined in Section 2521(a) and Section 2522(a) of Chapter 15, is prohibited.
- 4. Application of sludge on areas known to be habitat for endangered species of plants or wildlife is prohibited.
- 5. Discharge of sludge with pollutant concentrations greater than those shown below is prohibited:

<u>Pollutant</u>	<u>Concentration, mg/kg<sup>1</sup></u>
Arsenic	75
Cadmium	85
Chromium	3000 <sup>2</sup>
Copper	4300 <sup>2</sup>
Lead	840
Mercury	57 <sup>2</sup>
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7500 <sup>2</sup>

<sup>1</sup> Dry weight basis

<sup>2</sup> Due to different methods of reporting constituent concentrations (dry weight vs. wet weight), sludge meeting these metals concentration limits could exceed hazardous waste limits provided in the California Code of Regulations, §66261.24. Use of such sludge for this project is prohibited by Prohibition A.3.

- 6. Application of sludge and other sources of nitrogen at rates in excess of the nitrogen requirements of the vegetation, or at rates that would cause excess nitrogen or metals to leach to ground water, is prohibited.
- 7. Application of sludge in fields different than those described in Finding Nos. 7 and 8 of this Order, is prohibited.
- 8. Discharge of sludge on any public roadway is prohibited.

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9. The storage of sludge at disposal fields described in Finding Nos. 7 and 8 of this Order is prohibited.

**B. Discharge Specifications:**

1. The cumulative loading of pollutants at each sludge application site shall not exceed the following:

<u>Pollutant</u>	<u>Cumulative Pollutant Loading Rate, lbs/acre</u>
Arsenic	37
Cadmium	35
Chromium	2700
Copper	1350
Lead	270
Mercury	15
Nickel	378
Selenium	90
Zinc	2520

2. Staging areas and sludge application shall be at least:
  - a. 25 feet from property lines;
  - b. 500 feet from domestic water supply wells, or occupied dwellings;
  - c. 100 feet from surface waters and surface water drainage courses;
  - d. 100 feet from non-domestic water supply wells;
  - e. 50 feet from public roads;
  - f. 25 feet from a Tipton Kangaroo rat burrow entrance<sup>1</sup>;
  - g. 25 feet from a San Joaquin Antelope squirrel burrow entrance<sup>1</sup>;
  - h. 50 feet from a potential Kit fox den<sup>1</sup>;
  - i. 100 feet from a Kit fox den<sup>1</sup>;
  - j. 150 feet from a Kit fox pupping den<sup>1</sup>;
  - k. 25 feet from a Burrowing owl den<sup>1</sup>;
  - l. 150 feet from an active Burrowing owl nest<sup>1</sup>; and
  - m. 25 feet from a Blunt-nosed Leopard lizard burrow<sup>1</sup>

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<sup>1</sup> To be identified and reported in the species survey required as part of the pre-application report, Monitoring and Reporting Program No. 94-286.

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3. Sludge shall not be applied on slopes exceeding 10 percent.
4. Prior to application to a field, each soil type will be screened for pH and metals concentrations. The results, in conjunction with sludge and wastewater characteristic data, will be used to develop sludge loading criteria on a field-by-field basis. Sludge shall not be applied to soils with a pH of less than 6.5.
5. Sludge shall not be applied to flooded, frozen, or water saturated ground, or during periods of heavy rainfall.
6. Sludge application shall be limited to once per year, between crop rotations.
7. The source of applied sludge shall be limited to municipal wastewater treatment plants with EPA approved pre-treatment programs, unless other sources are approved in writing by the Executive Officer.
8. Sludge moisture content shall be adequate to prevent windblown sludge particles.
9. Sludge shall only be applied to the lands used for the production of fiber, fodder, or seed crops and crops not used for direct human consumption.
10. After the most recent application of sludge in each field, the Discharger shall ensure the following:
  - a. For at least 30 days:
    - (1) Public access is restricted;
    - (2) Feed and fiber crops are not harvested; and
    - (3) Animals are not grazed.
  - b. For at least 12 months:
    - (1) Turf is not harvested if the turf will be placed on land with a high degree of public exposure; and
    - (2) If the field is used as pasture, grazing by milking animals is prevented.
  - c. For at least 14 months:
    - (1) Food crops with harvested parts that touch the sludge/soil mixture and are totally above the land surface are not harvested.

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- d. For at least 38 months:
  - (1) Food crops with harvested parts below the land surface are not harvested; and
  - (2) If the field is used as pasture, grazing of milking animals used for producing unpasteurized milk for human consumption is prohibited.
- 11. One of the following vector attraction reduction methods shall be met:
  - a. The mass of volatile solids in the sludge shall be reduced by a minimum of 38 percent.
  - b. When the 38 percent volatile solids reduction requirement in Discharge Specification B.11.a., above, cannot be met for an anaerobically digested sludge, vector attraction reduction can be demonstrated by digesting a portion of the previously digested sludge anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30 and 37 degrees Celsius. When at the end of the 40 days, the volatile solids in the sludge at the beginning of that period is reduced by less than 17 percent, vector attraction reduction is achieved.
  - c. When the 38 percent volatile solids reduction requirement in Discharge Specification B.11.a., above, cannot be met for an aerobically digested sludge, vector attraction reduction can be demonstrated by digesting a portion of the previously digested sludge that has a percent solids of two percent or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20 degrees Celsius. When at the end of the 30 days, the volatile solids in the sludge at the beginning of that period is reduced by less than 15 percent, vector attraction reduction is achieved.
  - d. The specific oxygen uptake rate (SOUR) for sludge treated in an aerobic process shall be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 degrees Celsius.
  - e. Sludge shall be treated in an aerobic process for 14 days or longer. During that time, the temperature of the sludge shall be higher than 40 degrees Celsius and the average temperature of the sludge shall be higher than 45 degrees Celsius.

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- f. The pH of sludge shall be raised to 12 or higher by alkali addition and, without the addition of more alkali, shall remain at 12 or higher for two hours and then at 11.5 or higher for an additional 22 hours.
  - g. The percent solids of sludge that does not contain unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 75 percent based on the moisture content and total solids prior to mixing with other materials.
  - h. The percent solids of sludge that contains unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 90 percent based on the moisture content and total solids prior to mixing with other materials.
  - i. Sludge shall be injected below the surface of land. No significant amount of the sludge shall be present on the land surface within one hours after the sludge is injected (Class B sludge only).
  - j. Sludge applied to the land surface or placed on a surface disposal site shall be incorporated into the soil within six hours after application to or placement on the land (Class B sludge only).
12. Sludge shall be landspread and incorporated within 24 hours of arrival at the disposal fields, or sooner if so specified in Discharge Specification B.11.
  13. Objectionable odors from sludge use shall not be perceivable beyond the limits of the property controlled by the Discharger.
  14. The accumulation of metals in the food chain shall not cause harm to wildlife.

**C. Ground Water Limitations:**

The discharge, in combination with other sources, shall not cause underlying ground water to:

1. Contain waste constituents statistically greater than receiving water limits, where specified below, or background water quality where not specified.
2. Contain chemicals, heavy metals, or trace elements in concentrations that adversely affect beneficial uses or exceed maximum contaminant levels specified in 22 CCR, Division 4, Chapter 15.

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3. Exceed a most probable number of total coliform organisms of 2.2/100 ml over any 7-day period.
4. Contain concentrations of chemical constituents in amounts that adversely affect agricultural use.

D. Provisions:

1. The distribution, storage or application of sludge shall not cause a nuisance or condition of pollution as defined by the California Water Code, Section 13050.
2. In the event of an accidental discharge of sludge to the environment, the Discharger shall notify the Board within 24 hours of such discharge and submit a technical report to the Board within seven (7) days describing:
  - a. The amount and nature of the discharge,
  - b. How the discharge was contained,
  - c. Remedial measures taken to date, and
  - d. A workplan that includes a time schedule for complete remediation.
3. This Order does not preclude other political entities with jurisdiction over the sites identified in Finding Nos. 7 and 8 from imposing more stringent requirements than are contained in this Order.
4. The Discharger shall comply with the Monitoring and Reporting Program No. 94-286, which is part of this Order, and any revisions thereto as ordered by the Executive Officer.
5. The Discharger shall comply with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*, dated 1 March 1991, which are attached hereto and by reference a part of this Order. This attachment and its individual paragraphs are commonly referenced as "Standard Provision(s)."
6. Following 48-hour advance notice to the Discharger, Standard Provision A.8. shall extend to employees of the California Department of Fish and Game and United States Fish and Wildlife Service to the extent necessary to verify wildlife use and to monitor compliance with mitigations and other measures specified in this Order. This provision

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does not in any way limit the lawful authority of these agencies to enforce applicable laws and regulations.

7. In the event of any change in control or ownership of land or waste discharge facilities described herein, the Discharger shall notify the succeeding landowner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Board, and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3. and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer shall be approved or disapproved by the Executive Officer.

8. By 1 December 1994, the Discharger shall submit to the Board and to the Department of Fish and Game, a site-specific *Guidelines for Endangered Species Protection*. The *Guidelines* shall include a written and pictorial description of the following listed species:

- San Joaquin Kit Fox (*Vulpes macrotis* ssp. *mutica*),
- Tipton Kangaroo Rat (*Dipodomys nitratoides nitratoides*),
- Blunt-nosed Leopard Lizard (*Gambelia silus*),
- San Joaquin Antelope Squirrel (*Ammospermophilus nelsonii*),
- Swainson's hawk (*Buteo swainsoni*), and
- Burrowing Owl (*Speotyto cunicularia*).

The *Guidelines* shall describe, both in English and Spanish, listed species biology and their habitat; their status under the California and Federal Endangered Species Acts; on-site measures to be taken for the care and protection of these species; programmatic procedures when one or more of the listed species are discovered during day-to-day farming operations; and reporting procedures should an accidental take occur. The *Guidelines* shall be subject to approval of Board staff and the California Department of Fish and Game.

All personnel employed in the application of sludge at the site described in Finding Nos. 7 and 8 shall certify that they understand and will adhere to the *Guidelines*. Documentation of such certification shall be maintained by the Discharger and shall be

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15. The Board will review this Order periodically and will revise requirements when necessary.

I, WILLIAM H. CROOKS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 16 September 1994.



WILLIAM H. CROOKS, Executive Officer

KDL:cjs:9/16/94 AMENDED

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

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PRE-APPLICATION REPORT

A pre-application report shall be submitted for each field prior to each application of sludge. The report shall include, but not be limited to, the following:

1. A sampling and analysis plan shall be submitted as part of the pre-application report detailing sample locations, sample methods, and analytical procedures to be used to assure compliance with this Order. The sampling and analysis plan shall be subject to review and approval by the Board staff.
2. The pre-application report shall also include proposed loading rates for that field based on agronomic and metals loading criteria, including justification and calculations.
3. A representative composite sample of sludge shall be analyzed for the pollutants listed in Discharge Specification B.1. and reported on a dry weight basis, reported in mg/kg.
4. Representative samples of background soils from each soil type in the proposed application area shall be analyzed for pH.
5. Representative samples of wastewater effluent shall be analyzed for nitrogen and the pollutants listed in Discharge Specification B.1.
6. Proposed time schedule for the application.
7. Field characterization, including: proposed crops, tillage practices, run-on/runoff controls and locations, sludge staging locations, and distance to any nearby surface water.
8. Verification of classification of sludge as nonhazardous per 22 CCR Division 4.5, Chapter 11, Article 3 or by other tests approved by the Board staff. This verification is required for each different source of sludge to be used.

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9. The preapplication report shall include a survey report signed by a qualified biologist which indicates whether or not the following endangered species may be present:
- San Joaquin Kit Fox (*Vulpes macrotis* ssp. *mutica*),
  - Tipton Kangaroo Rat (*Dipodomys nitratooides nitratooides*),
  - Blunt-nosed Leopard Lizard (*Gambelia silus*),
  - San Joaquin Antelope Squirrel (*Ammospermophilus nelsonii*),
  - Swainson's hawk (*Buteo swainsoni*), and
  - Burrowing Owl (*Speotyto cunicularia*).

The survey shall be conducted within seven (7) days prior to sludge application and submitted no later than two (2) working days prior to sludge application. Results of the survey shall be submitted concurrently to the Board and the Department of Fish and Game, Region 4, at the following address:

Department of Fish and Game, Region 4  
Environmental Services  
1234 E. Shaw Ave.  
Fresno, CA 93710

#### POST-APPLICATION REPORT

A post-application report shall be submitted after each application of sludge to a field. The report shall include:

1. Dry mass of sludge applied, reported in tons.
2. Location of the field receiving sludge clearly shown on a map.
3. Tons of wet sludge per acre and tons of dry sludge per acre applied.
4. Pounds per acre of metals and nitrogen applied.
5. Cumulative application of heavy metals at the site, reported in lbs/acre. This shall be the sum of metals from newly applied sludge and from previously applied sludge. The report will include tables and calculations as necessary to obtain results.
6. Any variations from pre-application report.

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RECORD KEEPING

1. The Discharger shall collect and maintain the following information indefinitely:
  - a. The location, by quarter section, section, township, range, and assessor's parcel number, of each site on which sludge is applied, including a map, of scale 1:24,000 or larger, accurately showing the location.
  - b. The number of acres in each site on which sludge is applied.
  - c. The date and time sludge is applied to each site.
  - d. The cumulative amount of each pollutant, in pounds, listed in Discharge Specification B.1. in the sludge applied to each site.
  - e. The amount of sewage sludge, in dry tons, applied to each site.
  - f. The following certification statement:

"I certify, under penalty of law, that the requirements to obtain information in 40 CFR §503.12(e)(2) have been met for each site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the requirements to obtain information have been met. I am aware that there are significant penalties for false certification including fine and imprisonment."
  - g. A description of how the requirements to obtain information in paragraph No. 1.f., above, are met.
2. The Discharger shall collect and maintain the following information for five years:
  - a. The following certification statement:

"I certify, under penalty of law, that the requirements of Prohibition A.3 and Discharge Specification B.11. have been met for each site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices have been met. I am aware that there are significant penalties for false certification including fine and imprisonment."

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b. A description of how the requirements in Prohibition A.3. and Discharge Specification B.11. are met for each site on which bulk sewage sludge is applied.

c. The following certification statement when the bulk sewage sludge meets the vector attraction reduction requirements in Discharge Specification B.11:

"I certify, under penalty of law, that the site restrictions in Discharge Specification B.10 have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the site restrictions have been met. I am aware that there are significant penalties for false certification including fine and imprisonment."

d. A description of how the site restrictions in Discharge Specification B.10 are met for each site on which sludge is applied.

e. The following certification statement when the vector attraction reduction requirement in either Discharge Specification B.11.i. or B.11.j. is met:

"I certify, under penalty of law, that the vector attraction reduction requirement in [insert either Discharge Specification B.11.i. or B.11.j.] has been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the vector attraction reduction requirement has been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

f. If the vector attraction reduction requirements in either Discharge Specification B.11.i. or B.11.j. are met, a description of how the requirements are met.

#### ANALYTICAL METHODS

The following methods shall be used to analyze sludge samples:

1. Inorganic pollutants. "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, Second Edition (1982) with Updates I and II and Third Edition (1986) with Revision I.
2. Specific oxygen uptake rate. Part 2710 B., "Standard Methods for the Examination of Water and Wastewater," 18th Edition, American Public Health Association, Washington, D.C., 1992.

DATE: 1/11/92  
BY: [illegible]  
TITLE: [illegible]  
[illegible]

3. Total fixed and volatile solids, Part 2540 G., "Standard Methods for the Examination of Water and Wastewater," 18th Edition, American Public Health Association, Washington, D.C., 1992.
4. Percent volatile solids reduction calculation, "Environmental Regulations and Technology - Control of Pathogens and Vectors in Sewage Sludge," EPA-625/R-92/013, U.S. Environmental Protection Agency, Cincinnati, Ohio, 1992.

### BIOLOGICAL TISSUE MONITORING

The Discharger shall annually collect invertebrate samples from a representative field which has received sludge and from a control field which has not received sludge planted in the same crop. Invertebrates will be collected using an insect net by making sweeps in and around vegetation over a cross section of the field until approximately ten grams of biomass from the study area and ten grams from the control field are collected. Sample collection will be made during the summer months when insect activity is highest. In addition, the Discharger shall collect samples of below-ground invertebrates (earthworms, nematodes, etc.) from the study area and control field. Biomass samples shall be analyzed for the pollutants listed in Discharge Specification B.1. and the results submitted to the Board and to the Department of Fish and Game, Region 4, Environmental Services.

### ANNUAL MONITORING REPORTS

Annually submit a tabulated summary of results of all sludge and soil monitoring data and an evaluation of the data collected during the calendar year; the cumulative total loading of heavy metals for each site and a comparison to the allowable cumulative loading standards (include calculations); compliance with land use restrictions identified in Discharge Specification B.10; and documentation certifying that personnel working at the site have adhered to the approved *Guidelines for Endangered Species Protection* required in Provision D.8. Annual monitoring reports shall be submitted for three years following the last sludge application.

### REPORTING

Pre-application and post applications reports for each disposal field shall be submitted 30 days prior to and within 30 days after the use of that field. Annual reports shall be submitted by the 30th of January.

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In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in a manner that illustrates clearly whether the discharge is in compliance with this Order.

If the Discharger monitors any constituent more frequently than is required by this Order, the results of such monitoring shall be included in the discharge monitoring report.

The Discharger may also be requested to submit an additional annual report to the Board with tabular and graphical summaries of the monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.

All reports submitted in response to this Order shall comply with the signatory requirements of Standard Provision B.3.

The Discharger shall implement the above monitoring program on the effective date of this Order.

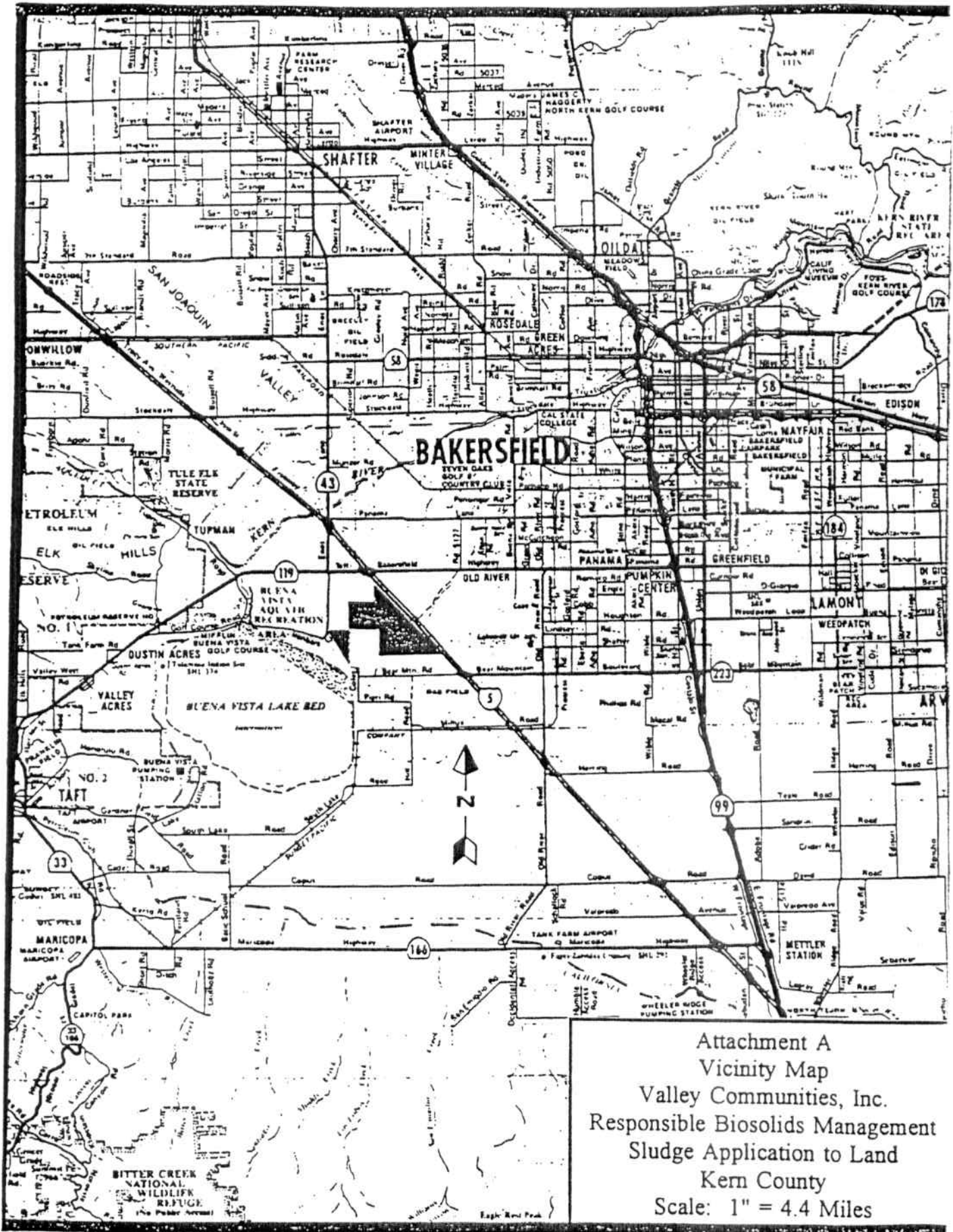
Ordered by: William H. Crooks  
WILLIAM H. CROOKS, Executive Officer

16 September 1994

(Date)

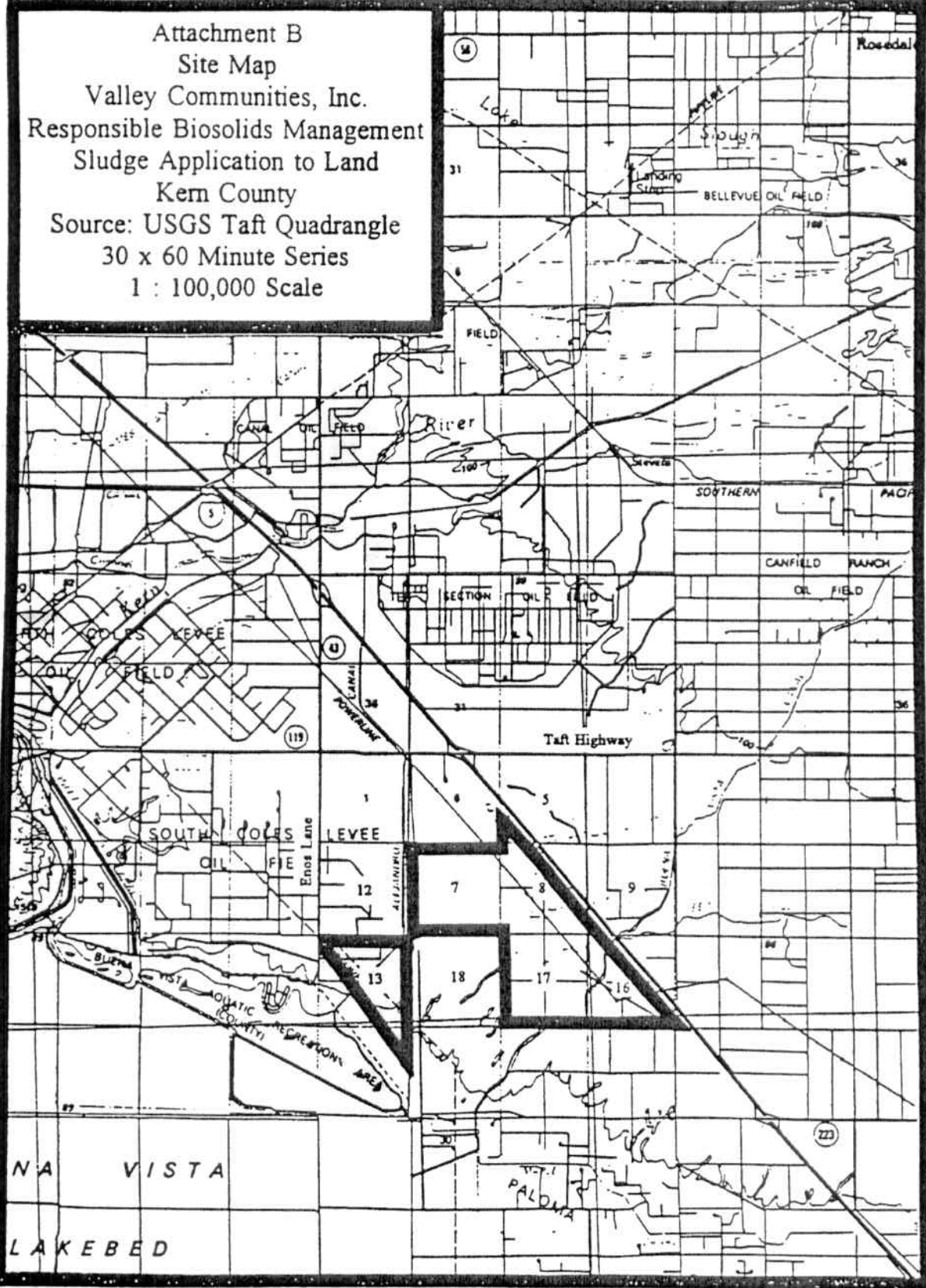
KDL:cjs:9/16/94 AMENDED

VALLEY COMMUNITIES, INC.  
BIOSOLIDS MANAGEMENT  
SLUDGE APPLICATION TO LAND  
KERN COUNTY  
September 16, 1994



Attachment A  
 Vicinity Map  
 Valley Communities, Inc.  
 Responsible Biosolids Management  
 Sludge Application to Land  
 Kern County  
 Scale: 1" = 4.4 Miles

Attachment B  
Site Map  
Valley Communities, Inc.  
Responsible Biosolids Management  
Sludge Application to Land  
Kern County  
Source: USGS Taft Quadrangle  
30 x 60 Minute Series  
1 : 100,000 Scale



← T31S,R25E

T31S,R26E → Taft Highway

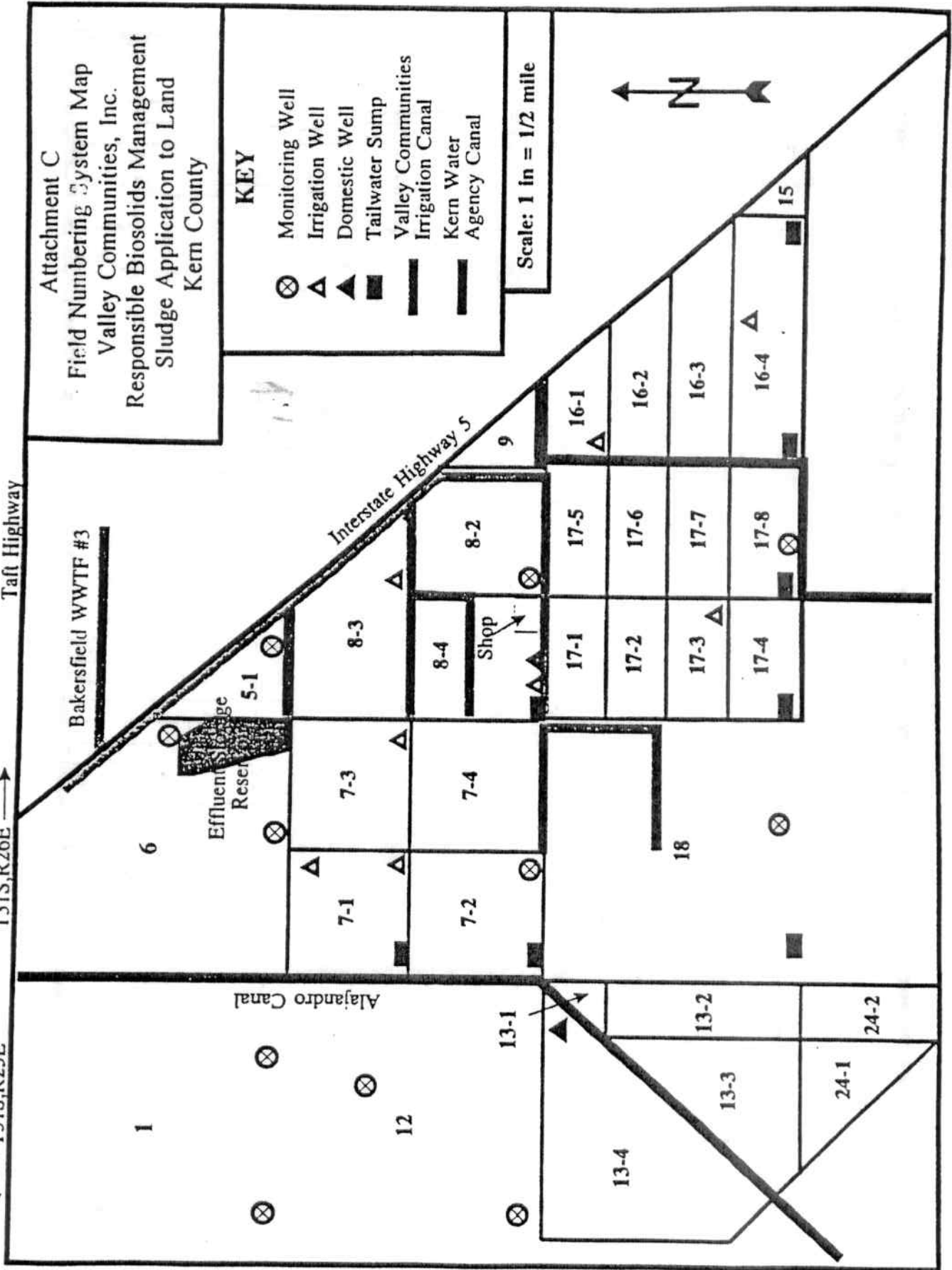
### Attachment C

Field Numbering System Map  
Valley Communities, Inc.  
Responsible Biosolids Management  
Sludge Application to Land  
Kern County

### KEY

- ⊗ Monitoring Well
- △ Irrigation Well
- ▲ Domestic Well
- Tailwater Sump
- Valley Communities Irrigation Canal
- Kern Water Agency Canal

Scale: 1 in = 1/2 mile



Attachment D  
Valley Communities, Inc. Farm Fields  
Assessor Parcel Numbers and Field Acreage

<u>Field Number</u>	<u>Assessors Parcel Numbers</u>	<u>Parcel Acres</u>	<u>Township/Range, MDB&amp;M</u>	<u>Section</u>	<u>Field Acres</u>
5-1	184-090-05	618	T31S, R26E	5 SW ¼	70
7-1	184-090-29	289	T31S, R26E	7 NW ¼	160
7-2	184-090-29 184-090-30	289 43	T31S, R26E	7 SW ¼ 7 SW ¼	160
7-3	184-090-09	320	T31S, R26E	7 NE ¼	160
7-4	"	"	"	7 SE ¼	160
8-2	184-090-12	315	T31S, R26E	8 SE ¼	160
8-3	184-090-12 184-090-27	315 198	T31S, R26E	8 N ½	220
8-4	184-090-27	198	T31S, R26E	8 SW ¼	160
9-1	184-090-23	27	T31S, R26E	9 SW ¼	27
13-1	184-030-08	559	T31S, R25E	13 NE ¼	25
13-2	"	"	"	13 E ¼	80
13-3	"	"	"	13 S ½	95
13-4	"	"	"	13 NW ¼	310
15-1	184-100-01	633	T31S, R26E	15 SW ¼	9
17-1	184-110-25	620	T31S, R26E	17 NW ¼	80
17-2	"	"	"	17 NW ¼	80
17-3	"	"	"	17 SW ¼	80
17-4	"	"	"	17 SW ¼	80
17-5	"	"	"	17 NE ¼	77
17-6	"	"	"	17 NE ¼	77
17-7	"	"	"	17 SE ¼	77
17-8	"	"	"	17 SE ¼	69
16-1	184-110-28	609	T31S, R26E	16 NW ¼	40
16-2	"	"	"	16 NW ¼	70
16-3	"	"	"	16 S ½	110
16-4	"	"	"	16 S ½	145
24-1	184-030-11	169	T31S, R25E	24 NE ¼	60
24-2	"	"	"	24 E ½	109

Total Field Acreage = 2,950

## INFORMATION SHEET

### VALLEY COMMUNITIES, INC. AND RESPONSIBLE BIOSOLIDS MANAGEMENT SLUDGE APPLICATION TO LAND KERN COUNTY

Responsible Biosolids Management (RBM), a general partnership comprised of Jon Coffin and Steve Stockton, proposes to manage land application of municipal wastewater treatment plant sewage sludge (hereafter sludge) to approximately 2,950 acres of land in southwest Kern county in all or part of Sections 13 & 24 of T31S, R25E and Sections 5, 7, 8, 9, 15, 16, & 17 of T31S, R26E. The land is owned and farmed by Valley Communities, Inc., a California corporation.

The waste discharge requirements incorporate 40 CFR 503 regulations, *Standards for the Use or Disposal of Sewage Sludge*, promulgated by the US EPA on 19 February 1993 and guidelines found in the Department of Health Services' *Manual of Good Practice for Landspreading of Sewage Sludge*.

The sludges, which are stabilized, non-hazardous, and Class A or B for pathogens, will be transported to the application sites in leased, water tight trailers, off-loaded, applied to the fields, and disced into the soil within 24 hours of application. Solid sludge (solids content above 8%) will be applied with a conventional manure spreader. Liquid sludge (solids content 1% to 8%) may be applied by the delivery vehicle or by on-site farm equipment.

Sludge will be applied to selected fields between crop rotations. Crops are limited to cotton, oat, alfalfa, barley, wheat, and rice. Annual sludge loading rates will be limited by the nitrogen content of the sludge, the nitrogen content of other materials applied, and the nitrogen requirements of the crop. Life-time sludge loading rates will be limited by the allowable cumulative heavy metals loadings established by Table 2 of 40 CFR 503.13. Metals concentrations in the sludge may not exceed those specified in Table 1 of 40 CFR 503.13.

As a minimum, the sludge must meet Class B pathogen reduction criteria (503.32(b)) and vector attraction reduction criteria (503.33). Class A pathogen reduction criteria (503.32(a)), being more stringent than class B, are an acceptable alternative.

The soils at the Valley Communities, Inc., farm fields are described as mostly Garces loam, Tennco fine sandy loam, and Kimberlina fine sandy loam. Typically the surface layer is free of salts, but the underlying material is slightly to strongly saline. Alkalinity ranges from slightly to strongly alkaline. Permeability is generally slow, with the water holding capacity generally moderate to high. Precipitation in the area averages 7 inches annually. Topography is flat, with slopes less than one percent. Farm fields are laser-leveled to improve irrigation efficiency. The Order prohibits the discharge of irrigation or precipitation runoff from the sites.

VALLEY COMMUNITIES, INC. AND  
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SLUDGE APPLICATION TO LAND  
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The City of Bakersfield currently discharges effluent from Wastewater treatment Plant #3 to the site. This reclaimed water supplies approximately 40% of the irrigation needs of the farm and is regulated under Board Order No. 88-172.

Prior to application, each soil type will be screened for pH and metals concentrations. The results, in conjunction with sludge and wastewater characteristic data, will be used to develop sludge loading criteria on a field-by-field basis. The surface pH of soils in the area are between 7.9 and 10.5. Soils with a pH less than 6.5 will be limed to a pH of 6.5 or greater prior to the application of sludge.

Based on depth to ground water data from 10 on-site irrigation wells, ground water ranges from 125 to 140 feet below ground surface. The beneficial uses of underlying groundwater are domestic, industrial, and agricultural supply. The site is within the Kern Delta Hydrologic area, number 557.10. Surface water drainage is to the south.

A portion of the Valley Communities, Inc., farm fields are adjacent to Buena Vista Lake. The Buena Vista recreation area is approximately 0.5 miles southwest of Valley Communities Farm. The beneficial uses of Buena Vista Lake, a valley floor water, are agricultural supply, industrial service supply, warm freshwater habitat, wildlife habitat, preservation of rare and endangered species, water contact and non-contact recreation, and ground water recharge.

The application fields are not within the 100-year flood plain.

An environmental impact report (EIR) was prepared by the City of Bakersfield in accordance with the California Environmental Quality Act and the State Guidelines. The EIR determined there were significant unmitigatable effects associated with the approval and use of the I-5 disposal site, including the conversion of approximately 2560 acres of Valley Mesquite Savannah and Valley Saltbrush Scrub to irrigated crop lands; and the loss of habitat for several sensitive species including the: San Joaquin Kit Fox, Blunt Nosed Leopard Lizard, Burrowing Owl, and San Joaquin Antelope Squirrel. The City of Bakersfield certified the EIR and adopted a Statement of Overriding Considerations which determined that it was economically infeasible to mitigate the loss of species habitat, and that the benefits from the project outweighed the unavoidable adverse and significant environmental effects identified.

VALLEY COMMUNITIES, INC. AND  
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The Board consulted with the California Department of Fish and Game regarding impacts to threatened and endangered species which could occur as a result of sludge disposal at the site. Consequently, the Department prepared a Biological Opinion which included Specific Conditions required to avoid jeopardy and minimize take of listed species. Those conditions are included in this Order.

The Board adopted a Water Quality Control Plan for the Tulare Lake Basin which contains water quality objectives for all waters of the Basin. These requirements implement the Basin Plan.

The Board notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge, and provided them an opportunity for a public hearing and to submit their written views and recommendations.

The Board, in a public meeting, heard and considered all comments pertaining to the discharge.