CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2005-0099

WASTE DISCHARGE REQUIREMENTS
FOR
WEIMAR INSTITUTE, INC.
WASTEWATER TREATMENT FACILITY
PLACER COUNTY

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

1. The Weimar Institute, Inc. (hereafter Discharger) submitted a Report of Waste Discharge (RWD) dated 13 August 2004 for updating Waste Discharge Requirements (WDRs) for the Weimar Institute Wastewater Treatment Facility. Supplemental information was received on 29 November 2004.

2. For the purposes of this Order, the term "wastewater treatment facility" (WWTF) shall mean the sewage collection and transport system, the wastewater treatment system, the wastewater storage ponds, and the effluent disposal system.

3. WDRs Order No. 95-179, adopted by the Regional Board on 23 June 1995, prescribes requirements for the Discharger's WWTF. This Order is neither adequate nor consistent with the current plans and policies of the Regional Board.

4. The Weimar Institute WWTF is on Assessors Parcel Numbers 72-100-12, 72-110-01, 72-120-01, 72-130-02, 72-130-13, 72-170-02, and 72-180-10. The facility is located approximately 10 miles east of City of Auburn adjacent to Interstate 80 in Weimar, in Section 28, T14N, R9E, MDB&M, as shown on Attachment A, which is attached hereto and made part of this Order by reference.

5. The most recent population (September 2003 to September 2004) at the Weimar Institute is approximately 224 persons. Over the last 10 years the population has ranged from approximately 208 to 224 persons. Population surveys conducted in 1985 and 1988 showed 288 and 274 persons, respectively. The maximum average annual population is projected to be less than 300 persons during the next ten years based on current school and health programs.

Wastewater Treatment System

6. The RWD states that the WWTF currently treats a monthly average wastewater flow of approximately 22,400 gallons per day (gpd) of domestic wastewater. This is based on an average population of 224 persons and an average flow of 100 gallons per person per day. Monthly monitoring reports from September 2002 through December 2004 show that the weekly average inflow to wastewater ponds is 22,524 gpd; however, not all flows are currently monitored.

7. The WWTF consists of a collection system, Imhoff tank, trickling filter, three wastewater oxidation ponds, and subsurface disposal via two leachfields. Attachment B, which is attached hereto and made part of this Order by reference, depicts the treatment plant, wastewater storage ponds, and the two leachfields.

8. The collection system consists of two gravity collection systems (Campus Collection System Branch, and the Academy Center and Residential Duplexes Collection System Branch). The Campus Collection System Branch consists of approximately 8,000 feet of clay tile, Orangeburg, cast iron, asbestos cement, and plastic pipe materials ranging in size from four to eight inches. Two and three inch diameter pipe may also be found between some of the buildings and the collection system. The RWD states that between 800 and 1,600 feet of this sewer line has been replaced with SDR35 PVC sewer pipe since 1983. The Academy Center and three Residential Duplexes are served by 4-inch SDR35 PVC sewer pipe that was installed in 1983.

9. Wastewater from the Campus Sewage Collection Branch Collection system flows into an Imhoff tank. The Imhoff tank consists of a large rectangular concrete tank with a sloping center baffle that provides primary sewage treatment by separating the solids from the liquid. The total area of the tank is approximately 861 cubic feet and the clarifier area is approximately 287 square feet. A dosing chamber, attached to the discharge end of the Imhoff tank, receives 600-gallon effluent doses that are measured using an electronic counter. Effluent from the dosing chamber enters the tricking filter where it receives biological treatment. From the trickling filter, the effluent can be discharged to either Pond No. 1 or Pond No. 2.

10. Wastewater from the Academy Center and the Residential Duplexes Collection system enters a series of four septic tanks prior to being discharged to Pond No. 1. Wastewater from this system, which is approximately 10 percent of the total flow, does not enter the Imhoff tank or the trickling filter and is not currently metered. The Discharger indicates that the septic tank located adjacent to the Academy Center was last pumped in November 2004. The RWD indicates that the other three tanks, one for each of the three residential duplexes, have not been located.

Wastewater Treatment Facility

11. The effluent disposal system consists of three wastewater storage ponds and two separate leachfields (upper and lower leachfields).

12. The physical characteristics of the wastewater ponds are as follows:

Parameter	Pond No. 1	Pond No. 2	Pond No. 3
Maximum Depth (feet)	7	11	12
Minimum Depth (feet)	4	3	2
Volume with 2-feet of freeboard (gallons)	1,397,000	1,941,500	3,427,600

13. The RWD states that all storm water inflow is diverted away from the ponds. This is accomplished by an engineering design requirement of a 2 percent slope from the inside of the pond embankment edge away from the pond.

14. The level of wastewater between Pond Nos. 1 and 2 is controlled via an overflow weir and pipe assembly. In addition, a flow splitter effluent distribution-piping manifold is used to allow effluent distribution between Pond Nos. 1 and 2. Only Pond No. 1 is equipped with a mechanical aeration device.

15. Two separate pump houses are located at the facility. The Pond No. 1 Pump House is near the southeast corner of Pond No. 1. This contains a single pump used to draw effluent from Pond No. 1 for the spray aerator in Pond No. 1 or the trickling filter. In addition, the pump may also be used to pump effluent into Pond Nos. 2 and 3. The Pond No. 2 Pump House is located south of Pond No. 3 and is equipped with two pumps with timer controls, two different filtration methods (screened and centrifugal spin), and a valve system that allows the effluent to be pumped back to Pond Nos. 1, 2 and/or 3, and to either the upper or lower leachfields. The pumps have a hydraulic capacity of at least 60 gpm.

16. Both the upper and lower leachfields were constructed in 1986. The upper leachfield is comprised of 1,950 feet of leachline and the lower leachfield consists of 1,500 feet of leachline. Each of the leachfields were constructed with 4-inch diameter perforated pipe in a three foot wide by three foot deep trench with 18-inches of gravel underlying the pipe. Both of the leachfields are equipped with observation risers to monitor the level of wastewater in each of the trenches.

17. The upper leachfield provides approximately 2.10 gpd/square feet of infiltration while the lower leachfield provides approximately 4.44 gpd/square feet of infiltration. Based on these infiltration rates, the existing upper leachlines have a disposal capacity of up to 12,285 gpd and the lower leachlines can dispose up to 20,000 gpd.

18. The RWD states that wastewater is currently distributed to the upper and lower leachfields via gravity; however, the Discharger plans to upgrade to a uniform pressure dosed system.

19. Monitoring results from October 2000 through March 2004 show that the wastewater in the ponds has the following characteristics:

Parameter	Units	Minimum	Maximum	Average
Biochemical Oxygen Demand	mg/L	<2.0	11	5.0
Nitrate as nitrogen	mg/L	<0.05	0.71	0.16
Settable Solids	mg/L	<0.1	0.2	0.06
Total Dissolved Solids	mg/L	118	175	138
pH	pH Units	6.6	7.0	6.8
Specific Conductivity	µmhos/cm	251	7.0	6.8

20. It is noted that the effluent is not disinfected. Although the Discharger has not analyzed the effluent for total coliform, the value is expected to be greater than 1,600 MPN/100 ML.

21. The Discharger has completed water balances using the current population of 224 persons and a future population of 300 persons. The water balances were prepared based on a design average

daily flow of both 22,400 gpd and 30,000 gpd, a pond capacity of 5,100,000 gallons, an upper leachfield disposal rate of approximately 2.10 gpd/square feet and a lower leachfield disposal rate of approximately 4.44 gpd/square feet, local evaporation rates, and a 100-year total precipitation rate.

22. The water balance indicates adequate storage and disposal capacity for a population of 300 persons with an average dry weather wastewater flow of 30,000 gpd only if an additional 1,250 feet of 3-foot wide leach line trench or equivalent is installed in the upper leachfield area. With the additional leachlines, the disposal capacity will be increased from 32,285 gpd to 40,144 gpd.

Collection System Issues

23. The RWD indicates that over the last 22 years a total of four sewer overflows occurred at the facility. The most recent and largest of these spills occurred in December 2003 when Weimar Institute reported a spill estimated at approximately 65,000 gallons that was caused by a previously unknown hole in the top of an elevated section of exposed cast iron sewer pipe. The sewer pipe was cleared of roots, an adjacent tree was removed, and a saddle tree was clamped over the damaged portion of pipe. The untreated wastewater flowed into Coyote Creek, a tributary to Wolley Creek and Lake Combie.

24. The RWD states that no collection system hydraulic capacity problems have been observed or reported during the last 22 years.

25. No major collection system improvements have been conducted within the last three years. However, the RWD indicates that approximately 800 to 1,600 feet of 3 to 6-inch diameter pipe was replaced in 1983 with SDR35 PVC sewer pipe.

26. The RWD states that in 2004 approximately 250 feet of 4-inch diameter sewer line was installed in the Volunteer RV parking area of the Main Campus Area. Currently, approximately 250 feet of existing 6-inch diameter clay tile and Orangeburg sewer line is being replaced in the southern branch of the sewer line below Broadman Canal, under the pond access road and down to the last manhole prior to the Imhoff tank. This replacement is the result of severely deteriorated sewer line.

27. The RWD states that dye testing performed in 2000 and 2001 to assess areas of rainfall runoff infiltration into the sewer lines did not indicate infiltration.

Proposed Collection System Improvements

28. The RWD states that the location of the existing sewer line collection system and laterals is not clearly documented and that inspection and mapping of the system is recommended. The Discharger plans to map the sewer line at approximately 1,000 feet per year.

29. The Discharger states that approximately 500 feet of deteriorated clay or Orangeburg sewer line pipe will be replaced each year with SDR35 PVC.

30. The Discharger plans to complete an initial system assessment and workplan of recommended repairs or collection system replacement by 1 April 2005.

31. The RWD states that the Discharger will repair cap cleanouts and install protective cover boxes as necessary; repair and replace broken and/or cracked manhole assemblies including cover ring, body, pipe connections, and bottom flow channel by 1 June 2005.

Proposed Wastewater Treatment System Improvements

32. The Discharger proposes to recoat the west wall of the concrete Imhoff tank with an appropriate water proofing sealer by 1 January 2005. This proposed repair is the result of minor seepage observed during June 2004.

33. The RWD states that by 1 January 2005 the Discharger will install a galvanized screen at the overflow slot of the Imhoff tank to capture floating solids on the water surface.

34. The Discharger plans to verify the installation of chains and locks on pond gate valves by 1 January 2005.

35. The RWD states that the Discharger plans to install sewage treatment warning signs at the Imhoff tank, tricking filter, each of the three ponds and pump houses by 1 February 2005.

36. The RWD states that by 1 February 2005, the Discharger will verify that (a) the existing elevation of the pond leeves meets original design elevation, (b) that the new vertical standpipe provides a minimum of 2-feet of freeboard, and (c) the existing gravity overflow to the Pond No. 1 Pump House sump complies with a minimum of 2-feet of freeboard.

37. The Discharger plans to install a permanent water level measurement scale and an emergency gravity overflow culvert from Pond No. 2 to Pond No. 3 by 1 February 2005.

38. The RWD states that the Discharger recommends the installation of a data logger at the dosing chamber to record the dosing event times, allowing the determination of hourly flows versus average daily or weekly flows using the existing digital event counter. This information will allow the Discharger to correlate between increasing flows and precipitation to allow determination of actual infiltration rates. The data logger is to be installed by 1 March 2005.

39. To prevent an overflow from the dosing chamber, the Discharger recommends the installation of a 6-inch pipe or equivalent overflow bypass from the dosing chamber to the trickling filter by 1 June 2005.

Other Proposed Improvements

40. The RWD states that the Discharger proposes to obtain cost estimates for (a) septic tank pumping directly from the Imhoff tank, (b) modifying a water tight bin to containerize solids removed from

the sludge drying beds, and (c) modifying the sludge drying beds to a water-tight condition, including installing a concrete bottom slab and sealing the perimeter walls.

41. The Discharger plans to install a 4-inch minimum thickness concrete water-tight sloping slab in the southern portion of the sludge drying bed. This installation will include an under drain to Pond No. 1 to allow solids removal from the Imhoff tank for disposal at an approved landfill. Work will be completed by 1 February 2005.

42. The Discharger proposes by 1 October 2005 to construct a 2-foot high by 4-foot wide earthen berm around the lower perimeter of the Imhoff tank and sludge drying beds to contain liquid and solid wastes discharged from structural failure or overtopping of the Inhoff tank.

43. The RWD states that the Discharger plans investigate the source of groundwater seepage from the bank uphill from the Imhoff tank and divert water away from the Imhoff tank area with a subsurface gravel drain by 1 October 2005.

Sanitary Sewer Collection System

44. The RWD states that in the event of an electrical power failure and loss of pumping, portable electrical generators are available.

45. There are no alarms currently associated with the wastewater system. The RWD states that a standard alarm for the system would consist of a remote sewage pump lift station high water alarm. This Order requires that the alarm be installed.

46. A "sanitary sewer overflow" is defined as a discharge to ground or surface water from the sanitary sewer system at any point upstream of the wastewater treatment plant. Temporary storage and conveyance facilities (such as wet wells, regulated impoundments, tanks, highlines, etc.) may be part of a sanitary sewer system, and discharges to these facilities are not considered sanitary sewer overflows, provided that the waste is fully contained within these temporary storage/conveyance facilities.

47. At this site, sanitary sewer overflows consist of domestic sewage. The chief causes of sanitary sewer overflows could include grease blockages, root blockages, debris blockages, sewer line flood damage, manhole structure failures, vandalism, pump station mechanical failures, power outages, storm or groundwater inflow/infiltration, lack of capacity, and contractor caused blockages.

48. Sanitary sewer overflows often contain high levels of suspended solids, pathogenic organisms, toxic pollutants, nutrients, oxygen demanding organic compounds, oil and grease, and other pollutants. Sanitary sewer overflows can cause temporary exceedences of applicable water quality objectives, pose a threat to public health, adversely affect aquatic life, and impair the public recreational use and aesthetic enjoyment of surface waters in the area.

49. The Discharger is expected to take all necessary steps to adequately maintain, operate, and prevent discharges from its sanitary sewer collection system. The RWD states that the Discharger has been

operating under a March 1996 Operation and Maintenance plan. This Order requires that the Discharger submit and implement a revised Operation and Maintenance plan.

Site Specific Conditions

50. The topography of the site consists of slopes ranging from slightly to very steeply sloping hillsides ranging from 10 to 65 percent.

51. The soils series beneath the site are (1) Sites Loam Series which is well drained soil underlying the Weimar Institute Campus Area, (2) the Mariposa-Josephine Complex Series located on the lower ridges and hillside slopes, and (3) the Xerofluvent Series which is located in the lowest areas adjacent to Coyote Creek.

52. In 1998, during a site characterization associated with seven underground storage tanks, two soil borings were advanced to a depth of 50 feet below ground surface (bgs) using hollow stem augers. Soils encountered in these two borings identified silty clays to a maximum depth of 11 feet, underlain by weathered meta-volcanics (schist) with clay. The RWD states that groundwater was not encountered in these borings.

53. Four groundwater wells are located approximately 1,800 to 2,100 feet from the treatment and disposal areas. The depth of wells range from 150 to 550 feet bgs, and the groundwater in these wells range from approximately 31 to 200 feet bgs. Groundwater flow is influenced by the site topography and probably flows down slope from east to west.

54. The average annual precipitation for this area is approximately 45 inches. The 100 year return rainfall is approximately 81 inches. Precipitation data is based on information obtained from the County of Placer Land Development Manual Isohyetal Map.

55. The facility is in the Lake Combie Hydrologic Basin (No. 516.33), as depicted on interagency hydrologic maps prepared by the Department of Water Resources in August 1986.

56. The RWD states that the upper leachfield was constructed in variable soils with highly permeable soils near surface underlain by moderate to low permeability clayey soils and weathered meta-sedimentary material between 2 and 12 feet bgs.

57. The RWD indicates that the lower leachfield was constructed in very permeable soils to a depth of approximately 12 feet bgs at the downhill portion of the field. Eleven percolation test borings within the location of the lower leachfield indicate an average percolation rate of 27 minutes per inch at a depth of 36 inches.

58. Potable water for Weimar Institute is provided by the Weimar Water Company. Selected results from a sample collected on 4 September 2003 are as follows:

Parameter	Units	Results
Nitrate as Nitrogen	mg/L	<0.1
Nitrite as Nitrogen	mg/L	<0.1
Sulfate	mg/L	0.71

Parameter	Units	Results
Chloride	mg/L	3.0
Total Dissolved Solids	mg/L	34
Specific Conductivity	µmhos/cm	67
Turbidity	NTU	<0.10
PH	pH units	7.6

Basin Plan, Beneficial Uses and Regulatory Considerations

59. The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition*, (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Board. Pursuant to Section 13263(a) of the California Water Code, waste discharge requirements must implement the Basin Plan.

60. Surface water drainage from the WWTF is to Coyote Creek, which is a tributary to Wolley Creek and Lake Combie. The designated beneficial uses of Lake Combie are municipal and domestic supply; agricultural supply; power generation; water contact recreation; non-contact water recreation; warm freshwater habitat; cold freshwater habitat; migration of aquatic organisms; spawning, reproduction and/or early development of warm and cold freshwater aquatic organisms; and wildlife habitat.

61. The designated beneficial uses of underlying groundwater are municipal and domestic water supply, agricultural supply, and industrial service and process supply.

Groundwater Degradation

62. State Board Resolution No. 68-16 ("Policy with Respect to Maintaining High Quality Waters of the State") (hereafter Resolution 68-16) requires a regional board in regulating the discharge of waste to maintain high quality waters of the state (i.e., background water quality) until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than as described in plans and policies. The discharge is required to meet waste discharge requirements that will result in the best practicable treatment or control of the discharge necessary to assure that pollution or nuisance will not occur and highest water quality consistent with maximum benefit to the people will be maintained.

63. The Regional Board has considered antidegradation pursuant to State Board Resolution No. 68-16, and finds that the Discharger has not provided the required demonstration to be allowed to cause groundwater degradation to be allowed to cause groundwater degradation, and therefore none is authorized.

64. The incremental addition of dissolved salts though water usage (about 275 mg/L) is within the normal range for domestic use, and is reasonable considering modern water conservation practices. An interim TDS effluent limitation of 310 mg/L (275 mg/L plus the TDS concentration

of 34 mg/L for the potable water; Finding No. 58) represents no cost or change in practice for the Discharger, and limits salt degradation to a reasonable amount while providing some protection of the groundwater beneath the leachfields while background groundwater concentrations are determined.

Regulatory Considerations

65. The State Board adopted Order No. 97-03-DWQ (General Permit No. CAS000001) specifying waste discharge requirements for discharges of storm water associated with industrial activities, and requiring submittal of a Notice of Intent by all affected industrial dischargers. The design flow at this wastewater treatment plant is less than 1.0 mgd and therefore the Discharger is not required to apply for storm water NPDES permit.

66. The action to update WDRs for this existing facility is exempt from the provisions of the California Environmental Quality Act (CEQA), in accordance Title 14, California Code of Regulations (CCR), Section 15301.

67. Section 13267(b) of the CWC provides that

In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.

The technical reports required by this Order and the attached Monitoring and Reporting Program No. R5-2005-0099 are necessary to assure compliance with these waste discharge requirements. The Discharger operates facilities that discharge waste subject to this Order.

68. The California Department of Water Resources sets standards for the construction and destruction of groundwater wells, as described in *California Well Standards Bulletin 74-90* (June 1991) and *Water Well Standards: State of California Bulletin 94-81* (December 1981). These standards, and any more stringent standards adopted by the state or county pursuant to CWC Section 13801, apply to all monitoring wells.

69. State regulations that prescribe procedures for detecting and characterizing the impact of waste constituents from waste management units on groundwater are found in Title 27. While the discharge is exempt from Title 27, the data analysis methods of Title 27 may be appropriate for determining whether the discharge complies with the terms for protection of groundwater specified in this Order.

70. The discharge authorized herein and the treatment and storage facilities associated with the discharge, except for discharges of residual sludge and solid waste, are exempt from the

requirements of Title 27, California Code of Regulations (CCR), Section 20380 et seq. (hereafter Title 27). The exemption, pursuant to Title 27 CCR Section 20090(a), is based on the following.

a. The waste consists primarily of domestic sewage and treated effluent;

b. The waste discharge requirements are consistent with water quality objectives; and

c. The treatment and storage facilities described herein are associated with a public entity.

71. Pursuant to California Water Code Section 13263(g), discharge is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.

Public Notice

72. All of the above and the supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, were considered in establishing the following conditions of discharge.

73. The Discharger and interested agencies and persons have been notified of the intent to prescribe waste discharge requirements for this discharge, and were given the opportunity to submit their written views and recommendations and to be heard in a public meeting.

74. In a public meeting, all comments pertaining to the discharge were heard and considered.

IT IS HEREBY ORDERED that Order No. 89-128 is rescinded and, pursuant to Sections 13263 and 13267 of the California Water Code, Weimar Institute, Inc., its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted hereunder, shall comply with the following:

[Note: Other prohibitions, conditions, definitions, and some methods of determining compliance are contained in the attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements" dated 1 March 1991.]

A. Discharge Prohibitions:

1. Discharge of wastes to surface waters or surface water drainage courses (including storm water diversion features) is prohibited.

2. Bypass or overflow of untreated or partially treated waste is prohibited.

3. Discharge of sewage from a sanitary sewer system at any point upstream of the Imhoff tank or wastewater pond is prohibited. Discharge of treated wastewater other than at the approved wastewater ponds or leachfields is prohibited.

4. Discharge of waste classified as 'hazardous', as defined in Sections 2521(a) of Title 23, CCR, Section 2510, et seq., (hereafter Chapter 15), or 'designated' as defined in Section 13173 of the California Water Code, is prohibited.

5. Surfacing of wastewater outside or downgradient of the wastewater storage ponds is prohibited.

6. Surfacing of wastewater within or downgradient of the leachfields is prohibited.

7. The presence of leachate within one foot of the lowest finished field grade along a leachline is prohibited.

B. Discharge Specifications:

1. The monthly average dry weather inflow to the WWTP shall not exceed 22,500 gpd. If the Discharger wishes to increase the average monthly dry weather flow to 30,000 gallons then the Discharger shall submit the technical report required by Provision G.1.m of this Order. Upon approval by the Executive Officer, the discharge may increase to 30,000 gpd.

2. Disposal of effluent shall be confined to the wastewater ponds and the leachfields.

3. No waste constituent shall be released or discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of the Groundwater Limitations.

4. Neither the treatment nor the discharge shall cause a condition of pollution or nuisance as defined by the California Water Code, Section 13050.

5. Objectionable odor originating at the facility shall not be perceivable beyond the limits of the wastewater treatment and disposal areas.

6. As a means of discerning compliance with Discharge Specification No. 5, the dissolved oxygen content in the upper zone (one foot) of the wastewater ponds shall not be less than 1.0 mg/L.

7. The wastewater treatment and storage ponds shall not have a pH of less than 6.5 or greater than 8.4.

8. Public contact with wastewater shall be precluded or controlled through such means as fences and signs, or acceptable alternatives.

9. The Discharger shall operate all systems and equipment to maximize treatment of wastewater and optimize the quality of the discharge.

10. The wastewater treatment, storage, and disposal system shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

11. The WWTF shall have sufficient treatment, storage, and disposal capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary infiltration and inflow during the winter months. 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.

12. The freeboard in the effluent storage ponds shall never be less than two feet as measured vertically from the water surface to the lowest point of overflow.

13. By **1 November** of each year, available pond storage capacity shall at least equal the volume necessary to comply with Discharge Specifications No. 11 and No. 12.

14. The wastewater ponds shall be managed to prevent the breeding of mosquitoes. In particular,

    a. An erosion control program shall be implemented to ensure that small coves and irregularities are not created around the perimeter of the waste surface.

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

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

C. Effluent Limitations

1. Effluent discharged to the leachfields shall not exceed the following limits:

Constituent	Units	Monthly Average	Daily Maximum
BOD [1]	mg/L	40	80
Total Dissolved Solids	mg/L	310	--

[1] BOD denotes 5-day biochemical oxygen demand at 20° C.

2. Effluent discharged to the wastewater ponds and/or leachfield shall not have a pH of less than 6.5 or greater than 8.4.

D. Septic Tanks and Leachfield Specifications

The Discharger shall complete the following actions regarding the septic tanks and leachfields:

1. Inspect each septic tank at least annually.

2. Properly maintain the septic tanks, including pumping a tank when any one of the following conditions exist, or can be reasonably projected to occur before the next inspection of a tank:

    a. The combined thickness of sludge and scum exceeds one-third of the tank depth of the first compartment;

    b. The scum layer is within three inches of the outlet device; or,

    c. The sludge layer is within eight inches of the outlet device.

3. Promptly repair or replace septic tanks that are cracked or otherwise damaged.

4. Annually inspect, and if necessary, clean the leachfield's distribution piping.

5. Cut vegetation in the leachfield areas as needed to prevent the threat of root intrusion into the leachlines and drainage rocks, and remove the vegetative litter.

E. Solids Disposal Specifications:

Sludge, as used in this document, means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screenings generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment at the WWTF. Biosolids refers to sludge that has been treated and tested and shown to be capable of being beneficially and legally used pursuant to federal and state regulations as a soil amendment for agriculture, silviculture, horticulture, and land reclamation activities.

1. Sludge and solid waste shall be removed from screens, sumps, ponds, and tanks as needed to ensure optimal plant operation.

2. Treatment and storage of sludge generated by the WWTF shall be confined to the WWTF property, and shall be conducted in a manner that precludes infiltration of waste constituents into soils in a mass or at concentrations that will violate the Groundwater Limitations of this Order.

3. Any storage of residual sludge, solid waste, and biosolids at the WWTF shall be temporary, and the waste shall be controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or at concentrations that will violate the Groundwater Limitations of this Order.

4. Residual sludge, biosolids, and solid waste shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27. Removal for further treatment, disposal, or reuse at disposal sites (i.e., landfills, WWTFs, composting sites, soil amendment sites) operated in accordance with valid waste discharge requirements issued by a regional water quality control board will satisfy this specification.

5. Use of biosolids as a soil amendment shall comply with valid waste discharge requirements issued by a regional water quality control board. In most cases, this will mean the General Biosolids Order (State Water Resources Control Board Water Quality Order No. 2004-0012-DWQ, *General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities*). For a biosolids use project to be covered by the General Biosolids Order, the Discharger must file a complete Notice of Intent and receive a Notice of Applicability for each project.

6. Use and disposal of biosolids shall comply with the self-implementing federal regulations of Title 40, Code of Federal Regulations (CFR), Part 503, which are subject to enforcement by the U.S. EPA, not the Regional Board. If during the life of this Order, the State accepts primacy for implementation of 40 CFR 503, then the Regional Board may also initiate enforcement where appropriate.

F. Groundwater Limitations:

Release of waste constituents from any system component associated with the wastewater treatment facility shall not cause groundwater under and beyond that system component (as determined by an approved well monitoring network) to contain any constituents in concentrations greater than ambient background conditions, and shall not cause or contribute to the violation of any Basin Plan narrative or numeric water quality objective.

G. Provisions:

1. The following reports shall be submitted pursuant to Section 13267 of the California Water Code and shall be prepared as described by Provision G.2.
   a. By **1 September 2005**, the Discharger shall provide a technical report that documents the following improvements to the collection and wastewater treatment system:
      i. Installation of a flow meter to accurately measure wastewater flows from the Academy Center and Residential Duplexes Collection System;
      ii. Installation of a data logger at the dosing chamber to record the dosing event times allowing the determination of hourly flows;
      iii. Installation of a 6-inch pipe or equivalent overflow bypass from the dosing chamber to the trickling filter;
      iv. Inspection of all cap cleanouts, and repair and replace as necessary; install protective cover boxes; repair and replace as necessary broken cracked manhole assemblies including cover ring, body, pipe connections, and bottom flow channel;
      v. Recoating the west wall of the concrete Imhoff tank with the appropriate water proofing sealer;
      vi. Installation of a galvanized screen at the overflow slot of the Imhoff tank to capture floating solids;
      vii. Verification of the installation of chains and locks on pond gate valves;
      viii. Installation of sewage treatment warning signs at the Imhoff tank, tricking filter, each of the three wastewater ponds, and the pump houses;

ix. Verification that (a) the existing elevation of the pond leeves meets original design elevation, (b) that the new vertical standpipe provides a minimum of 2-feet of freeboard, and (c) the existing gravity overflow to the Pond No. 1 pump house sump complies with a minimum of 2-feet of freeboard;

x. Installation of a permanent water level measurement scale and an emergency gravity overflow culvert from Pond No. 2 to Pond No. 3; and

xi. Installation of a concrete slab in the sludge drying bed including an under drain to Pond No. 1.

b. By **1 October 2005**, the Discharger shall submit a workplan to inspect and map 1,000 feet of collection system each year. The workplan shall describe the inspection methods (i.e. smoke testing, video surveying) and provide a schedule of the proposed work considering that at least 500 feet of deteriorated clay and Orangeburg sewer pipe shall be replaced with SDR35 PVC each year. The schedule for completing this work shall not extend beyond **1 October 2010.**

c. By **1 November 2005**, the Discharger shall submit a workplan that describes the upgrade to the upper and lower leachfields from sequential gravity distribution to uniform pressure dose. If the Discharger chooses to increase the inflow to the WWTF, the workplan shall also provide details of the 1,250 feet of leachline expansion proposed for the upper leachfield.

d. By **1 November 2005**, the Discharger shall provide written documentation that a remotely operated alarm system has been installed at locations within each of the two gravity collection systems (Campus Collection System Branch, and the Academy Center and Residential Duplexes Collection System Branch) to notify staff in the event of a power loss or malfunction.

e. By **1 December 2005**, the Discharger shall submit a *Sanitary Sewer System Operation, Maintenance, Overflow Prevention, and Response Plan* (SSS Plan) that describes the actions designed to prevent or minimize the potential for collection system overflows. The Discharger shall maintain the SSS Plan in an up-to-date condition and shall amend the SSS Plan whenever there is a change (e.g., in the design, construction, operation, or maintenance of the effluent collection system) that materially affects the potential for overflows, or whenever there is an overflow. The Discharger shall ensure that the up-to-date SSS Plan is readily available to operating personnel at all times and that the personnel are familiar with it.

i. At a minimum, the operation and maintenance portion of the SSS Plan shall contain or describe the following:

1. Detailed maps of the effluent collection system, identifying locations of septic tanks, sewer mains, manholes, and cleanouts;

2. A detailed listing of elements to be inspected, a description of inspection procedures and inspection frequency, and sample inspection forms;

3. A schedule for routine inspection of all pipelines, valves, and other key system components. The inspection/testing program shall be designed to reveal problems that might lead to accidental spills and ensure that preventive maintenance is completed;

4. Provisions for repair or replacement of defective equipment.

ii. At a minimum, the overflow prevention and response portion of the SSS Plan shall contain or describe the following:

1. Identification of areas of the collection system that historically have overflowed and an evaluation of the cause of the overflow;

2. Maintenance activities that can be implemented to address the cause of the overflow and means to prevent future overflows;

3. Procedures for responding to overflows designed to minimize the volume of overflow that enters surface waters, and minimize the adverse effects of overflows on water quality and beneficial uses; and

4. Steps to be taken when an overflow or spill occurs, and procedures that will be implemented to ensure that all overflows and spills are properly identified, responded to and reported to appropriate agencies, and if necessary, the public.

f. By **1 December 2005**, the Discharger shall submit and implement a revised *Operation and Maintenance (O&M) Plan* for the Weimar Institute WWTF. The O&M Plan shall instruct field personnel on how to manage the day-to-day discharge operations to comply with the terms and conditions of this Order and how to make field adjustments, as necessary, to optimize the effectiveness and life of the leachfields and preclude nuisance conditions (e.g., surfacing wastewater). It shall also include a troubleshooting flow chart with recommend remedial actions and a description of notification requirements. The O&M Plan shall address management of the WWTF in sufficient detail to optimize compliance with this Order, and most particularly Septic Tanks and Leachfield Specifications D.1 to D.5, including the following:

i. An inspection procedure for checking the integrity of the septic tanks.

ii. A description of the type, location, and procedure for calibration of the flow meter(s) installed to comply with the Monitoring and Reporting Program.

iii. The procedures to be implemented to assure that wastewater is evenly distributed within the disposal trenches, and to assure that wastewater will not be disposed of when the depth of wastewater in any trench is within 12 inches of the ground surface.

g. By **1 December 2005,** the Discharger shall submit a *Groundwater Monitoring Well Installation Workplan*. The workplan shall describe the proposed installation of groundwater monitoring wells around the wastewater ponds, the upper leachfield, and the lower leachfield to adequately characterize the groundwater quality upgradient and downgradient of the

wastewater ponds and leachfields. Every monitoring well shall be constructed to yield representative samples from the uppermost layer of the uppermost aquifer and to comply with applicable well standards. The workplan shall be consistent with, and include the items listed in, the first section of Attachment C, including a Groundwater Sampling and Analysis Plan.

h. By **1 December 2005**, the Discharger shall provide a technical report that documents the following improvements to the collection and wastewater treatment system:

    i. Installation of a 6-inch pipe or equivalent overflow bypass from the dosing chamber to the trickling filter to prevent an overflow from the dosing chamber;

    ii. Construction of a 2-foot high by 4-foot wide earthen berm around the lower perimeter of the Imhoff tank and sludge drying beds to contain liquid and solid wastes discharged from structural failure or overtopping of the Imhoff tank; and

    iii. Determination of the source of groundwater seepage from the bank uphill from the Imhoff tank and diversion of water away from the Imhoff tank area with a subsurface gravel drain.

i. By **1 June 2006**, the Discharger shall submit a technical report showing that the upgrades to the upper and lower leachfields from sequential gravity distribution to uniform pressure dose have been completed and are fully operational.

j. By **1 June 2006**, the Discharger shall submit a *Groundwater Monitoring Well Installation Report* that describes the installation of groundwater monitoring wells and contains the items found in the second section of Attachment C.

k. By **1 September 2007**, the Discharger shall submit a *Background Groundwater Quality Study Report*. For each groundwater monitoring parameter/constituent identified in the MRP, the report shall present a summary of monitoring data, calculation of the concentration in background monitoring wells, and comparison of background groundwater quality to that in wells used to monitor impacts from the discharge. Determination of background quality should be made using the methods described in Title 27, Section 20415(e)(10), and shall be based on data from at least four consecutive quarterly (plus any more frequent) groundwater monitoring events.

l. **At least 60 days prior** to any sludge removal and disposal, the Discharger shall submit a *Sludge Management Plan*. The plan shall estimate the quantity of sludge to be removed from the Imhoff tank and wastewater ponds; method of removal; method of drying; leachate and runoff controls for any temporary on-site biosolids drying and storage areas to prevent water quality impacts; a sampling and analysis plan; and the name, location, and permitting information for the selected biosolids disposal site.

m. At least **90 days prior** to the Discharger's proposal to increase the monthly average inflows to the WWTF, the Discharger shall submit a technical report that demonstrates how the leachline expansion will ensure adequate treatment and disposal for an average dry weather

inflow not exceeding 30,000 gpd. The technical report must be approved by the Executive Officer prior to increasing the flows.

2. In accordance with California Business and Professions Code Sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain workplans for investigations and studies, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger shall include the professional's signature and/or stamp of the seal.

3. The Discharger shall comply with Monitoring and Reporting Program No. R5-2005-0099, which is part of this Order, and any revisions thereto as ordered 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 made part of this Order by reference. This attachment and its individual paragraphs are commonly referenced as "Standard Provision(s)."

5. The Discharger shall use the best practicable cost-effective control technique(s) including proper operation and maintenance, to comply with the discharge limits specified in this Order.

6. The Discharger shall provide certified wastewater treatment plant operators in accordance with Title 23 of the California Code of Regulations, Division 3, Chapter 26.

7. As described in the Standard Provisions, the Discharger shall report promptly to the Regional Board any material change or proposed change in the character, location, or volume of the discharge.

8. Upon the reduction, loss, or failure of the sanitary sewer system resulting in a sanitary sewer overflow, the Discharger shall take any necessary remedial action to (a) control or limit the volume of sewage discharged, (b) terminate the sewage discharge as rapidly as possible, and (c) recover as much as possible of the sewage discharged (including wash down water) for proper disposal. The Discharger shall implement all applicable remedial actions including, but not limited to, the following:

   b. Interception and rerouting of sewage flows around the sewage line failure;

   c. Vacuum truck recovery of sanitary sewer overflows and wash down water;

   d. Use of portable aerators where complete recovery of the sanitary sewer overflows are not practicable and where severe oxygen depletion is expected in surface waters; and

   e. Cleanup of sewage-related debris at the overflow site.

9. The Discharger shall report to the Regional Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act of 1986."

10. The Discharger shall not allow pollutant-free wastewater to be discharged into the wastewater collection, treatment, and disposal system in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater includes rainfall, groundwater, cooling waters, and condensates that are essentially free of pollutants.

11. The Discharger shall submit to the Regional Board on or before each compliance report due date, the specified document or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, then the Discharge shall state the reasons for such noncompliance and provide an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Board in writing when it returns to compliance with the time schedule.

12. 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.

13. The Discharger must comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed herein or by the Executive Officer pursuant to Section 13267 of the CWC. Violations may result in enforcement action, including Regional Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.

14. A copy of this Order shall be kept at the operations facility for the wastewater treatment facility. Key operating personnel shall be familiar with its contents.

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

I, THOMAS R. PINKOS, 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 24 June 2005.

_____

THOMAS R PINKOS, Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2005-0099

FOR
WEIMAR INSTITUTE, INC.
WEIMAR INSTITUTE WASTEWATER TREATMENT FACILITY
PLACER COUNTY

This monitoring and reporting program (MRP) incorporates requirements for monitoring of the wastewater treatment system. This MRP is issued pursuant to Water Code Section 13267. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer.

All wastewater samples should be representative of the volume and nature of the discharge. The time, date, and location of each grab sample shall be recorded on the sample chain of custody form. Process wastewater flow monitoring shall be conducted continuously using a flow meter and shall be reported in cumulative gallons per day.

Field test instruments (such as pH and dissolved oxygen) may be used provided that:

1. The operator is trained in the proper use of the instrument;
2. The instruments are field calibrated prior to each monitoring event;
3. Instruments are serviced and/or calibrated per the manufacturer's recommended frequency; and
4. Field calibration reports are submitted as described in the "Reporting" section of this MRP.

SEPTIC TANK SOLIDS MONITORING

The Discharger shall monitor the septic tanks and report this information in the annual reports. Septic tanks shall be inspected annually as described below:

Parameter	Units	Type of Measurement	Minimum Inspection	Reporting Frequency
Sludge depth and scum thickness in the first compartment of each septic tank[1]	Feet	Staff Gauge	Annually	Annually
Distance between bottom of the scum layer and bottom of outlet device[1]	Inches	Staff Gauge	Annually	Annually
Distance between top of sludge layer and bottom of outlet device[1]	Inches	Staff Gauge	Annually	Annually

[1] The Discharger shall visually inspect the tanks for signs of damage, leakage, and/or deterioration

The Discharger shall retain records of each inspection, noting the date, measured readings and calculations. The Discharger will also record when cleaning is required, the condition of the tank, and the date that cleaning or repair occurred and by whom. Copies of the Liquid Waste Hauler manifests shall be retained for review as with any other record concerning documentation of compliance with the Order.

INFLUENT MONITORING

Influent monitoring shall be performed at the location where influent is discharged into the pond. Flows shall be recorded separately from each collection system, and shall also be added together to reflect the total inflow. Influent monitoring shall include at least the following:

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Flow	gpd	Continuous Meter[1,2]	Daily	Monthly

[1] A data logger on the dose chamber will be used to measure wastewater flows from the Main Campus collection system prior to discharge to Pond No. 1.
[2] A meter shall be placed in the collection line from the Academy Center and Duplexes collection system prior to discharge to Pond No. 1.

EFFLUENT MONITORING

Effluent samples shall be collected prior to discharge to the leachfields and shall be representative of the volume and nature of the discharge. Effluent monitoring shall include at least the following:

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
BOD_5 [1]	mg/L	Grab	Monthly	Monthly
Total Dissolved Solids	mg/L	Grab	Monthly	Monthly
Nitrate as Nitrogen	mg/L	Grab	Monthly	Monthly
Total Kjeldahl Nitrogen	mg/L	Grab	Monthly	Monthly
Standard Minerals[2]	mg/L	Grab	Annually	Annually

[1] 5-day Biochemical Oxygen Demand
[2] Standard Minerals shall include, at a minimum, the following elements and compounds: Boron, Calcium, Iron, Magnesium, Manganese, Sodium, Potassium, Chloride, Sulfate, Total Alkalinity (including alkalinity series), and Hardness

POND MONITORING

Samples shall be collected from an established sampling station located in an area that will provide a sample representative of the water in each of the ponds. Freeboard shall be measured vertically from the surface of the pond water to the lowest elevation of the surrounding berm and shall be measured to the nearest 0.1 feet. Monitoring of each of the ponds shall include, at a minimum, the following:

Constituents	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Dissolved Oxygen[1,3]	mg/L	Grab	Weekly	Monthly
pH[3]	pH units	Grab	Weekly	Monthly
Freeboard	0.1 feet	Measurement	Weekly	Monthly

Constituents	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Berm Seepage[2]	NA	Observation	Weekly	Monthly
Odors[4]	--	Observation	Weekly	Monthly

[1] Samples shall be collected at a depth of one foot, opposite the inlet. Samples shall be collected between 0700 and 0900 hours.
[2] Containment levees shall be observed for signs of seepage or surfacing water along the exterior toe of the levees. If surfacing water is found, then a sample shall be collected and tested for total coliform organisms and total dissolved solids sample shall be collected and tested for total dissolved solids.
[3] Handheld meter may be used.
[4] The presence of strong or unusual odors shall be reported.

LEACHFIELD AREA MONITORING

The Discharger shall conduct a visual inspection of the leachfields on a **weekly basis**. Results shall be recorded and submitted with the monthly monitoring reports. Photocopies of entries into an operator's log are acceptable. Evidence of surfacing wastewater, erosion, field saturation, runoff, or the presence of nuisance conditions shall be noted in the report. If surfacing water is found, then a sample shall be collected and tested for total coliform organisms and total dissolved solids. In addition to the visual inspections, monitoring of the leachfields shall include the following:

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Application Rate[1]	gal/acre•day	Calculated	Monthly	Monthly
Leachline Riser Inspection[2]	Inches	Measurement	Monthly	Monthly
Leachline in Use[3]	Observation	Observation	Daily	Monthly

[1] The application rate for each of the leachfields.
[2] The Discharger shall measure and record the distance from the surface of the liquid in the observation port to the surface of the ground in the each active lateral. In addition, the Discharger shall maintain a daily record of the zones that are active.
[3] Report the leachline and zone to which flows are directed each day.

SLUDGE MONITORING

In accordance with EPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989, a composite sample of sludge shall be collected when removed from the effluent storage reservoirs and tested for the following metals: Cadmium, Copper, Nickel, Chromium, Lead, and Zinc.
Sampling records shall be retained for a minimum of five years. A log shall be kept of sludge quantities generated and of handling and disposal activities. The frequency of entries is discretionary; however, the log should be complete enough to serve as a basis for part of the annual report.

GROUNDWATER MONITORING

The following program shall commence beginning with the second quarter 2006. Prior to construction and/or sampling of any additional groundwater monitoring wells, the Discharger shall submit plans and specifications to the Board for review and approval. Once installed, all new wells shall be added to the MRP and shall be sampled and analyzed according to the schedule below. Prior to sampling, the groundwater elevations shall be measured and the wells shall be purged of at least three well volumes until temperature, pH and electrical conductivity have stabilized. Depth to groundwater shall be measured to the nearest 0.01 feet. Samples shall be collected using standard EPA methods. Groundwater monitoring shall include, at a minimum, the following:

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency[5]
Depth to Groundwater	0.01 Feet	Measurement	Quarterly	Quarterly
Groundwater Elevation[1]	0.01 Feet	Calculated	Quarterly	Quarterly
Gradient	Feet/Feet	Calculated	Quarterly	Quarterly
Gradient Direction	Degrees	Calculated	Quarterly	Quarterly
Total Coliform Organisms[2]	MPN/100ml[3]	Grab	Quarterly	Quarterly
pH	pH Units	Grab	Quarterly	Quarterly
Total Dissolved Solids	mg/L	Grab	Quarterly	Quarterly
Nitrate as Nitrogen	mg/L	Grab	Quarterly	Quarterly
Total Kjeldahl nitrogen	mg/L	Grab	Quarterly	Quarterly
Standard Minerals[4]	mg/L	Grab	Annually	Annually

[1] Groundwater elevation shall be based on depth-to-water using a surveyed measuring point elevation on the well and a surveyed reference elevation.
[2] Using a minimum of 15 tubes or three dilutions
[3] Most probable number per 100 ml.
[4] Standard Minerals shall include, at a minimum, the following elements and compounds: Boron, Calcium, Iron, Magnesium, Manganese, Sodium, Potassium, Chloride, Sulfate, Total Alkalinity (including alkalinity series), and Hardness.
[5] Beginning with the second quarter 2006.

REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., effluent, leachfield, etc.), and reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported in the next scheduled monitoring report.

As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all Groundwater Monitoring Reports shall be prepared under the direct supervision of a Registered Engineer or Geologist and signed/stamped by the registered professional.

A. Monthly Monitoring Reports

Monthly reports shall be submitted to the Regional Board on the **1st day of the second month following sampling** (i.e. the January Report is due by 1 March). At a minimum, the reports shall include:

1. Results of influent, effluent, pond, and leachfield area monitoring;

2. A comparison of monitoring data to the discharge specifications and an explanation of any violation of those requirements. Data shall be presented in tabular format;

3. If requested by staff, copies of laboratory analytical report(s); and

4. A calibration log verifying calibration of all hand held monitoring instruments and devices used to comply with the prescribed monitoring program.

B. Quarterly Report

Beginning with the second quarter 2006, the Discharger shall establish a quarterly sampling schedule for groundwater monitoring such that samples are obtained approximately every three months. Quarterly monitoring reports shall be submitted to the Board by the **1st day of the second month after the quarter** (i.e. the January-March quarterly report is due by May 1st) and may be combined with the monthly report. The Quarterly Report shall include the following:

1. Results of the groundwater monitoring;

2. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the groundwater monitoring. The narrative shall be sufficiently detailed to verify compliance with the WDR, this MRP, and the Standard Provisions and Reporting Requirements. The narrative shall be supported by field logs for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of casing volume; and total volume of water purged;

3. Calculation of groundwater elevations and discussion of seasonal trends if any;

4. A narrative discussion of the analytical results for all groundwater locations monitored including spatial and temporal tends, with reference to summary data tables, graphs, and appended analytical reports (as applicable);

5. A comparison of the monitoring data to the groundwater limitations and an explanation of any violation of those requirements;

6. Summary data tables of historical and current water table elevations and analytical results;

7. A scaled map showing relevant structures and features of the facility, the locations of

monitoring wells and any other sampling stations, and groundwater elevation contours referenced to mean sea level datum; and

8. Copies of laboratory analytical report(s) for groundwater monitoring.

C. Annual Report

An Annual Report shall be prepared as the December monthly monitoring report. The Annual Report will include all monitoring data required in the monthly and quarterly schedule. The Annual Report shall be submitted to the Regional Board by **1 February** each year. In addition to the data normally presented, the Annual Report shall include the following:

1. The contents of the regular monthly and quarterly monitoring report for the last month and quarter of the year, respectively;

2. If requested by staff, tabular and graphical summaries of all data collected during the year;

3. Results of the annual effluent and groundwater monitoring;

4. A description of activity to control vegetation in the leachfield areas;

5. Annual summary of the septic tank inspections for the year, including the number of tanks which were cleaned and from compilation of Liquid Waste Hauler Manifests, the volumes of waste removed from the tanks;

6. A statement of when the O&M Manual was last reviewed for adequacy, and a description of any changes made during the year;

7. A description of the annual evaluation of effluent distribution and adjustments made, if any;

8. A summary of the inspections, repair activities, and pipeline replacements which were performed on the effluent collection system during the previous year;

9. A statement regarding whether the flow meter was calibrated during the year; and

10. A discussion of any compliance issues or violations and corrective actions taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements.

A letter transmitting the self-monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain a statement by the discharger, or the discharger's authorized agent, under penalty of perjury, that to the best of the signer's knowledge the report is true, accurate and

complete.

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

Ordered by: _____
THOMAS R. PINKOS, Executive Officer

24 June 2005
(Date)

INFORMATION SHEET

ORDER NO. R5-2005-0099
WEIMAR INSTITUTE, INC.
WASTEWATER TREATMENT FACILITY
PLACER COUNTY

Background

Weimar Institute, Inc. currently owns and operates a wastewater treatment facility (WWTF) located approximately 10 miles east of City of Auburn adjacent to Interstate 80 in Weimar. The WWTF currently serves a population of approximately 224 persons and treats a monthly average flow of approximately 22,400 gallons per day (gpd) of domestic wastewater. The WWTF contains an Imhoff tank, trickling filter, three wastewater oxidation ponds, and subsurface disposal via two leachfields. The collection system consists of two gravity collection systems (Campus Collection System Branch, and the Academy Center and Residential Duplexes Collection System Branch). The Campus Collection System Branch consists of approximately 8,000 feet of various sections of clay tile, Orangeburg, cast iron, asbestos cement, and plastic pipe materials ranging in size from four to eight inches. Two and three inch diameter pipe may also be found between some of the buildings and the collection system. Since 1983, between 800 and 1,600 feet of this sewer line has been replaced with SDR35 PVC sewer pipe. The Academy Center and three Residential Duplexes are served by 4-inch SDR35 PVC sewer pipe that was installed in 1983.

Wastewater from the Campus Collection System Branch flows into an Imhoff tank. The Imhoff tank consists of a large rectangular concrete tank with a sloping center baffle that provides primary sewage treatment by separating the solids from the liquid. A dosing chamber, attached to the discharge end of the Imhoff tank, receives 600-gallon doses that are measured using an electronic counter. Effluent from the dosing chamber enters the tricking filter where it receives biological treatment prior to being diverted to either Pond Nos. 1 or 2. The wastewater from the Academy Center and Residential Duplexes Collection System Branch enters a series of four septic tanks prior to being discharged to Pond No. 1. Wastewater from this system, which is approximately 10 percent of the total flow, does not enter the Imhoff tank or the trickling filter, and is not metered. This Order requires the Discharger to also meter wastewater flows from the Academy Center and Residential Duplexes Collection System Branch.

The effluent disposal system consists of three wastewater storage ponds with a total capacity of approximately 6.7 million gallons at 2-feet of freeboard, and the upper and lower leachfields. Wastewater levels between Pond Nos. 1 and 2 are controlled via an overflow weir and pipe assembly. A flow splitter and effluent distribution-piping manifold is used to allow simultaneous effluent distribution to the ponds. Two separate pump houses are located at the facility. The Pond No. 1 Pump House is near the southeast corner of Pond No. 1 and contains a single pump used to draw effluent from Pond No. 1 for the spray aerator in Pond No. 1 or the trickling filter. In addition, the pump may also be used to pump effluent into Pond Nos. 2 and 3. The Pond No. 2 Pump House is south of Pond No. 3 and is equipped with two pumps with timer controls, two different filtration methods (screened and centrifugal spin), and a valve system that allows the effluent to be pumped back to Pond Nos. 1, 2 and/or 3, or to either the upper or lower leachfields.

The upper leachfield is comprised of 1,950 feet of leachline and the lower leachfield consists of 1,500 feet of leachline. Each of the leachfields were constructed with 4-inch diameter perforated pipe in a three

foot wide by three foot deep trench with 18-inches of gravel underlying the pipe. Both of the leachfields are equipped with observation risers to monitor the level of wastewater in each of the trenches. Wastewater is currently distributed to the upper and lower leachfields via gravity; however, the Discharger has plans to upgrade to a uniform pressure dosed system. The upper leachfield provides approximately 2.10 gpd/square feet of infiltration while the lower leachfield provides approximately 4.44 gpd/square feet of infiltration. The existing upper leach lines have a disposal capacity of up to 12,285 gpd and the lower leachlines can dispose up to 20,000 gpd.

This Order allows for the monthly average dry weather inflow to the WWTP to not exceed 22,500 gpd. However, if the Discharger wishes to increase the average monthly dry weather flow to 30,000 gallons, then the Discharger shall submit a technical report required by Provision G.1.m of the Order. Upon approval by the Executive Officer, the discharge may increase to 30,000 gpd.

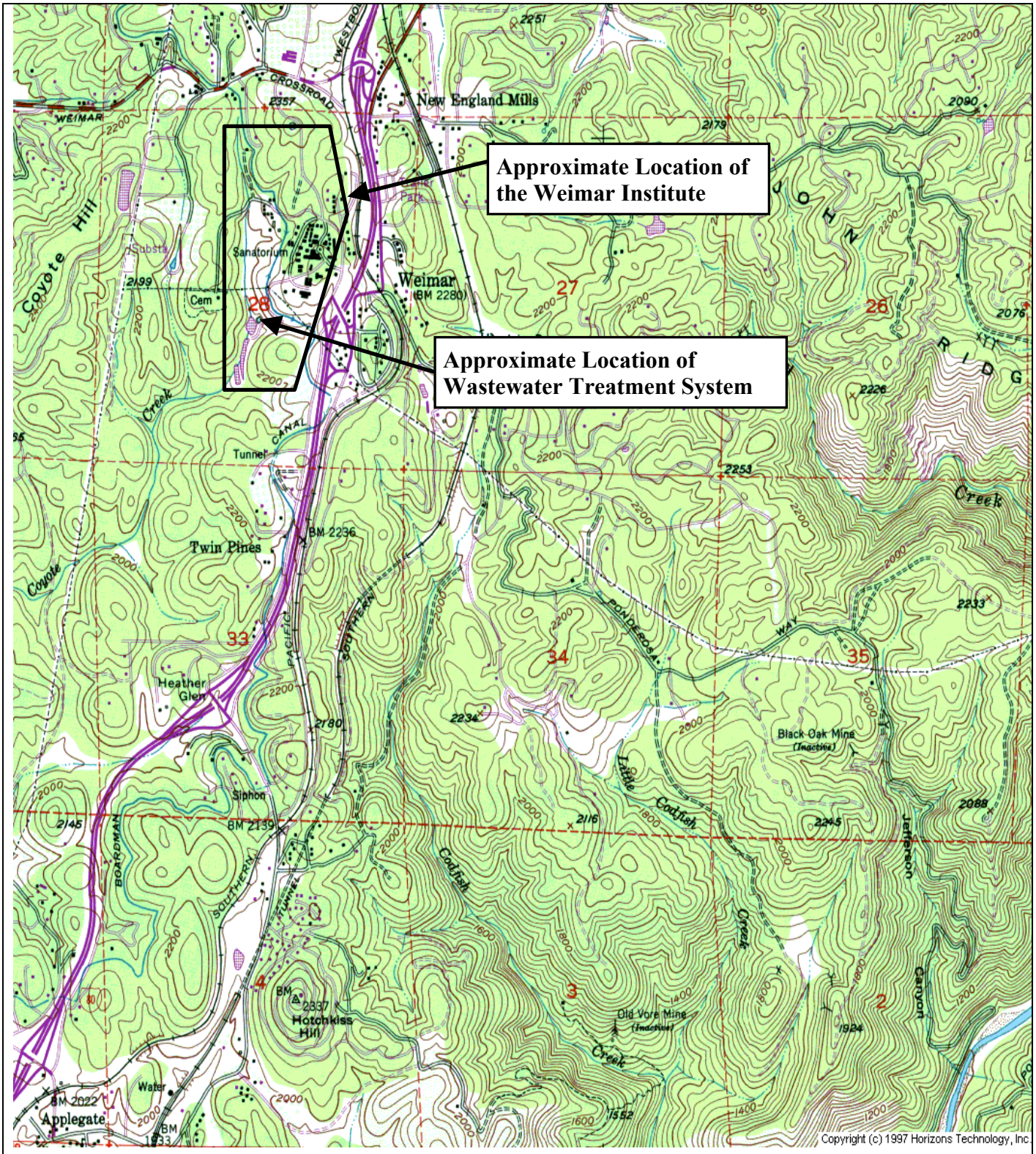
This Order also requires the Discharger to: (a) provide a technical report that documents improvements to the collection and wastewater treatment system; (b) submit a workplan with a schedule to inspect and map 1,000 feet of collection system each year considering that at least 500 feet of deteriorated sewer pipe shall be replaced each year; (c) submit a workplan that describes the upgrade to the upper and lower leachfields from sequential gravity distribution to uniform pressure dose; (d) provide documentation showing that a remotely operated alarm system has been installed at locations within each of the two gravity collection systems; (e) install groundwater monitoring wells around the wastewater ponds, the upper leachfield and the lower leachfield to adequately characterize the groundwater quality upgradient and downgradient of the wastewater ponds and leachfield; (f) provide a Sanitary Sewer System Operation, Maintenance, Overflow Prevention, and Response Plan, and a Revised Operations and Maintenance Plan; (g) submit a Background Groundwater Quality Study Report and a Sludge Management Plan; and (h) if the Discharger wishes to increase the monthly average inflows to the WWTF, a technical report that demonstrates how the leachline expansion will ensure adequate treatment and disposal for an average dry weather inflow not exceeding 30,000 gpd.

The Discharger shall also perform septic tank, influent, effluent, pond, leachfield and groundwater monitoring, and submit monthly reports as required by the Monitoring and Reporting Program (MRP). Groundwater monitoring and reporting is required on a quarterly basis. Finally, the Discharger is required to submit annual reports according to requirements of the MRP. In particular, the annual reports shall provide a summary of the inspections, repair activities, and pipeline replacements which were performed on the effluent collection system during the previous year.

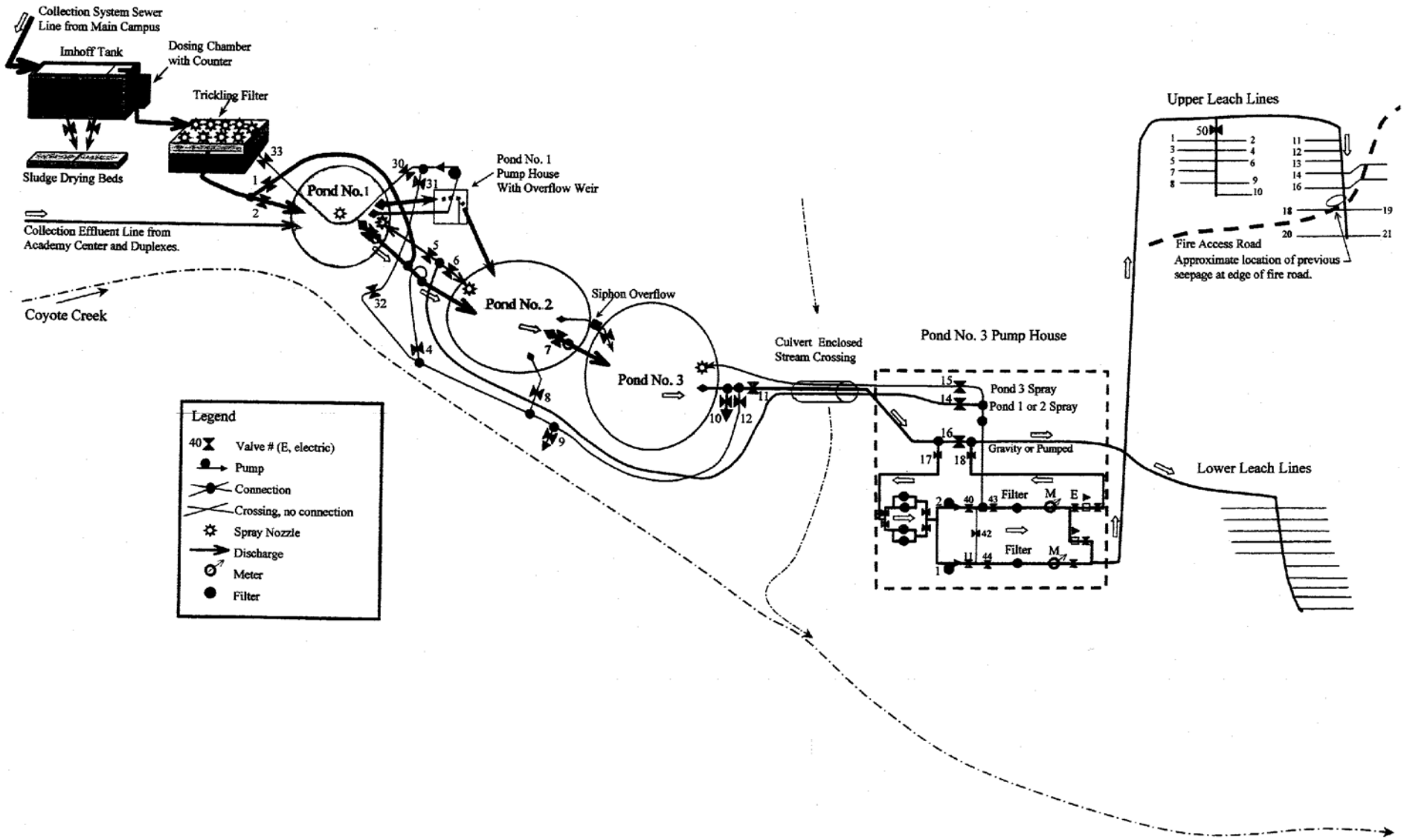
The Regional Board finds that the Discharger has not demonstrated that if it is to the maximum benefit to the people of the State of California to degrade groundwater, and therefore groundwater degredation is not allowed under this Order.

Surface water drainage from the Weimar Institute Wastewater Treatment Facility is to Coyote Creek, a tributary to Wolley Creek and Lake Combie.

GJC: 4/19/05



Drawing Reference: U.S.G.S TOPOGRAPHIC MAP COLFAX 7.5 MINUTE QUAD	**SITE LOCATION MAP** Weimar Institute Wastewater Treatment Plant Placer County	N W E S approx. scale 1 in. = 2,500 ft.



DRAWING REFERENCE: PETITE AND ASSOCIATES	**WASTEWATER TREATMENT SYSTEM SCHEMATIC** WEIMAR INSTITUTE 20601 WEST PAOLI LANE PLACER COUNTY

California Regional Water Quality Control Board
Central Valley Region
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ORDER NO. R5-2005-0099
ATTACHMENT C
REQUIREMENTS FOR
MONITORING WELL INSTALLATION WORKPLANS AND
MONITORING WELL INSTALLATION REPORTS

Prior to installation of groundwater monitoring wells, the Discharger shall submit a workplan containing, at a minimum, the information listed in Section 1, below. Wells may be installed after staff approve the workplan. Upon installation of the monitoring wells, the Discharger shall submit a well installation report which includes the information contained in Section 2, below. All workplans and reports must be prepared under the direction of, and signed by, a registered geologist or civil engineer licensed by the State of California.

SECTION 1 - Monitoring Well Installation Workplan and Groundwater Sampling and Analysis Plan

The monitoring well installation workplan shall contain the following minimum information:

A. General Information:
- Purpose of the well installation project
- Brief description of local geologic and hydrogeologic conditions
- Proposed monitoring well locations and rationale for well locations
- Topographic map showing facility location, roads, and surface water bodies
- Large scaled site map showing all existing on-site wells, proposed wells, surface drainage courses, surface water bodies, buildings, waste handling facilities, utilities, and major physical and man-made features

B. Drilling Details:
- On-site supervision of drilling and well installation activities
- Description of drilling equipment and techniques
- Equipment decontamination procedures
- Soil sampling intervals (if appropriate) and logging methods

C. Monitoring Well Design (in narrative and/or graphic form):
- Diagram of proposed well construction details
  - Borehole diameter
  - Casing and screen material, diameter, and centralizer spacing (if needed)
  - Type of well caps (bottom cap either screw on or secured with stainless steel screws)
  - Anticipated depth of well, length of well casing, and length and position of perforated interval

- Thickness, position and composition of surface seal, sanitary seal, and sand pack
- Anticipated screen slot size and filter pack

D. Well Development (not to be performed until at least 48 hours after sanitary seal placement):
Method of development to be used (i.e., surge, bail, pump, etc.)
Parameters to be monitored during development and record keeping technique
Method of determining when development is complete
Disposal of development water

E. Well Survey (precision of vertical survey data shall be at least 0.01 foot):
Identify the Licensed Land Surveyor or Civil Engineer that will perform the survey
Datum for survey measurements
List well features to be surveyed (i.e. top of casing, horizontal and vertical coordinates, etc.)

F. Schedule for Completion of Work

G. **Appendix: Groundwater Sampling and Analysis Plan (SAP)**
The Groundwater SAP shall be included as an appendix to the workplan, and shall be utilized as a guidance document that is referred to by individuals responsible for conducting groundwater monitoring and sampling activities.

Provide a detailed written description of standard operating procedures for the following:

- Equipment to be used during sampling
- Equipment decontamination procedures
- Water level measurement procedures
- Well purging (include a discussion of procedures to follow if three casing volumes cannot be purged)
- Monitoring and record keeping during water level measurement and well purging (include copies of record keeping logs to be used)
- Purge water disposal
- Analytical methods and required reporting limits
- Sample containers and preservatives
- Sampling
  - General sampling techniques
  - Record keeping during sampling (include copies of record keeping logs to be used)
  - QA/QC samples
- Chain of Custody
- Sample handling and transport

SECTION 2 - Monitoring Well Installation Report

The monitoring well installation report must provide the information listed below. In addition, the report must also clearly identify, describe, and justify any deviations from the approved workplan.

A. General Information:
Purpose of the well installation project

Brief description of local geologic and hydrogeologic conditions encountered during installation of the wells
Number of monitoring wells installed and copies of County Well Construction Permits
Topographic map showing facility location, roads, surface water bodies
Scaled site map showing all previously existing wells, newly installed wells, surface water bodies, buildings, waste handling facilities, utilities, and other major physical and man-made features.

B. Drilling Details (in narrative and/or graphic form):
On-site supervision of drilling and well installation activities
Drilling contractor and driller's name
Description of drilling equipment and techniques
Equipment decontamination procedures
Soil sampling intervals and logging methods
Well boring log
- Well boring number and date drilled
- Borehole diameter and total depth
- Total depth of open hole (same as total depth drilled if no caving or back-grouting occurs)
- Depth to first encountered groundwater and stabilized groundwater depth
- Detailed description of soils encountered, using the Unified Soil Classification System

C. Well Construction Details (in narrative and/or graphic form):
Well construction diagram, including:
- Monitoring well number and date constructed
- Casing and screen material, diameter, and centralizer spacing (if needed)
- Length of well casing, and length and position of perforated interval
- Thickness, position and composition of surface seal, sanitary seal, and sand pack
- Type of well caps (bottom cap either screw on or secured with stainless steel screws)

E. Well Development:
Date(s) and method of development
How well development completion was determined
Volume of water purged from well and method of development water disposal
Field notes from well development should be included in report

F. Well Survey (survey the top rim of the well casing with the cap removed):
Identify the coordinate system and datum for survey measurements
Describe the measuring points (i.e. ground surface, top of casing, etc.)
Present the well survey report data in a table
Include the Registered Engineer or Licensed Surveyor's report and field notes in appendix