CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. 91-138

WASTE DISCHARGE REQUIREMENTS
FOR
THE CITY OF CORCORAN
WASTEWATER TREATMENT FACILITY
KINGS COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Board) finds that:

1. The City of Corcoran (hereafter Discharger of City) submitted a Report of Waste Discharge and a site evaluation report, each dated 25 September 1989, in support of an increase in flow at its wastewater treatment facility (WWTF). The facility and the property are owned by the Discharger.

2. The Board, on 11 December 1981, adopted Order No. 81-119, which prescribes requirements for a discharge from the WWTF to a land disposal area consisting of approximately 37 acres of stabilization ponds and 160 acres of farmland planted in fodder, fiber and seed crops.

3. The old facility consisted of headworks, primary clarifiers, an aeration lagoon, sludge digesters, and sludge drying beds. The disposal area included 45 acres of evaporation ponds and 253 acres of disposal fields used as shallow evaporation basins. Current flows average 1.3 mgd.

4. The Discharger recently upgraded the facility with assistance of a Water Quality Control Fund loan and grants from the Federal Economic Development Administration (EDA) and the California Rural Infrastructure Improvement Program.

5. The upgrade project included improvements to increase the facility's treatment and disposal capacity. Treatment improvements consist of additional sludge drying beds, a primary effluent force main, and an aeration lagoon, as well as an effluent storage pond. Disposal capacity was increased by extending the existing irrigation force main 2000 feet to the nearby 280-acre wastewater reclamation area owned by the California State Prison, Corcoran (hereafter the Prison). The Prison signed an agreement of indefinite term to accept a minimum 0.3 mgd (average annual flow) of effluent from the City. The Prison, under WDRs Order No. 87-182, currently treats 0.46 mgd compared to the flow limit of 1.03 mgd. The Prison purchases up to 1.0 mgd of fresh water to supplement its own reclamation activities.

6. The upgraded treatment facility is designed to accommodate an average dry weather flow (ADWF) of 1.75 mgd. The capacity of the City's disposal facilities remains unchanged at 1.45 mgd.) With the additional 0.30 mgd of effluent discharged to Prison land, the City has a minimum available disposal capacity of 1.75 mgd.

7. The facility is about 3 miles south of Corcoran in Sections 25 and 26, T21S, R22E, MDB&M, as shown in Attachment A, contained herein and part of this part. Surface water drains to the Tule River. The site lies within the Lake Sump hydrologic area 9 No. 558.30).

8. The Board adopted the *Water Quality Control Plan for the Tulare Lake Basin* (5D), hereafter "Basin Plan," which contains water quality objectives for all waters of the Basin. These requirements implement the Basin Plan.

9. The beneficial uses of the Tule River are municipal supply, agricultural supply, industrial service supply, industrial process supply, water contact recreation, non-contact water recreation, warm fresh water habitat, wildlife habitat and ground water recharge.

10. Soils are generally heavy clays to depths exceeding 20 feet.

11. First ground water in the area is from 3 to 10 feet ~~below~~ ground surface, and flows generally west-southwest. It has electrical conductivities ranging from 2000 to 4500 umhos/cm, and a boron content of 2 to 3 mg/l. Higher quality ground water exists about 100 feet below the ground surface in the confined aquifer beneath the Corcoran clay. This aquifer exhibits electrical conductivities that range from 300 to 650 umhos/cm.

12. The beneficial uses of ground water are domestic, industrial, and agricultural supply.

13. The Discharger reviewed opportunities for reclamation of wastewater other than that to be delivered to Corcoran Prison and has reported that the City lacks land area necessary for reclamation, and purchasing new land is not feasible.

14. The action to update waste discharge requirements for this facility is exempt from the provisions of the California Environmental Quality Act in accordance with Title 14, California Code of Regulations (CCR), Section 15301.

15. The California Department of Health Services has established statewide reclamation criteria in Title 22, CCR, Section 60301, et seq., (hereafter Title 22) for the use of reclaimed water, and has developed guidelines for specific uses.

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

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

IT IS HEREBY ORDERED that Order No. 81-119 is rescinded and the City of Corcoran, in order to meet the provisions contained in Division 7 of the California Water code and regulations adopted thereunder, shall comply with the following at the above-described facility.

A. **Discharge Prohibitions:**

1. Discharge of wastes to surface waters or surface water drainage courses is prohibited.

2. Bypass or overflow of untreated or partially treated waste is prohibited, except as allowed by Standard Provision E.2.

3. Discharge of waste classified as 'hazardous' or 'designated', as defined in Sections 2521(a) and 2522(a) of Title 23, CCR, Section 2510, et seq. (hereafter Chapter 15), is prohibited.

4. The use of untreated or partially treated waste for irrigation is prohibited.

B. **Discharge Specifications:**

1. The monthly average daily dry weather discharge flow to the City disposal area shall not exceed 1.45 million gallons.

2. The total monthly average daily dry weather discharge flow from the treatment facility shall not exceed 1.75 mgd.

3. Use of reclaimed water for construction purposes shall comply with the most current edition of "Guidelines for Use of Reclaimed Water for Construction Purposes." Other uses for reclaimed water shall be subject to the approval of the Executive Officer and shall comply with Title 22.

4. Effluent from the treatment facility shall not contain constituents in excess of the following:

Constituents	Units	Average	Daily Maximum
BOD_5[1]	mg/l	40	80
Settleable Solids	ml/l	0.2	0.5
Total Suspended Solids	mg/l	45	90

[1] Five-day, 20° Celsius biochemical oxygen demand.

5. The maximum electrical conductivity (EC) of the discharge shall not exceed the average EC of the source water plus 500 umhos/cm.

6. The ponds shall not have a pH less than 6.5 or greater than 8.5.

7. Objectionable odors originating at this facility shall not be perceivable beyond the limits of the wastewater treatment and disposal areas.

8. As a means of discerning compliance with Discharge Specification B.7., the dissolved oxygen content in the upper zone (1 foot) of wastewater in ponds shall not be less than 1.0 mg/l.

9. Ponds shall be managed to prevent breeding of mosquitos. In particular,

   a. An erosion control program should assure that small coves and irregularities are not created around the perimeter of the water surface.

   b. Weeds shall be minimized through control of water depth, harvesting, or herbicides.

   c. Dead algae, vegetation, and debris shall not accumulate on the water surface.

10. Public contact with wastewater shall be precluded through such means as fences, signs, and other acceptable alternatives.

11. The treatment facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

12. Ponds shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation and ancillary inflow and infiltration during the nonirrigation season. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns. Freeboard shall never be less than 2 feet (measured vertically).

13. On or about 1 October of each year, available pond storage capacity shall at least equal the volume specified in Discharge Specification B.12, above.

C. **Sludge Disposal:**

1. Collected screenings, sludges, and other solids removed from liquid wastes shall be disposed of in manner that is consistent with Chapter 15, and approved by the Executive Officer.

2. Any proposed change in sludge use or disposal practice shall be reported to the Executive Officer at least 60 days in advance of the change.

D. **Ground Water Limitations:**

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

1. Contain waste constituents in concentrations statistically greater than receiving water limits, where specified below, or background water quality where not specified. (For purposes of comparison, background water quality shall be determined when background monitoring provides sufficient data. Quality determined in this manner establishes "water quality protection standards.")

2. Contain chemicals, heavy metals, or trace elements in concentrations that adversely affect beneficial uses or exceed maximum contaminant levels specified in Chapter 15, Division 4, Title 22, CCR.

3. Exceed a most probable number of total coliform organisms of 2.2/100 ml over any seven-day period.

4. Contain odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses.

5. Contain concentrations of chemical constituents in amounts that adversely affect agricultural use.

E. Provisions:

1. The Discharger shall use the best practicable cost-effective control technique currently available to comply with salinity limits specified in this Order.

2. The Discharger shall submit technical reports as directed by the Executive Officer.

3. The Discharge shall comply with the attached Monitoring and Reporting Program No. 91-138, and any revisions thereto as order by the Executive Officer.

4. The Discharger shall comply with the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements," dated 1 March 1991, which are attached hereto and a part of this Order. This attachment and its individual paragraphs are commonly referenced as "Standards Provision(s)."

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

6. At least 120 days prior to termination or expiration of any lease, contract, or agreement involving disposal or reclamation areas or off-site reuse of effluent used to justify the capacity authorized herein and assure compliance with this Order, the Discharger shall notify the Board in writing of the situation and of what measures have been taken or are being taken to assure full compliance with this Order.

7. A copy of this Order shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.

8. In addition of modification of this Order under circumstances described in Standard Provision A.3, this Order may be modified if sludge use or disposal practices change, if applicable management practices or numerical limitations for pollutants in sewage sludge necessitate it, if there is endangerment to human health or the environment, or if the Board elects to review and revise the Order on its own motion.

9. The Discharger shall provide a letter report by 1 August 1991, identifying the names, titles, and certificate grade of persons supervising and operating the facility, as required by Standard Provision E.1, and identifying who to contact in an emergency.

10. The Discharger shall submit a technical report by 1 August 1991, that evaluates compliance with Discharge Specification B.11 and B.12.

11. The Discharger shall submit updated versions of the technical reports described in Standard Provision B.2 and a copy of the operation and maintenance manual for the facility by 1 September 1991.

12. The Discharge must comply with all conditions of this Order. Violations may result in enforcement action, including Board or court orders requiring corrective action or imposing civil monetary liability, or modification or revocation of this Order.

13. 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 28 June 1991.

William H. Crooks

WILLIAM H. CROOKS, Executive Officer

RB:rb/fmc: 28 June 1991

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. 91-138

FOR
CITY OF CORCORAN
WASTEWATER TREATMENT FACILITY
KINGS COUNTY

Specific sample station locations shall be established under direction of the Board's staff and a description of the stations shall be attached to this Order.

INFLUENT MONITORING

Influent monitoring shall include at least the following:

Constituents	Units	Type of Sample	Sampling Frequency
BOD_5[1]	mg/l	8-hr. Composite	Monthly
Settleable Solids	mg/l	Grab	Weekly
Total Suspended Solids	mg/l	8-hr. Composite	Monthly

[1] Five-day, 20° Celsius biochemical oxygen demand.

EFFLUENT MONITORING

Effluent samples shall be collected just prior to discharge to the disposal facility. Effluent samples should be representative of the volume and nature of the discharge. Samples collected from the outlet structure of treatment ponds will be considered adequately composited. Time of collection of a grab sample shall be recorded. Effluent monitoring shall include at least the following:

Constituents	Units	Type of Sample	Sampling[1] Frequency
BOD_5[2]	mg/l	8-hr. Composite	Monthly
Settleable Solids	mg/l	Grab	Weekly
Total Suspended Solids	mg/l	8-hr. Composite	Monthly
Minerals[3]	mg/l	Grab	Quarterly
Electrical Conductivity	umhos/cm	8-hr. Composite	Monthly

Constituents	units	Type of Sample	Sampling[1] Frequency
pH	pH Units	Grab	Monthly
Flow[5]	mgd	Metered	Continuous
Dissolved Oxygen[5]	mg/l	Grab	2/week

[1] If results of monitoring a pollutant appear to violate effluent limitations, but monitoring frequency is not sufficient to validate violation (e.g., the monthly mean for BOD), or indicate a violation and potential upset of the treatment process (e.g., less than minimum D.O.), the frequency of sampling shall be increased to confirm the magnitude and duration of violation, if any, and aid in identification and resolution of the problem.

[2] Five-day, 20° Celsius biochemical oxygen demand.

[3] Mineral analyses shall include calcium, carbonate, chloride, fluoride, iron, magnesium, nitrate, potassium, sodium, sulfate, total dissolved solids, and total phosphorous.

[4] Both total flow treated and flow to prison to be reported.

[5] Samples shall be collected at a depth of one foot from each pond, opposite the inlet, and analyzed for dissolved oxygen. Samples shall be collected between 0800 and 0900 hours.

WATER SUPPLY MONITORING

Sampling stations shall be established where representative samples of the City water supply can be obtained. Water supply monitoring shall include at least the following:

Constituents	Units	Sampling Frequency
Minerals[2]	mg/l	Annually
Electrical Conductivity	umhos/cm	Annually
pH	pH Units	Annually

[1] Since source water is from more than one well, constituents shall be reported as a weighted average and include copies of supporting calculations.

[2] Mineral analyses shall include calcium, carbonate, chloride, fluoride, iron, magnesium, nitrate, potassium, sodium, sulfate, total dissolved solids, and total phosphorous.

GROUND WATER MONITORING

By 1 September 1991, the Discharger shall submit a work plan, consisting of a technical report, to develop a ground water monitoring network consisting of one or more background monitoring wells and three or more downgradient wells. The monitoring wells shall be completed in first encountered ground water. All well locations and construction features are subject to the prior approval of the Executive Officer and must be sufficient to monitor potential impacts of the disposal operation on the uppermost ground water aquifer.

Samples shall be taken monthly from approved background monitoring well(s) for one year and analyzed for the parameters specified below. Data from these analyses shall be reported to the Board by 1 February 1993 for use in determining water quality protection standards.

The downgradient wells shall constitute "points of compliance" (POCs). In conjunction with background monitoring, monitoring of POCs will enable one to determine compliance with water quality protection standards. The ground water surface elevation (in feet and hundredths, M.S.L.) in all wells shall be measured on a quarterly basis and used to determine the gradient and direction of ground water flow. This information shall be displayed on a water flow net diagram for the site. Water samples shall be collected from wells in the approved monitoring network and analyzed as follows:

Constituents	Units	Type of Sample	Sampling Frequency
Minerals[1]	mg/l	Grab	Annually
Electrical Conductivity	umhos/cm	Grab	Annually
pH	pH Units	Grab	Annually
Total Coliform	MPN[2]	Grab	Annually

[1] Mineral analyses shall include calcium, carbonate, chloride, fluoride, iron, magnesium, nitrate, potassium, sodium, sulfate, total dissolved solids, and total phosphorous.

[2] Most Probable Number.

Following each sampling event, the discharger shall determine whether there is statistically significant increase over water quality protection standards for each parameter and constituent analyzed. The proposed statistical method employed shall be submitted to the Board with the data from background well monitoring. If the Discharger or the Board finds there is a statistically significant increase in indicator parameters or waste constituents over the water quality protection standards at the POCs, the Discharger shall notify the Board, or acknowledge the Board's findings, and submit, within 90 days, either a technical report with a plan and time schedule for implementing a verification monitoring program or a report demonstrating water quality protection standards were not exceeded. The verification Monitoring Program must be designed to verify that water quality protection standards have been exceeded and assess the horizontal and vertical extent of pollution.

If the Discharger, through a verification monitoring program, or the Board verifies that water quality protection standards have been exceeded at or beyond the POCs. The Discharger shall notify the Board, or acknowledge the Board's findings, and submit a technical report within 90 days. The report must contain a plan and time schedule for implementing a corrective action program designed to achieve compliance with water quality protection standards.

SLUDGE MONITORING

When sludge is removed from ponds, clarifiers, drying beds or digesters with intent to dispose or store, but prior to disposal, a composite sample shall be analyzed, on a dry weight basis, for Total Solids (%), Nitrogen (total, NH_4-N, and NO_3-N), Total Phosphorous, Total Potassium, Total PCBs, and totals of specific metals (Pb, Zn, Cu, Ni, Cd, and Ag). Analytical results shall be submitted to the Executive Officer. Analysis of soluble concentrations of these specific metals shall also be included. If final disposal is proposed to go to land, a technical report analyzing application rates and procedures relative to Department of Health Services' *Manual of Good Practices for Landspreading of Sewage Sludge*, EPA's *Process Design Manual for Land Application of Municipal Sludges* and Title 23, CCR, Section 2511(f) shall be completed and submitted to the Executive Officer for approval.

POND MONITORING

The freeboard shall be monitored on all evaporation/percolation ponds in use to the nearest 0.5 foot. Freeboard monitoring shall include the following:

Constituent	Unit	Type of Sample	Frequency
Freeboard	Feet	Observation	Weekly

Permanent markers shall be placed in each pond with calibrations indicating the water level at design capacity and available operational freeboard.

In addition, the Discharge shall inspect the condition of the ponds once per week and write visual observations in a bound log book. Notations shall include observations of whether weeds are developing in the water or along the bank, and their location; whether dead algae, vegetation, scum, or debris are accumulating on the pond surface and their location; whether burrowing animals or insects are present; and the color of the pond (e.g., dark sparkling green, dull green, yellow, grey, tan, brown, etc.). A copy of the entries made in the log during each month shall be submitted along with the monitoring report the following month. Where the O&M manual indicates remedial action is necessary, the Discharger shall briefly explain in the transmittal what action has been taken or is scheduled to be taken.

REPORTING

Monthly monitoring reports shall be submitted to the Regional Board by the 15th day of the following month.

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 complies with waste discharge requirements, including calculation of all averages, etc.

if the Discharger monitors any pollutant at the locations designated herein more frequently than is required by the Order, the results of such monitoring shall be included in the discharge monitoring report.

The Discharger may also be requested to submit an 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.

By 31 January of each year, the Discharger shall submit a written report to the Executive Officer containing the following:

a. The names, certificate grades, and general responsibilities of person operating and maintaining the wastewater treatment plant.

b. The names and telephone numbers of persons to contact regarding the plant for emergency and routine situations.

c. A statement certifying when the flow meter and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration (Standard Provision C.4).

d. A statement whether the current operation and maintenance manual, and contingency plan, reflect the wastewater treatment plant as currently constructed and operated, and the dates when these documents were last reviewed for adequacy.

e. The total quantity of sludge disposed of during the previous year and ultimate disposal site(s).

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

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

William H. Crooks

WILLIAM H. CROOKS, Executive Officer

28 June 1991
Date

RB:rb/fmc

INFORMATION SHEET

CITY OF CORCORAN
WASTEWATER TREATMENT FACILITY
KINGS COUNTY

The City of Corcoran recently upgraded its existing wastewater treatment facility, which is about three miles south of Corcoran in Kings County. The City received a loan from the Water Quality Control Fund, and grants from the Federal Economic Development Administration (EDA) and the California Rural Infrastructure Improvement Program for the upgrade.

The treatment facility is comprised of headworks, primary clarifiers, sludge digesters, sludge drying beds, 45 acres of evaporation ponds, and 253 acres of disposal fields used as shallow evaporation basins. Current flows average 1.3 mgd.

The upgrade project expanded the facility's treatment and disposal capacity. Treatment expansion consists of additional sludge drying beds, a primary effluent force main, an aeration lagoon, and an effluent storage pond. Disposal capacity will be increased by extending the existing irrigation force main 2000 feet to the nearby 280-acre wastewater reclamation area owned by the California State Prison, Corcoran (hereafter the Prison). The Prison signed an agreement of indefinite term to accept a minimum 0.3 mgd (average annual flow) of effluent from the City. The Prison presently purchases up to 1.0 mgd of fresh water to supplement its own reclamation activities, which are permitted under separate waste discharge requirements.

The new treatment facilities are designed to accommodate an average dry weather flow (ADWF) of 1.75 mgd. The capacity of the City's disposal facilities will remain unchanged at 1.45 mgd. With the additional 0.30 mgd of effluent discharged to Prison land, the City will have a minimum available disposal capacity of 1.75 mgd.

Surface water courses in the project area include irrigation canals which are operated by the Corcoran Irrigation District. The irrigation canals, protected by levees, will not be affected by the discharge.

Surface water drains to the Tule River. The site lies within the Lake Sump hydrologic area (No. 558.30).

Soils are generally heavy clays to depths exceeding 20 feet. First ground water in the area is from 3 to 10 feet, and flows generally west-southwest. It has electrical conductivities ranging from 2000 to 4500 umhos/cm, and a boron content of 2 to 3 mg/l. Higher quality ground water exists about 100 feet below the land surface in the confined aquifer beneath the Corcoran clay. It has electrical conductivities in the 300 to 650 umhos/cm range.

The beneficial uses of underlying ground water are domestic, industrial and agricultural supply.

The Discharger reviewed opportunities for reclamation of wastewater other than that to be delivered to Corcoran Prison and has reported that the City lacks land area necessary for reclamation, and purchasing new land is not economically feasible. The major landholder in the area, J.G. Boswell Co., has been unwilling to reclaim wastewater.

The action to adopt waste discharge requirements for this facility is exempt from the provisions of the California Environmental Quality Act in accordance with Section 15301, Title 14, California Code of Regulations.

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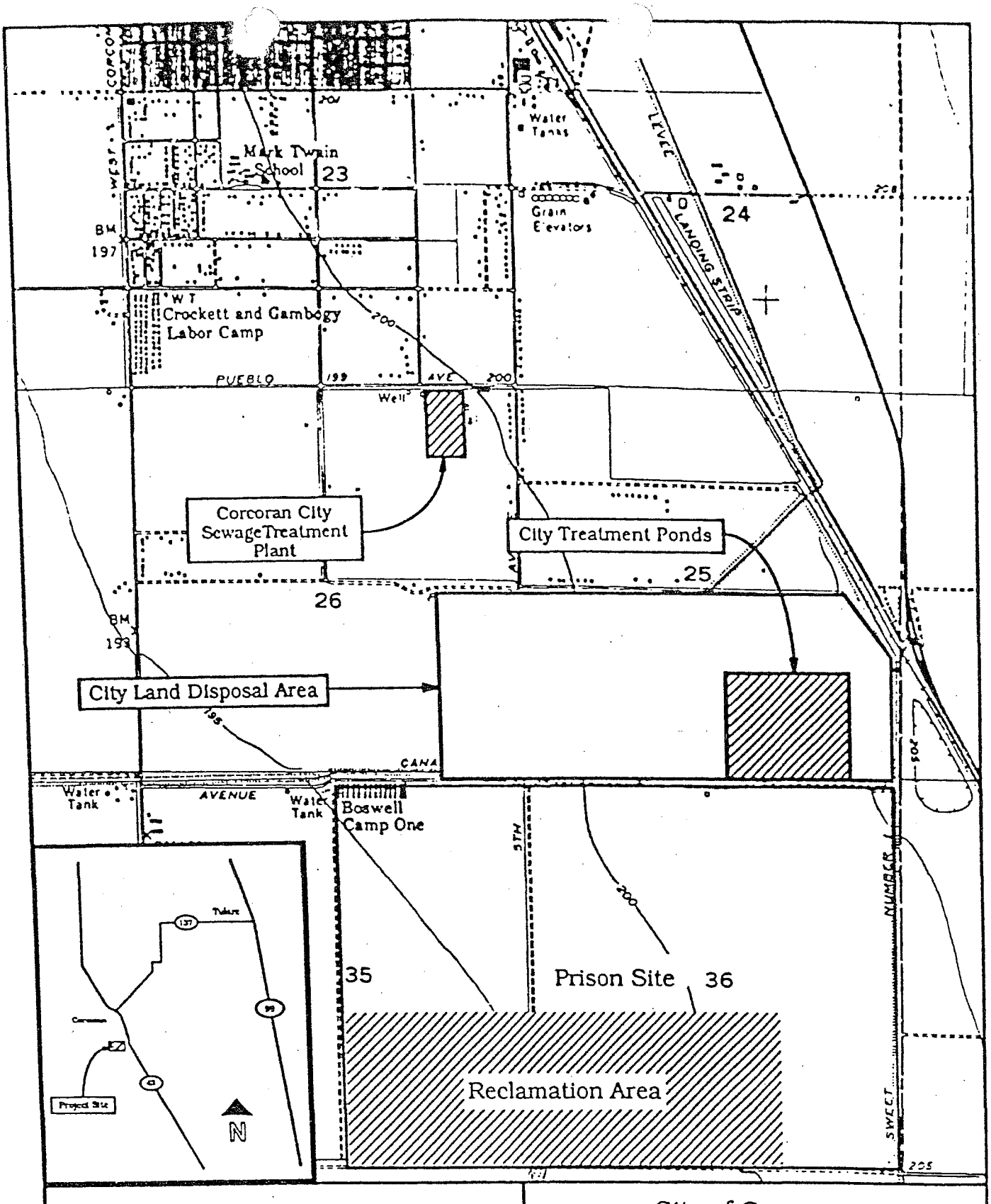

USGS 7.5' Topographic Map
Corcoran Quadrangle
Sections 25 and 26, T21S, R22E, MDB&M

City of Corcoran
Wastewater Treatment Facility
Kings County

Attachment A