

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2002-0030

WASTE DISCHARGE REQUIREMENTS
FOR
AUBURN VALLEY COMMUNITY SERVICES DISTRICT
AUBURN VALLEY COUNTRY CLUB
HARVEGO REAL ESTATE, LLC.
PLACER COUNTY

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

1. Auburn Valley Community Services District, Auburn Valley Country Club, and Harvego Real Estate, LLC. (hereafter Discharger) submitted a Report of Waste Discharge (ROWD), dated 2 July 2001. The ROWD describes modifications to the collection system and the design and construction of a new treatment plant with subsurface disposal fields to provide sewerage for the Auburn Valley Country Club and the Auburn Valley Residential Subdivision. The existing failed treatment ponds are to be abandoned after stable operation of the new plant has been established.
2. Auburn Valley Residential Subdivision had its build out capacity planned for 270 lots. The country club/golf course and residential subdivision are about 1¼ mile west of Grass Valley Highway (Highway 49) on Lone Star Lane as shown in Attachment A, which is attached hereto and made a part of this Order by reference. The subdivision encompasses an area of approximately 1,000 acres in Section 2, T13N, R7E, MDB&M.
3. The Auburn Valley Community Services District replaces Auburn Valley Service Corporation and provides wastewater treatment and disposal services for the country club/golf course and the residential subdivision. Auburn Valley Community Services District has contracted services for the operation of the Wastewater Treatment Plant (WWTP). The WWTP is on Assessor Parcel Number (APN) 026-370-041, which is owned by Harvego Real Estate, LLC. The Second Modification Agreement to Settlement Agreement dated May 7, 1996, *as previously modified by*, First Modification of February 20, 1998, provides for an easement to the community services district for placement of the WWTP on Harvego property and ultimately the abandonment of the existing failed ponds.
4. Wastewater disposal will take place subsurface within the golf course in “no play” areas. The country club is the legal owner of the golf course property, APN 026-370-040. An agreement called *Agreement Granting an Easement for the Subsurface Disposal of Tertiary Treated Wastewater*, executed on 19 March 2001, exists between the country club and the community services district to allow wastewater subsurface disposal within the golf course.

Existing Facility and Discharge

5. Waste Discharge Requirements Order No. 96-271, adopted by the Board on 25 October 1996, prescribes requirements for a discharge of 43,000 gallons per day (gpd) domestic wastewater to a gravity sewer collection system and a system of six earthen non-aerated oxidation and percolation

ponds. Order No. 96-271 is neither adequate nor consistent with current plans and policies of the Board.

6. The combined flows total approximately 23,000 gpd to Pond 1 or Pond 2. The ponds were constructed by excavating the soil mantle and partially into the bedrock. Pond 3 has artesian inflow nearly all year round from the fractured bedrock in which it was constructed. Ponds 3 and 4 containment levees have been partially constructed in bedrock. Pond 3's levee seeps effluent the year round and Pond 4's levee seeps occasionally during the rainy season.. At this time a cutoff collection trench is used to return the seepage flow back to the pond system. Due to the threat to surface and ground water, a new WWTP will be constructed and the pond system will be abandoned.
7. Currently the domestic wastewater generated is from the clubhouse/bar/restaurant/maintenance building, 12 duplex units, and 58 single-family residences. The design of the WWTP incorporated 70 service connections associated with the existing residences, 70 future service connections for vacant residential lots, 8 unidentified future service connections and one service connection for the country club/bar/restaurant/golf course maintenance center.
8. This Order allows for only part of the build out capacity. A total of 170 Equivalent Dwelling Units (EDUs) includes 22 EDUs allocated to the Auburn Valley Country Club. No plant expansion or lot additions/creations beyond this capacity has been considered.
9. Residential portion of the total flow is described as follows: The Discharger estimates occupancy should fall between 2.0 and 2.5 due to residences being occupied predominantly by retirees. However Placer County sewage flow quantity requirements set occupancy level at three (3.0) persons per residence and 100 gallons per capita day (gpcd). Flows calculated by the Discharger are Average Dry Weather Flow 39,960 gallons per day (gpd) and Peak Wet Weather Flow 44,400 gpd.
10. The Discharger estimates the country club facilities flow from actual data collected in 1998 and 1999. The total club and residential flow is presented in the table below:

Total Combined Wastewater Flows (gpd)				
Facilities	ADWF	Peak Day	PWWF	Max Daily Flow
Residences	39,960	N/A	44,400	44,400
Club Facilities	5,445	10,720	10,720	10,720
Combined Flow	45,405	N/A	55,120	55,120

11. Estimated influent wastewater strength is Biochemical Oxygen Demand 298 mg/l, Total Suspended Solids 252 mg/l, and Total Nitrogen 35 mg/l.

Sanitary Sewer System

12. The sewer collection system is approximately 11,500 feet in length. Past history evidences minor infiltration of groundwater during inclement weather periods. Over the same period of time the District has performed repairs and smoke tested the entire collection system. The existing gravity flow collection system to the ponds will be modified to include a buried wet well lift station, two raw sewage pumps, emergency standby generator, buried 20,000 gallon emergency overflow storage tank, and computer control, monitoring, and alarm system.
13. The treatment plant is equipped with emergency electrical generators capable of powering the entire treatment plant and the lift station has its own independent power backup.
14. The Discharger's sanitary sewer system collects wastewater using sewers, pipes, pumps, and directs this raw sewage to the wastewater treatment plant. 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.) are 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.
15. Sanitary sewer overflows consist of varying mixtures of domestic sewage and commercial wastewater (country club bar and restaurant); this mixture depends on the pattern of land use in the sewage collection system tributary to the overflow. The chief causes of sanitary sewer overflows 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.
16. 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 exceedances 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.
17. The Discharger is expected to take all necessary steps to adequately maintain, operate, and prevent discharges from its sanitary sewer collection system. This Order requires the Discharger to prepare and implement a Sanitary Sewer System Operation, Maintenance, Overflow Prevention, and Response Plan.

Planned Changes in Discharge

18. The pond system will be abandoned and replaced with a tertiary level activated sludge system capable of processing 60,000 gallons per day of domestic wastewater. It employs a 24,000 gallon equalization aerated grit chamber with grinder, 40,000 gallon activated-sludge reactor, 16,000-gallon batch clarifier, 5,000 gallon disinfection ozone contact chamber, approximately

10 square feet of filter area, 9,000 gallon effluent pumping tank (additional capacity can be added to the pumping tank if necessary), and 16,000 gallon aerobic sludge digester. Final wastewater disposal will be accomplished via subsurface drip emitters.

19. The Discharger is prohibited from accepting wastes from any outside source. Only wastes from the residences and country club within the Discharger’s service area are permitted to be accepted.
20. Effluent quality is tabulated below as described in the ROWD:

Constituent	Secondary Concentration	Tertiary – Final Effluent Concentration
Biochemical Oxygen Demand	12 mg/l	2 mg/l
Total Suspended Solids	10 mg/l	2 mg/l
Turbidity	5.0 NTU	1.0 NTU
Total Nitrogen	<5 mg/l	<5 mg/l
Total Coliform	Variable	<2.2 MPN/100 ml
Total Dissolved Solids	461 mg/l	461 mg/l
pH	7-8 units	7-8 units

21. No biosolids, screenings, or other sewage debris will be stored or disposed onsite. Sludge will be removed from the aerobic digester approximately every three months by a licensed septic pumper truck. Anticipated volume of sludge removed is a few hundred gallons per quarter.
22. Wastewater will be disinfected by ozone treatment prior to land application. Effluent will be treated to meet Title 22, Section 60301.230, *Disinfected Tertiary Recycled Water* criteria. All wastewater will remain subsurface. Irrigation water applied to or rainwater which falls on the land application areas will not contact any waste component and will either percolate or runoff.
23. The country club and golf course will use WWTP effluent for subsurface disposal as described in this Order. Effluent will not be used for any other application or service.
24. Six subsurface disposal fields have been identified, three for the primary disposal fields (4.743 acres) and three for 100 percent replacement disposal fields (4.741 acres). Percolation rates are described as averaging 60 minutes per inch across the primary disposal fields, which translate to 0.65 gallons per day per square foot (gpd/sqft). However of the 17 adjusted rates presented in the ROWD, the simple average was approximately 105 mpi (0.488 gpf/sqft). The primary design parameter for the subsurface disposal fields is 0.29 gpd/sqft, which is below the simple average by a factor of approximately 1.68.
25. The subsurface disposal fields consist of distribution lines with effluent metered by emitters evenly spaced one foot apart and having a design flow rate of 0.29 gpd/sqft. Distribution lines are placed at a depth of 0.5 to 0.67 feet below the grade surface on 2.0-foot centers. The limited flow rate of the emitters allows for pressurized distribution lines thus enabling an equalized flow rate on each

line. And the lines are operated on a pulsed basis over a 24-hour period to selectively distribute effluent as desired over the entire disposal field.

26. Application cycles are controlled by the plant computerized control system with feed back from moisture sensors as a check and balance system. The check and balance system is used to prevent excessive saturation conditions during normal watering and storm events.
27. Nearly all of the treatment facility components such as piping, valves, equalization grit chambers, reactors, clarifiers, disinfection contact chambers, and holding tanks will be below grade. Multimedia filters, aeration blowers, ozone generator, TC2K control computer system, control panels, and standby power generator are to be housed aboveground inside the maintenance building.
28. The area has a history of power outages during inclement weather conditions. The facilities have standby power for wastewater treatment components, effluent pumping station, and subsurface disposal systems. The system will be designed with an automatic transfer switch to function unattended.
29. All piping utilized for the effluent disposal system is the industry standard “purple” pipe for treated wastewater.

Site-Specific Conditions

30. The subsurface geology is comprised of the Auburn silt-loam sub lain by metavolcanic rock of the Smartville Complex. The metavolcanic rock is aged to be 65 to 230 million years old from the Mesozoic Era. Effective soil depths ranged from approximately 6.6 feet to 4.1 feet with seasonal groundwater encountered as shallow as 1.5 feet. A few test pits terminated in fractured rock with groundwater seepage noted at the pit bottom.
31. The annual 100-year precipitation in the vicinity is estimated to be 62.33 inches. The evaporation rate is approximately 50.5 inches per year. All portions of the facility are outside the 100-year flood zone.
32. Water balance in the ROWDs' Appendix P describes excess field disposal capacity during a 100-year storm event. The water balance is Attachment B, which is attached hereto and made part of this Order by reference.
33. The Auburn Valley Country Club and residential housing subdivision is at an elevation of approximately 1,150 feet Mean Sea Level (msl). Surface water drainage is to the Bear River. The WWTP site is in the Camp Far West Hydrologic Subarea within the Bear River Hydrologic Unit (No. 516.31), as depicted on interagency hydrologic maps prepared by the Department of Water Resources in August 1986.

34. An “Abandonment Plan” of the existing wastewater disposal ponds will be submitted 90 days prior to commencing new plant start-up. After successful start-up and establishing reasonable steady state operation of the new WWTP, ponds will be abandoned.

Groundwater Considerations

35. Groundwater monitoring is required. The Discharger has submitted a groundwater monitoring plan been given concurrence on the locations of groundwater monitoring wells for each subsurface disposal field. Background water quality will be evaluated and a report submitted with findings.
36. Drinking water for the Subdivision is supplied by four municipal wells and 384,000-gallon storage system with future expansion to 524,000 gallons storage. Well # 1 was destroyed due to repetitive bacteriological presence. Well # 5 replaced Well # 1 and due to well easement requirements, Well # 5 had to be located within a 50-foot radius of Well # 1. Only 26 horizontal feet separate Well # 5 from Well #1. Well data is listed in the table below and locations are shown on Attachment D, which is attached hereto and made a part of this order by reference. Well Number 5 was tested for bacteriological presence in December 2001 with positive results. The well was retested and results proved to be positive again. The source of the bacteria is undetermined at this time.

Well #	Completion Depth feet	Yield gpm	Casing Size inches	Year Installed
1	125	115	6	1976 ¹
2	100	45	6	1989
3	750	45	6	1993
4	700	200	8	1995
5	650	340	10	1999 ²
¹ Abandoned in 1998 due to repetitive bacterial presence and well #5 was drilled 26 feet away to replace it ² Bacterial presence noted and confirmed in December 2001				

37. This Order requires that the Discharger perform groundwater monitoring and complete a technical analysis of groundwater monitoring data to determine applicable background concentrations.

Groundwater Degradation

38. State Water Resources Control Board (SWRCB) Resolution No. 68-16 (hereafter Resolution 68-16 or the “Antidegradation Policy”) requires the Board in regulating the discharge of waste to maintain high quality waters of the state 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 that described in the Board’s policies (e.g., quality that exceeds water quality objectives).

39. The Board finds that some degradation of groundwater beneath the wastewater treatment plant is consistent with Resolution 68-16 provided that:
 - a. The degradation is confined to specified boundaries;
 - b. The discharger minimizes the degradation by fully implementing, regularly maintaining, and optimally operating best practicable treatment and control (BPTC) measures;
 - c. The degradation is limited to waste constituents typically encountered in municipal wastewater as specified in the groundwater limitations in this Order; and
 - d. The degradation does not result in water quality less than that prescribed in the Basin Plan.

40. Some degradation of groundwater by some of the typical waste constituents released with discharge from a municipal wastewater utility after effective source control, treatment, and disposal is consistent with maximum benefit to the people of California. The technology, energy, water recycling, and waste management advantages of municipal utility service far exceed any benefits derived from a community otherwise reliant on numerous concentrated individual wastewater systems, and the impact on water quality will be substantially less. Degradation of groundwater by constituents (e.g., toxic chemicals) other than those specified in the groundwater limitations in this Order, and by constituents that can be effectively removed by conventional treatment (e.g., total coliform bacteria) is prohibited. When allowed, the degree of degradation permitted depends upon many factors (i.e., background water quality, the waste constituent, the beneficial uses and most stringent water quality objective, source control measures, waste constituent treatability).

41. Economic prosperity of local communities and associated industry is of maximum benefit to the people of California, and therefore sufficient reason exists to accommodate some groundwater degradation around the wastewater treatment plant, provided that the terms of the Basin Plan are met.

42. These waste discharge requirements do not allow degradation of groundwater beneath the subsurface disposal fields. The Discharger is required to monitor groundwater under the subsurface disposal fields and if the monitoring data should indicate that the discharge of waste to any of the subsurface disposal fields is causing groundwater to contain waste constituents in concentrations statistically greater than background water quality, then the Discharger may be required to submit a report to indicate how such degradation will comply with Resolution 68-16. Upon review of such report, the Board may revise this Order, including the groundwater limitations

Treatment and Control Practices

43. This wastewater treatment facility provides treatment and control of the discharge that incorporates:
 - a. Technology for tertiary treatment of municipal wastewater;
 - b. Recycling of wastewater through subsurface disposal;

- c. An industrial discharge exclusion;
 - d. An operation and maintenance (O&M) manual; and
 - e. Staffing to assure proper operation and maintenance.
44. The facility treats wastewater to Title 22, Section 60301.230, *Disinfected Tertiary Recycled Water* criteria. Because of the shallow water table, there is minimal potential for constituent attenuation in the vadose zone. The potential impacts on groundwater and the appropriate level of degradation that complies with Resolution 68-16 has been evaluated to the extent possible. However, the Discharger's current effort may not constitute BPTC as intended in Resolution 68-16 or comply with the property agreements for treatment and disposal, and therefore this Order establishes a schedule for tasks to evaluate BPTC for each conveyance, treatment, storage, and disposal component of the facility and to further characterize groundwater for selected constituents. Completion of these tasks, and implementation of the approved strategies developed from that work, will ensure that BPTC and the highest water quality consistent with the maximum benefit to the people of the State will be achieved.
45. This Order establishes interim groundwater limitations for the WWTF that will not unreasonably threaten present and anticipated beneficial uses or result in groundwater quality that exceeds water quality objectives set forth in the Basin Plan. This Order contains tasks for assuring that BPTC and the highest water quality consistent with the maximum benefit to the people of the State will be achieved. Accordingly, the discharge is consistent with the antidegradation provisions of Resolution 68-16. Based on the results of the scheduled tasks, the Board may reopen this Order to reconsider groundwater limitations and other requirements to comply with Resolution 68-16.

Basin Plan, Beneficial Uses, and Regulatory Considerations

46. 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 Water Resources Control Board. These requirements implement the Basin Plan.
47. Surface water drainage is to the Bear River. The beneficial uses of the Bear River are municipal and domestic supply; agricultural irrigation and stock watering supply; power generation; contact recreation, canoeing and rafting, other noncontact recreation; warm and cold freshwater habitat; potential warm and cold migration; potential warm and cold water spawning; and wildlife habitat.
48. The beneficial uses of the underlying groundwater are municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.
49. The Basin Plan encourages water recycling.

50. Title 22, Section 60303 states that water recycling requirements shall not apply to the use of recycled water onsite at a water recycling plant, or wastewater treatment plant, provided access by the public to the area of onsite recycled water use is restricted.
51. The Basin Plan establishes numerical and narrative water quality objectives for surface and groundwater within the basin, and recognizes that water quality objectives are achieved primarily through the Board's adoption of waste discharge requirements and enforcement orders. Where numerical water quality objectives are listed, these are limits necessary for the reasonable protection of beneficial uses of the water. Where compliance with narrative water quality objectives is required, the Board will, on a case-by-case basis, adopt numerical limitations in orders, which will implement the narrative objectives to protect beneficial uses of the waters of the state.
52. The Basin Plan identifies numerical water quality objectives for waters designated as municipal supply. These are the maximum contaminant levels (MCLs) specified in the following provisions of Title 22, California Code of Regulations: Tables 64431-A (Inorganic Chemicals) and 64431-B (Fluoride) of Section 64431, Table 64444-A (Organic Chemicals) of Section 64444, and Table 64449-A (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits) of Section 64449. The Basin Plan's incorporation of these provisions by reference is prospective, and includes future changes to the incorporated provisions as the changes take effect. The Basin Plan recognizes that the Board may apply limits more stringent than MCLs to ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses.
53. The Basin Plan contains narrative water quality objectives for chemical constituents and toxicity. The toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in plants or animals. The chemical constituent objective requires that groundwater shall not contain chemical constituents in concentrations that adversely affect beneficial uses.
54. Section 13241 of the Water Code requires the Regional Board to consider various factors, including economic considerations, when adopting water quality objectives into its Basin Plan. Water Code Section 13263 requires the Regional Board to address the factors in Section 13241 in adopting waste discharge requirements. The State Board, however, has held that a Regional Board need not specifically address the Section 13241 factors when implementing existing water quality objectives in waste discharge requirements because the factors were already considered in adopting water quality objectives. These waste discharge requirements implement adopted water quality objectives. Therefore, no additional analysis of Section 13241 factors is required.
55. The United States Environmental Protection Agency (EPA) has promulgated biosolids reuse regulations in 40 CFR 503, *Standard for the Use or Disposal of Sewage Sludge*, which establishes management criteria for protection of ground and surface waters, sets application rates for heavy metals, and establishes stabilization and disinfection criteria.

56. The Board is using the Standards in 40 CFR 503 as guidelines in establishing this Order, but the Board is not the implementing agency for 40 CFR 503 regulations. The Discharger may have separate and/or additional compliance, reporting, and permitting responsibilities to the EPA.
57. The State Water Resources Control 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 wastewater treatment plant facilities are designed to drain all runoff to the plant headworks. Because there is no storm water discharge from the industrial portion of the facility, the Discharger is not required to obtain coverage under General Permit No. CAS000001.
58. On 17 January 2002, the County of Placer certified a final Mitigated Negative Declaration for the construction of the wastewater treatment plant and subsurface disposal fields for effluent disposal to replace a failed pond system and does not consider growth beyond the existing country club/golf course and residential development. Mitigation measures include a ground water monitoring well work plan to be submitted to the Regional Water Quality Control Board (RWQCB). Upon approval by the RWQCB of the work plan, the wells will be installed and the ground water analyzed. This data will be reported to the RWQCB prior to the setting of the tentative waste discharge requirements. The applicant will be required to adhere to the monitoring requirements (i.e., monthly reports, etc.) of the RWQCB.
59. Section 13267(b) of the California Water Code 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 discharging, or who proposes to discharge within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of discharging, or who proposes to discharge waste outside of its region that could affect the quality of the waters of the state within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports."
60. The California Department of Water Resources sets standards for the construction and destruction of groundwater wells (hereafter DWR Well Standards), 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 Discharger or county pursuant to CWC Section 13801, apply to all monitoring wells.
61. 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 wastewater treatment facility is exempt from Title 27, the data analysis methods of Title 27 are appropriate for determining whether the discharge complies with the terms for protection of groundwater specified in this Order.

62. 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 municipal wastewater treatment plant.
63. 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

64. The Board considered all the above and the supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, in establishing the following conditions of discharge.
65. The Board has notified the Discharger and interested agencies and persons 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.
66. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Order No. 96-271 is rescinded and that Auburn Valley Community Services District, Auburn Valley Country Club, and Harvego Real Estate, LLC. their 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. The discharge of wastes to surface waters or surface water drainage courses is prohibited.
2. The by-pass or overflow of wastes or partially treated wastes to surface waters or surface water drainage courses is prohibited.
3. The discharge of sewage from the sanitary sewer system at any point upstream of the WWTP is prohibited.

4. The acceptance of septage or any other waste for treatment not normally generated by the country club/golf course and residential subdivision described in the above Findings is prohibited.
5. The discharge of co-mingled wastewater and storm water runoff to surface waters or surface water drainage courses is prohibited.
6. The discharge of effluent at a location or in a manner different from that described in the above Findings is prohibited.
7. The discharge of wastewater directly to groundwater is prohibited.
8. The surfacing of wastewater from the subsurface disposal fields is prohibited.
9. The application of wastewater to the subsurface disposal fields at rates that would cause effluent resurfacing or create a nuisance as defined CWC 13050 is prohibited.
10. The use of the subsurface disposal fields for golf course play areas, roads, storage, parking, or for any kind of construction activity is prohibited.
11. The land spreading of biosolids, sludge, screenings, or other waste material is prohibited.
12. The discharge of waste classified as “hazardous” or “designated”, as defined in the California Code of Regulations (CCR), Title 27, is prohibited.

B. Discharge Specifications

1. The number of EDUs connected to the wastewater collection, treatment, and disposal system shall not exceed 170.
2. Neither the treatment nor the discharge shall cause a pollution or nuisance as defined by the California Water Code, Section 13050.
3. The discharge from the subsurface disposal fields shall remain underground at all times.
4. The discharge shall not cause concentrations of any materials that are deleterious to animal, aquatic, human or plant life in any surface water or drainage course outside of the designated disposal area.
5. The maximum average monthly flow to the collection, treatment, and disposal system shall not exceed 60,000 gpd.
6. The waste discharge shall remain in the subsurface disposal fields at all times.

7. Only restaurant, bar, and residential household domestic waste may be discharged to the WWTP. All other wastes shall be disposed off-site.
8. The Discharger shall comply with applicable regulation criteria set forth in Title 22, Division 4 Environmental Health, Section 60301 et seq., CCR.
9. Public contact with wastewater shall be precluded through subsurface disposal management practices.
10. Public access to the WWTP shall be controlled through maintenance building access security and signs with proper wording of sufficient size.
11. Objectionable odors originating from the collection, treatment, and disposal system shall not be perceivable beyond the limits of the wastewater treatment and disposal areas associated with these systems.
12. Treated wastewater applied to the subsurface application areas shall not exceed the following monthly average limits:

Constituent	Concentration
Biochemical Oxygen Demand	2 mg/l
Total Suspended Solids	2 mg/l
Turbidity	1.0 NTU
Total Nitrogen	5 mg/l
Total Coliform ^(see DS No. 13)	2.2 MPN/100 ml
Total Dissolved Solids	461 mg/l
pH (within the range)	6.5-8.5 units
Oil and Grease	30 mg/l

13. The concentration of total coliform bacteria in the effluent shall not exceed a median most probable number (MPN) of 2.2/100 ml utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria shall not exceed an MPN of 23 per 100 ml in more than one sample in any 30-day period.
14. All treatment, storage, and disposal facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
15. 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.

16. The Discharger shall provide and maintain a separation between the effluent disposal system and potable water pipelines of at least ten feet horizontally and 1 foot vertically. Any potable water supply pipeline shall be above any pipeline carrying wastewater.

C. General Solids Disposal Specifications

1. 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 screening material generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment by the WWTP.
2. Sludge and solid waste shall be removed from screens, sumps, ponds, clarifiers, etc. as needed to ensure optimal systems operation and disposed of off-site. The Discharge shall utilize a transportation agency licensed with the County of Placer. The Discharger shall educate residents on wastes that can be disposed to their system and maintain records on compliance.
3. Residual sludge 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 sites (i.e., landfill, Wastewater treatment Plant, composting site) operated in accordance with waste discharge requirements issued by a regional water quality control board will satisfy this specification.
4. Any proposed change in sludge use or disposal practice from a previously approved practice shall be reported to the Executive Officer at least 90 days in advance of the change.
5. Use and disposal of sewage sludge shall comply with existing Federal and State laws and regulations, including permitting requirements and technical standards included in 40 CFR 503.
6. If the State Water Resources Control Board and the Regional Water Quality Control Boards are given the authority to implement regulations contained in 40 CFR 503, this Order may be reopened to incorporate appropriate time schedules and technical standards. The Discharger must comply with the standards and time schedules contained in 40 CFR 503 whether or not they have been incorporated into this Order.

D. Groundwater Limitations

1. Release of waste constituents from any storage, treatment, or disposal component associated with the Community Collection, Community Disposal System, or individual on-site systems shall not cause groundwater under and beyond the storage or treatment component, as determined by an approved well monitoring network, to:
 - a. Contain any of the following constituents in concentration greater than as listed or greater than ambient background quality, whichever is greater:

<u>Constituent</u>	<u>Units</u>	<u>Limitation</u>
Boron	mg/l	0.6
Chloride	mg/l	106
Iron	mg/l	0.3
Manganese	mg/l	0.05
Sodium	mg/l	69
Total Coliform Organisms	MPN/ 100 ml	Nondetect
Total Dissolved Solids ¹	mg/l	450
Total Nitrogen	mg/l	10
Nitrite (as N)	mg/l	1
Nitrate (as N)	mg/l	10
Ammonia (as N)	mg/l	0.5
Chloroform	µg/l	1.1
Bromodichloromethane	µg/l	0.27
Dibromochloromethane	µg/l	0.37
Bromoform	µg/l	4.0

1. A cumulative impact limit that accounts for several dissolved constituents in addition to those listed here separately [e.g., alkalinity (carbonate and bicarbonate), calcium, hardness, phosphate, potassium, etc.]
 - b. Contain any constituent not identified in Groundwater Limitations D.1.a. in concentrations greater than background quality (whether chemical, physical, biological, bacteriological, radiological, or some other property or characteristic).
 - c. Exhibit a pH of less than 6.5 or greater than 8.5 pH Units.
 - d. Impart taste, odor, toxicity or color that creates nuisance or impairs any beneficial use.
2. If groundwater monitoring shows that waste constituents are present in concentrations greater than background, then upon request of the Executive Officer, the Discharger shall complete the report described in Provision E.5.

E. Provisions

All Discharger reports specified below shall be submitted pursuant to Section 13267 of the California Water Code. Technical reports submitted by or for the Discharger shall be prepared and wet stamped by the appropriate registered professional required by the California Business and Professions Code. The Discharger shall certify all reports required by this Order per the *Standard Provisions* General Reporting Requirements B.3.

1. By **30 August 2002**, 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 sanitary sewer 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 sanitary sewer system or sewer facilities) that materially affects the potential for sanitary sewer overflows, or whenever there is a sanitary sewer overflow. The Discharger shall ensure that the up-to-date SSS Plan is readily available to sewer system personnel at all times and that sewer system personnel are familiar with it.
 - a. At a minimum, the Operation and Maintenance portion of the plan shall contain or describe the following:
 - (1) Detailed maps of the sanitary sewer system, identifying sewer mains, manholes, and lift stations;
 - (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 and testing of all pipelines, lift stations, 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 old, worn out, or defective equipment;
 - (5) Provisions to minimize the need for manual operation of critical systems and provide spill alarms or other “fail safe” mechanisms;
 - (6) The ability to properly manage, operate and maintain, at all times, all parts of the collection system that the Discharger owns or over which the Discharger has operational control;
 - (7) The ability to provide adequate capacity to convey base flows and peak flows for all parts of the collection system the Discharger owns or over which the Discharger has operational control; and
 - (8) How the Discharger will take all feasible steps to stop and mitigate the impact of sanitary sewer overflows in portions of the collection system the Discharger owns or over which the Discharger has operational control.
 - b. At a minimum, the Overflow Prevention and Response 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. Maintenance activities may include pretreatment of wastewater from industrial dischargers who discharge high concentrations of oil and grease in their wastewater;

- (3) Procedures for responding to sanitary sewer overflows designed to minimize the volume of sewer overflow that enters surface waters, and minimize the adverse effects of sewer overflows on water quality and beneficial uses;
 - (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; and
 - (5) A public notification plan, in which any posting of areas contaminated with sewage, is performed at the direction of the Placer County Environmental Health Services Department. All parties with a reasonable potential for exposure to an overflow event shall be notified.
2. By **1 May 2002**, the Discharger shall submit a workplan, prepared by an appropriate registered professional required by the California Business and Professions Code, for characterization of groundwater quality within the Subdivision. The workplan shall describe the installation of additional wells to allow evaluation of the groundwater quality up gradient and down gradient of the subsurface disposal fields. 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, "*Items to be Included in a Monitoring Well Installation Workplan and a Monitoring Well Installation Report of Results.*"
3. By **31 December 2002**, the Discharger shall submit a groundwater well installation report prepared by an appropriate registered professional required by the California Business and Professions Code. The report shall be consistent with, and include the items listed in, the second section of Attachment C.
4. By **1 January 2004**, 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 the facility. Determination of background quality shall 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 (or more frequent) groundwater monitoring events. For each monitoring parameter/constituent, the report shall compare measured concentrations for compliance monitoring wells with: 1) the calculated background concentration, and 2) the interim numeric limitations set forth in Groundwater Limitation D.1.a. Where background concentrations are statistically greater than the interim limitations specified in Groundwater Limitation D.1.a, the report shall recommend final groundwater limitations for waste constituents listed therein. Subsequent use of a concentration as a final groundwater limitation will be subject to the discretion of the Executive Officer.
5. If groundwater monitoring results show that the discharge of waste from the Community Disposal System and/or the on-site systems are causing groundwater to contain waste constituents in concentrations statistically greater than background water quality, then within

- 120 days of the request of the Executive Officer**, the Discharger shall submit a report showing that degradation of the groundwater complies with SWRCB Resolution No. 68-16, i.e., that it is (a) in the best interest of the people of the state, (b) that best practical treatment and control measures have been implemented to reduce the amount of degradation, (c) that the groundwater degradation will not exceed applicable water quality objectives, and (d) that the degradation is confined within specified boundaries.
6. By **1 October 2003**, the Discharger shall submit a *BPTC Evaluation Workplan* that sets forth the scope and schedule for a systematic and comprehensive technical evaluation of each component of the facility's waste treatment and disposal system to determine best practicable treatment and control for each waste constituent listed in the Groundwater Limitation D.1.a of this Order. The workplan shall contain a preliminary evaluation of each component of the WWTF and effluent disposal system and propose a time schedule for completing the comprehensive technical evaluation. The schedule to complete the evaluation shall be as short as practicable, and shall not exceed one year.
 7. By **1 January 2005**, the Discharger shall submit a *BPTC Evaluation Report and Implementation Workplan*. The report shall include a comprehensive evaluation of the BPTC measures studied, a discussion of BPTC measures proposed for implementation (i.e., recommendations for WWTF modifications), estimated concentration or mass loading reductions for each BPTC measure, specific methods the Discharger proposes to monitor and assure continuous optimal performance of BPTC measures, the source of funding, and proposed schedule for modifications. The schedule for full implementation shall be as short as practicable, and in no case shall it exceed four years past the Executive Officer's approval of the workplan unless specifically approved by the Board. The component evaluation, recommended improvements, and implementation schedule are subject to the Executive Officer's approval.
 8. By **1 January 2008**, the Discharger shall submit a technical report that proposes specific numeric groundwater limitations that reflect full implementation of BPTC measures, and describe how these were determined considering actual data from compliance monitoring wells, impact reductions through full implementation of BPTC, reasonable growth, etc. The Discharger should submit results of a validated groundwater model to support its proposal. In addition, the technical report shall describe the overall status of compliance with implementation of BPTC measures and compliance with all groundwater limitations.
 9. Upon completion of tasks set forth in Provision E.2 through 8, the Board shall consider the evidence provided and make a determination regarding whether the Discharger has justified BPTC and the appropriate final numeric groundwater limitations that comply with Resolution 68-16.
 10. The Discharger shall comply with the Monitoring and Reporting Program No. R5-2002-0030, which is part of this Order, and any revisions thereto as ordered by the Executive Officer.

11. 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)."
12. The Discharger shall use the best practicable cost-effective control technique(s) including user education programs, proper operation, and required maintenance to comply with discharge limits specified in this order.
13. The Discharger shall provide at least Grade III certified wastewater treatment plant operators in accordance with Title 23 of the California Code of Regulations, Division 3, Chapter 26.
14. As described in the Standard Provisions, the Discharger shall report promptly to the Board any material change or proposed change in the character, location, or volume of the discharge.
15. 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:
 - a. Interception and rerouting of sewage flows around the sewage line failure;
 - b. Vacuum truck recovery of sanitary sewer overflows and wash down water;
 - c. 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
 - d. Cleanup of sewage-related debris at the overflow site.
16. The Discharger shall report to the 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."
17. The Discharger shall submit to the 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 Board in writing when it returns to compliance with the time schedule.
18. 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.

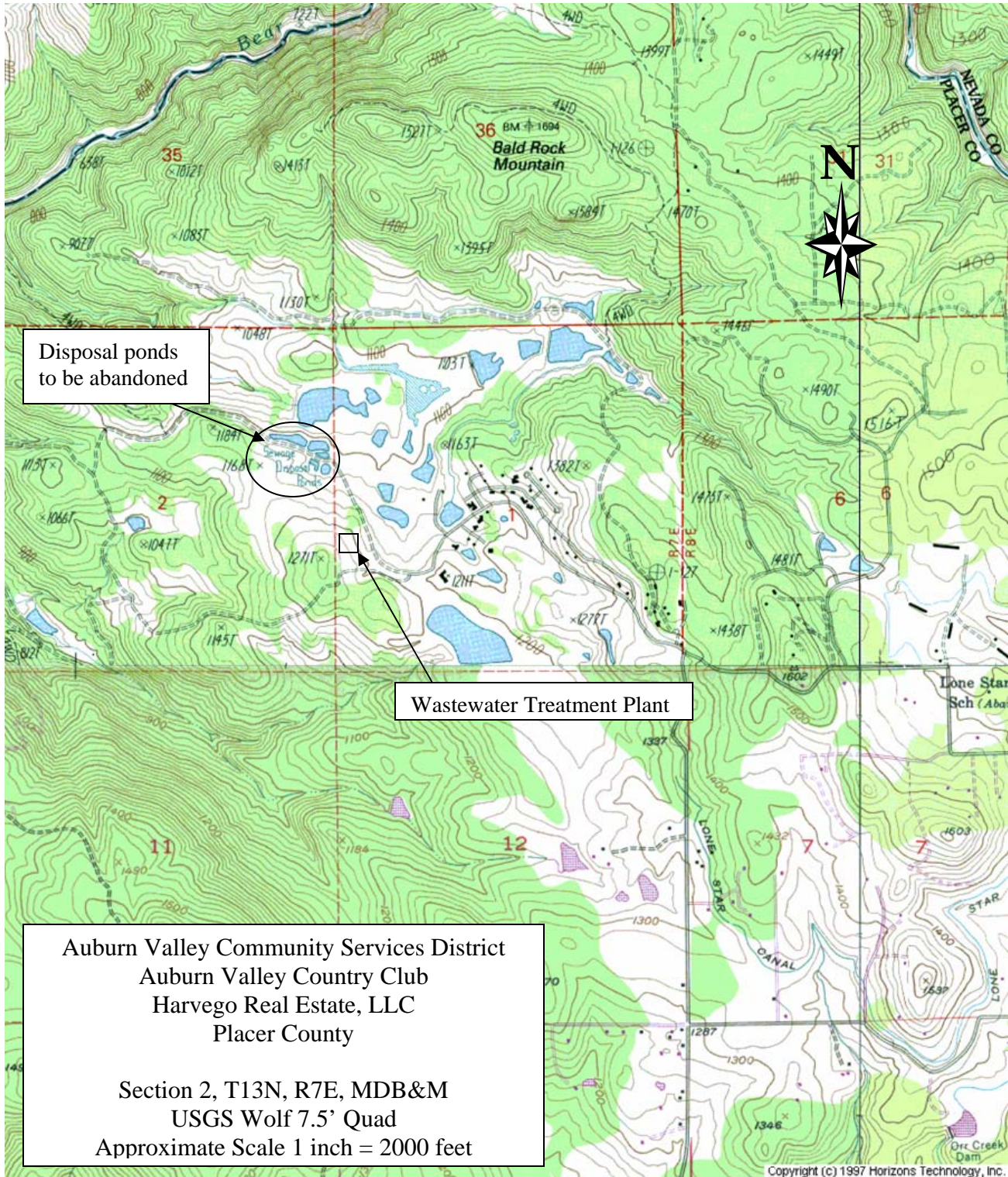
19. At least 90 days prior to termination or expiration of any lease, contract, or agreement involving any disposal areas, used to justify the capacity authorized herein and assure compliance with this Order, the Discharger shall notify the Board in writing of the situation and of what measures have been taken or are being taken to assure full compliance with this Order.
20. The Discharger must comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Violations may result in enforcement action, including Regional Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or recession of this Order.
21. 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.
22. The Board will review this Order periodically and will revise requirements when necessary.

I, GARY M. CARLTON, 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 1 March 2002.

GARY M. CARLTON, Executive Officer

03/01/02
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WASTE DISCHARGE REQUIREMENTS ORDER NO.
AUBURN VALLEY COMMUNITY SERVICES DISTRICT
AUBURN VALLEY COUNTRY CLUB
HARVEGO REAL ESTATE, LLC.
PLACER COUNTY



GWL
01/30/02

**Auburn Valley Community Services District
 Placer County
 Wastewater Effluent Water Balance**

4.743 acre Geoflow Subsurface Irrigation

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	PRECIPITATION	RAINFALL:- WITH 50% ABSORB	WASTEFLOW	PERCO LATION CAPACITY	ETO IRRIGATION	EFF. DISPOSAL (Application at 0.29gpd/Sf)	ACCUMULATED STORAGE					
MONTH	m. galls	inches	m. galls	inches	m. galls	inches	m. galls	inches	m. galls	m. galls	m. galls	gallons
October	4.11	0.5293	2.06	0.2647	14.44	1.8600	30.7	4.1631	3.4	0.4379	(2.48)	0
November	10.23	1.3175	5.12	0.6587	13.98	1.8000	29.7	4.0288	1.6	0.2061	(1.78)	0
December	9.73	1.2531	4.87	0.6265	14.44	1.8600	30.7	4.1631	1	0.1288	(1.81)	0
January	10.97	1.4128	5.49	0.7064	14.48	1.8600	30.7	4.1631	1.2	0.1545	(1.75)	0
February	9.04	1.1642	4.52	0.5821	13.08	1.8600	28.7	3.8945	1.6	0.2061	(1.84)	0
March	9.97	1.2840	4.99	0.6420	14.44	1.8600	30.7	4.1631	2.8	0.3606	(2.02)	0
April	4.74	0.6104	2.37	0.3052	13.98	1.8000	30.7	4.1631	4.4	0.5666	(2.62)	0
May	1.37	0.1764	0.69	0.0882	14.44	1.8600	30.7	4.1631	6.1	0.7856	(3.00)	0
June	0.49	0.0631	0.25	0.0316	13.98	1.8000	29.7	4.0288	7.4	0.9530	(3.15)	0
July	0.19	0.0245	0.10	0.0122	14.44	1.8600	30.7	4.1631	8.3	1.0689	(3.36)	0
August	0.31	0.0399	0.16	0.0200	14.44	1.8600	30.7	4.1631	7.3	0.9401	(3.22)	0
September	1.18	0.1520	0.59	0.0760	13.98	1.8000	29.7	4.0288	5.4	0.6954	(2.85)	0
Total	62.33	31.17			170.13		363.0		50.5			

(1) Precipitation from State Climatologist DWR Utilizing 100 Year Return Period (Station A70 D Auburn)

(4) Absorption based on SCS Technical Report where I=0.2S and S=(1000/CN) - 10 where CN = 80

(6) Wasteflow determined in Report text

(7) Percolation determined from field tests. Holdredge & Kull report dated June 2001

(9) Evaporation-Transpiration data from UC Davis- Table for Placer County

(11) "()" sign represents excess disposal capacity

(12) Positive value represents requirement for pond storage

**INFORMATION NEEDS FOR
MONITORING WELL INSTALLATION WORKPLAN AND RESULTS REPORT**

Prior to installation of groundwater monitoring wells, the Discharger shall submit a workplan containing the minimum listed information. Wells may be installed after staff approve the workplan. Upon installation of the monitoring wells, the Discharger shall submit a report of results, as described below. All workplans and reports must be prepared and signed by a California registered geologist, engineering geologist, or civil engineer.

Monitoring Well Installation Workplan

A. General Information:

- Monitoring well locations and rationale
- Survey details
- Equipment decontamination procedures
- Health and safety plan
- Topographic map showing any existing monitoring wells, proposed wells, waste handling facilities, utilities, and other major physical and man-made features.
- Characterize site geology and hydrology, and identify unconfined or confined aquifers

B. Drilling Details: describe drilling and logging methods

C. Monitoring Well Design:

- Casing diameter
- Borehole diameter
- Depth of surface seal
- Well construction materials
- Diagram of well construction
- Type of well cap
- Size of perforations and rationale
- Grain size of sand pack and rationale
- Thickness and position of bentonite seal and sand pack
- Depth of well, length and position of perforated interval

D. Well Development:

- Method of development to be used
- Method of determining when development is complete
- Method of development water disposal

E. Surveying Details: discuss how each well will be surveyed to a common reference point

F. Soil Sampling (if applicable):

- Cuttings disposal method
- Analyses to be run and methods
- Sample collection and preservation method
- Intervals at which soil samples are to be collected
- Number of soil samples to be analyzed and rationale
- Location of soil samples and rationale
- QA/QC procedures

G. Well Sampling:

- Minimum time after development before sampling (48 hours)
- Well purging method and amount of purge water
- Sample collection and preservation method
- QA/QC procedures

H. Water Level Measurement:

The elevation reference point at each monitoring well shall be within 0.01 foot. Ground surface elevation at each monitoring well shall be within 0.1 foot. Method and time of water level measurement shall be specified.

I. Proposed time schedule for work.

Monitoring Well Installation Report of Results

A. Well Construction:

- Number and depth of wells drilled
- Date(s) wells drilled
- Description of drilling and construction
- Approximate locations relative to facility site(s)
- A well construction diagram for each well must be included in the report, and should contain the following details:
 - Total depth drilled
 - Depth of open hole (same as total depth drilled if no caving occurs)
 - Footage of hole collapsed
 - Length of slotted casing installed
 - Depth of bottom of casing
 - Depth to top of sand pack
 - Thickness of sand pack
 - Depth to top of bentonite seal
 - Thickness of bentonite seal
 - Thickness of concrete grout
 - Boring diameter
 - Casing diameter

- Casing material
- Size of perforations
- Number of bags of sand
- Well elevation at top of casing
- Depth to ground water
- Date of water level measurement
- Monitoring well number
- Date drilled
- Location

B. Well Development:

- Date(s) of development of each well
- Method of development
- Volume of water purged from well
- How well development completion was determined
- Method of effluent disposal
- Field notes from well development should be included in report.

C. Well Surveying: provide reference elevations for each well and surveyor's notes

D. Water Sampling:

- Date(s) of sampling
- How well was purged
- How many well volumes purged
- Levels of temperature, EC, and pH at stabilization
- Sample collection, handling, and preservation methods
- Sample identification
- Analytical methods used
- Laboratory analytical data sheets
- Water level elevation(s)
- Groundwater contour map

E. Soil Sampling (if applicable):

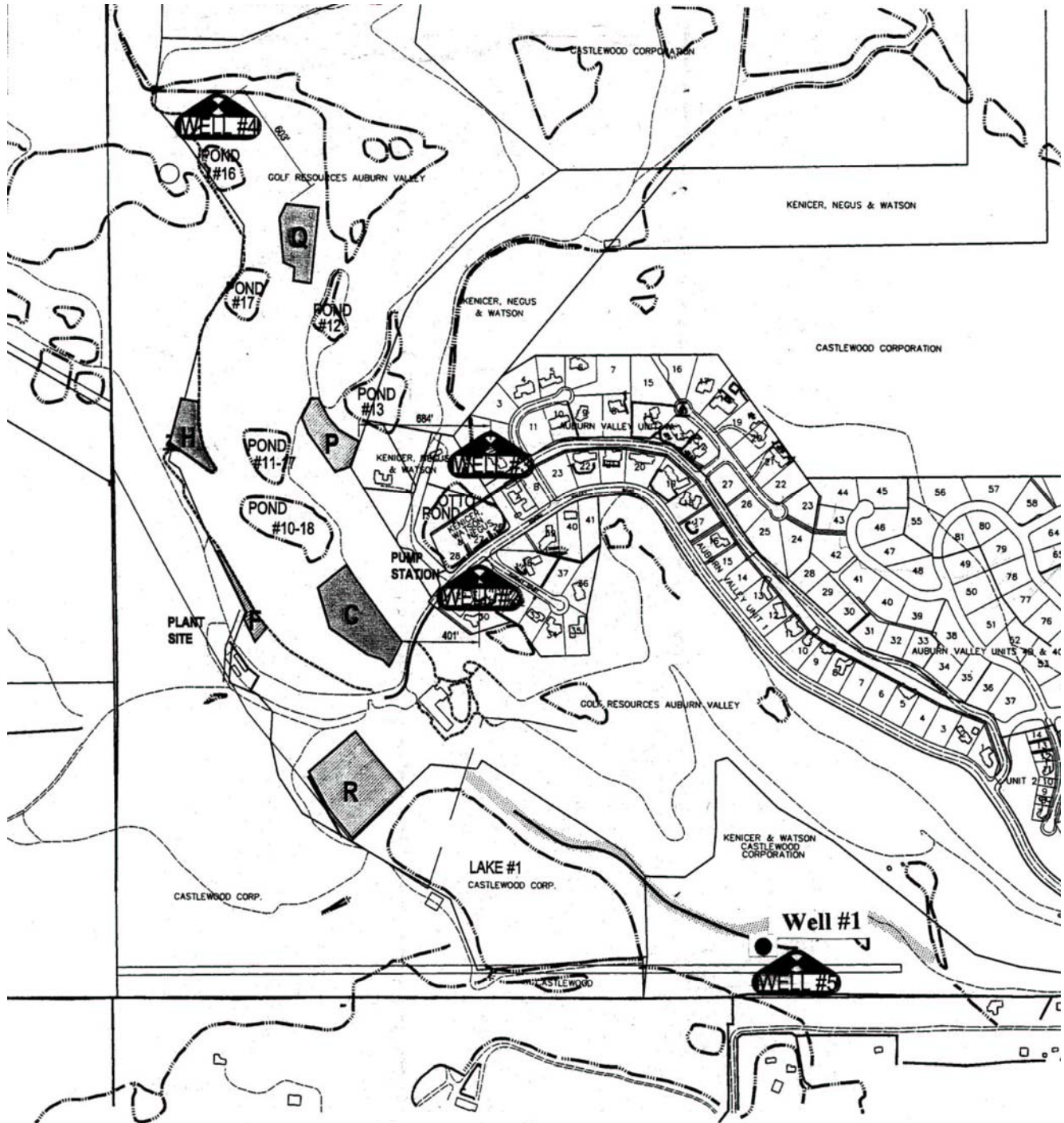
- Date(s) of sampling
- Sample collection, handling, and preservation method
- Sample identification
- Analytical methods used
- Laboratory analytical data sheets

03/01/02

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WASTE DISCHARGE REQUIREMENTS ORDER NO. R5-2002-0030
AUBURN VALLEY COMMUNITY SERVICES DISTRICT
AUBURN VALLEY COUNTRY CLUB
HARVEGO REAL ESTATE, LLC.
PLACER COUNTY

Attachment D



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2002-0030

AUBURN VALLEY COMMUNITY SERVICES DISTRICT
AUBURN VALLEY COUNTRY CLUB
HARVEGO REAL ESTATE, LLC.
PLACER COUNTY

This Monitoring and Reporting Program (MRP) incorporates requirements for monitoring of the influent, effluent, groundwater, and other aspects of the wastewater collection, treatment, and disposal systems and 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. Sample collection stations shall be established such that the samples collected are representative of the nature and volume of the material(s) sampled.

INFLUENT MONITORING

The Discharger shall monitor the Wastewater Treatment Plant influent for the following constituents according to the following schedule:

Constituents	Units	Sample Type	Sampling Frequency	Reporting Frequency
Flow	gpd	Continuous	Daily	Monthly
pH ¹	pH units	Grab	Monthly	Monthly
Electrical Conductivity ¹	μ mhos/cm	Grab	Monthly	Monthly
BOD ₅ ²	mg/l	Grab	Monthly	Monthly
Total Nitrogen	mg/l	Grab	Monthly ³	Monthly ³
Total Suspended Solids	mg/l	Grab	Monthly ³	Monthly ³
Oil and Grease	mg/l	Grab	Monthly ³	Monthly ³

¹ Hand held field meter may be used

² 5-day, 20°C Biochemical Oxygen Demand

³ Sampling and reporting frequency shall be reduced to quarterly after one full year of monthly monitoring.

EFFLUENT MONITORING

Effluent samples shall be collected downstream from the effluent pumping tank outfall to the land application areas. Effluent samples should be representative of the volume and quality of the discharge. Sample collection time and person's name collecting them shall be recorded. Effluent discharged to irrigated land application areas shall include at least the following:

Constituents	Units	Sample Type	Sampling Frequency	Reporting Frequency
Flow	gpd	Continuous	Daily	Monthly
pH ¹	pH units	Grab	Monthly	Monthly
BOD ₅ ²	mg/l	Grab	Monthly	Monthly
Total Nitrogen	mg/l	Grab	Monthly	Monthly
Total Suspended Solids	mg/l	Grab	Monthly	Monthly
Turbidity ¹	NTU	Grab	Monthly	Monthly
Total Dissolved Solids	mg/l	Grab	Monthly	Monthly
Electrical Conductivity ¹	µmhos/cm	Grab	Monthly	Monthly
Total Coliform	MPN/100 ml	Grab	Monthly	Monthly
Oil and Grease	mg/l	Grab	Monthly	Monthly

¹ Hand held field meter may be used

² 5-day, 20°C Biochemical Oxygen Demand

SUBSURFACE IRRIGATION DISPOSAL AREA MONITORING

Inspections of the subsurface irrigation disposal areas will be comprised of a physical evaluation of the disposal site area to determine whether waste is being contained beneath the ground surface. The ground in the immediate vicinity and surrounding the disposal site shall be inspected to determine the presence of effluent on the ground surface. The inspection report shall include any findings of springs, unusual ponding, or otherwise surfacing effluent, which would indicate a failure to the system.

A written report of the conditions observed in each area shall be prepared following each inspection. Such written description shall include name of the person making the entry, the condition of all the items listed in the above paragraphs, and shall identify any maintenance work necessary on the physical aspects of the system. And the following measurements shall be included with the above physical observation-monitoring program:

Constituent	Units	Type of Sample	Reporting Frequency
Soil water saturation	Percent of void space	Continuous	Monthly
Precipitation	Inches	Continuous	Monthly
Flow	gpd	Continuous	Monthly

COLLECTION SYSTEM AND TREATMENT PLANT MONITORING

An operator log shall be kept on-site for all operation and maintenance activities and be made available for review on request. Overflows from either system must be reported immediately in accordance with the *Standard Provisions*. Components of the collection system and treatment plant shall be monitored at a minimum for physical condition and operation as follows:

Component	Inspections per O & M Manual	Report Frequency
Collection Piping	Odors, Piping, Manholes, and Grease Traps	Quarterly
Lift Station	Odors, Grease, Water Level, and Debris	Quarterly
Force Main	Odors, Cracks, Leaks, and Abnormalities	Quarterly
Treatment Plant	Odors, Grease, Leaks, and Equip. Function	Quarterly
Alarm Systems	Alarm actuation and Auto Dialer function	Quarterly
Backup Power	Auto function, Operational test and visual fuel containment	Quarterly

SLUDGE MONITORING

The volume of sludge removed shall be reported annually. A composite sample of sludge shall be collected in accordance with EPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989, when removed from the digester and tested for the following metals on an annual basis:

Cadmium	Copper	Nickel	Mercury
Chromium	Lead	Zinc	Iron

Sampling records shall be retained for a minimum of five years. An entry in the operators log shall be kept of sludge quantities generated and of handling and disposal activities. The log shall be part of the annual report.

GROUNDWATER MONITORING

Samples shall be taken from Board approved groundwater-monitoring wells, according to Board approved sampling procedures (see Attachment B). Time of collection of a grab sample shall be recorded. The following shall constitute the groundwater-monitoring program:

Constituents	Units	Type of Sample	Sampling Frequency
Ground water elevation ¹	feet ± 0.1	Grab	Quarterly
20° C BOD ₅	mg/l	Grab	Quarterly
Temperature	Degrees °F	Grab	Quarterly
Total Coliform organisms	MPN/100 ml	Grab	Quarterly
pH	pH units	Grab	Quarterly
Total Dissolved Solids	mg/l	Grab	Quarterly
Electrical conductivity	µmhos/cm	Grab	Quarterly
Total Nitrogen	mg/l	Grab	Quarterly
Nitrate	mg/l as N	Grab	Quarterly
Nitrite	mg/l as N	Grab	Quarterly
Ammonia	mg/l as N	Grab	Quarterly
Total Alkalinity	mg/l	Grab	Quarterly
Total Hardness	mg/l	Grab	Quarterly
Chlorides	mg/l	Grab	Quarterly

Constituents	Units	Type of Sample	Sampling Frequency
Iron	mg/l	Grab	Quarterly
Boron	mg/l	Grab	Quarterly
Manganese	mg/l	Grab	Quarterly
Sodium	mg/l	Grab	Quarterly
Standard Minerals ²	mg/l	Grab	Annually

¹ The ground water elevation shall be used to calculate the direction and gradient of ground water flow, which must be reported in the Discharger Self Monitoring Report.

² Standard Minerals shall include, at a minimum, the following: Barium, Calcium, Magnesium, Potassium, Sulfate, and Total Alkalinity (include alkalinity series).

WATER SUPPLY MONITORING

A sampling station shall be established where a representative sample of the municipal water supply can be obtained. Water supply monitoring shall include at least the following:

Constituents	Units	Sampling Frequency
Electrical Conductivity ¹	µmhos/cm	Annually
pH	pH units	Annually
Standard Minerals	mg/l	Annually

REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., influent, effluent, 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 to the Regional Board.

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 by the registered professional.

Certification of the monitoring reports shall be as specified in General Reporting Requirements B.3. of the *STANDARD PROVISIONS AND REPORTING REQUIREMENTS FOR WASTE DISCHARGE REQUIREMENTS*, dated 1 March 1991, which is commonly referenced as the *Standard Provisions*.

Monthly Reports

Monthly Reports shall contain results from all monitoring conducted during the month and shall be submitted to the Regional Board by the first day of the second month following the month of sampling (i.e., the January monthly report is due by **1 March**). Monthly report for December may be submitted as part of the Annual Monitoring Report, if desired. The Monthly Report shall include the following:

1. All continuous, daily, weekly, and monthly monitoring conducted during the month.
2. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities. The narrative shall be sufficiently detailed to verify compliance with this Monitoring and Reporting Program (MRP), Waste Discharge Requirements (WDRs), and the *Standard Provisions*.
3. A comparison of monitoring data to the discharge specifications, groundwater limitations and surface water limitations, and explanation of any violation of those requirements.
4. A scaled map showing relevant structures and features of the facility.

Quarterly Reports

The Discharger shall establish a quarterly groundwater-sampling schedule such that samples are obtained approximately every three months. Quarterly Monitoring Reports for March, June, September, and December shall be submitted to the Regional Board by the **1st day of May, August, November, and February** each year. The Quarterly Report shall include the following:

1. All quarterly monitoring conducted during the quarter.
2. A narrative description of all preparations, monitoring, sampling, and analytical testing activities. The narrative shall be sufficiently detailed to verify compliance with the WDRs, this MRP, and the *Standard Provisions*. Field logs shall support the narrative for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of the casing volume; and total volume of water purged.
3. Calculation of groundwater elevations, an estimation of groundwater flow direction and hydraulic position with respect to domestic wells on the date of measurement, comparison to previous data, and discussion of seasonal trends, if any.
4. A narrative discussion of the analytical results for all media and locations monitored, including spatial and temporal trends, with reference to summary data tables, graphs, and appended analytical reports (as applicable).

5. A comparison of monitoring data to the discharge specifications, groundwater limitations and surface water limitations, and explanation of any violation of those requirements.
6. Summary data tables of historical and current monitor well 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.
8. Copies of laboratory analytical report(s).

Annual Monitoring Report

The December monthly report (**due by 1st day of February each year**) shall also serve as an Annual Monitoring Report. At a minimum, the Annual Monitoring Report shall include the following:

1. The contents of the December quarterly report and summarize all data collected during the year;
2. Tabular and graphical summaries of all well monitoring data obtained during previous years;
3. Information about disposal of screenings, sludges from domestic wastewater septic tanks, or other solids removed from liquid wastes that were disposed during the year such as volume, location, date, and transportation used;
4. A scaled Subdivision map showing each lot's status, location of the Community Collection System, lift stations, Community Disposal System, groundwater monitoring wells, and other relevant monitoring points, structures, and/or features of the wastewater collection, treatment, and disposal systems;
5. A narrative discussion of the analytical results for all media and locations monitored, including spatial and temporal trends, with reference to summary data tables, graphs, and appended analytical reports (as applicable);
6. A comparison of monitoring data to the discharge specifications, groundwater limitations and surface water limitations, and explanation of any violation of those requirements;
7. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system and/or reporting program;
8. The names, certificate grades, and general responsibilities of all persons employed by the Discharger;

9. The names and telephone numbers of persons to contact regarding the plant for emergency and routine situations;
10. A statement certifying when the flow meter and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration; and
11. A statement certifying whether the current operation and maintenance manual, and contingency plan, reflect the wastewater treatment and disposal facilities as currently constructed and operated, and the dates when these documents were last revised and last reviewed for adequacy.

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. Pursuant to Standard Provisions, General Reporting requirements B.3, the transmittal letter shall contain the following statement by the Discharger, or the Discharger's authorized agent:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of the those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations."

Based on results of the groundwater-monitoring program after a minimum of two years, the Discharger may request a reduction in the constituents monitored, sample frequency, and/or locations monitored. If such reductions are warranted, this MRP may be revised by the Executive Officer.

The Discharger shall implement the above monitoring program on the first day of the month following effective date of this Order.

Ordered by: _____
GARY M. CARLTON, Executive Officer

1 March 2002
(Date)

GWL
03/01/02

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INFORMATION SHEET

WASTE DISCHARGE REQUIREMENTS ORDER NO. R5-2002-0030
AUBURN VALLEY COMMUNITY SERVICES DISTRICT
AUBURN VALLEY COUNTRY CLUB
HARVEGO REAL ESTATE, LLC.
PLACER COUNTY

The Auburn Valley Country Club and residential subdivision are about 1¼ mile west of Grass Valley Highway (Highway 49) on Lone Star Lane. The residential subdivision originally had the build out capacity planned for 270 lots. The subdivision encompasses an area of approximately 1,000 acres. This Order allows for wastewater treatment capacity for only a portion of the build out capacity. A total of 170 Equivalent Dwelling Units (EDUs) are allowed and includes 22 EDUs allocated to the Auburn Valley Country Club.

The Auburn Valley Community Services District (AVCSD) was formed to provide wastewater treatment and disposal services for the Auburn Valley Country Club and the residential subdivision. Auburn Valley Community Services District has contracted services for the operation of the Wastewater Treatment Plant (WWTP). The WWTP is on property owned by Harvego Real Estate, LLC. Final wastewater disposal will take place within a subsurface disposal easement in designated “no play” areas of the golf course granted by the country club/golf course to the AVCSD.

The existing failed pond system will be abandoned and replaced with a tertiary level activated sludge system capable of 60,000 gallons per day domestic wastewater collection, treatment, and disposal. It employs a 24,000 gallon equalization aerated grit chamber with grinder, 40,000 gallon activated-sludge reactor, 16,000 gallon batch clarifier, 5,000 gallon disinfection ozone contact chamber, approximately 10 square feet of filter area, 9,000 gallon effluent pumping tank, and 16,000 gallon aerobic sludge digester. Final wastewater disposal will be accomplished with computer controlled pressure dosed drip emitters spaced one-foot apart and buried 6 to 8 inches under the ground surface within the golf course. All wastewater will remain subsurface and thereby excluded from public access.

Irrigation water applied to or rainwater which falls on the subsurface disposal fields will not contact any waste component and will either percolate or runoff. Six subsurface disposal fields have been identified; three for the primary disposal fields (4.743 acres) and three for 100 percent replacement disposal fields (4.741 acres). Application cycles are controlled by the plant computerized control system with feed back from moisture sensors as a check and balance system.

The collection system, treatment plant, and disposal system all have alarms with auto dialers to alert plant operators of detected problems.

This Order also requires groundwater monitoring and an evaluation of background water quality beneath the subdivision to determine compliance with State Water Resources Control Board (SWRCB) Resolution No. 68-16 or the “Antidegradation Policy”.

If groundwater monitoring results show that the discharge of waste from the Community Disposal System and/or the on-site systems are causing groundwater to contain waste constituents in concentrations statistically greater than background water quality, then within 120 days of the request of the Executive Officer, the Discharger shall submit a report showing that degradation of the groundwater complies with SWRCB Resolution No. 68-16, i.e., that it is (a) in the best interest of the people of the state, (b) that best practical treatment and control measures have been implemented to reduce the amount

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of degradation, (c) that the groundwater degradation will not exceed applicable water quality objectives, and (d) that the degradation is confined within specified boundaries.

Basin Plan, Beneficial Uses, and Regulatory Considerations

Surface water drainage from the subdivision is to the Bear River. The *Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Fourth Edition* (Basin Plan), designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin. Beneficial uses often determine the water quality objectives that apply to a water body. For example, waters designated as municipal and domestic supply must meet the maximum contaminant levels (MCLs) for drinking waters. The Basin Plan sets forth the applicable beneficial uses (industrial, agricultural, and domestic supply in this instance) of groundwater, procedure for application of water quality objectives, and the process for and factors to consider in allocating waste assimilation capacity.

Antidegradation

The antidegradation directives of section 13000 of the California Water Code (CWC) require that waters of the State that are better in quality than established water quality objectives be maintained “consistent with the maximum benefit to the people of the State.” Waters can be of high quality for some constituents or beneficial uses and not others. Policies and procedures for complying with this directive are set forth in the Basin Plan (including by reference State Water Board Resolution No. 68-16, “Statement of Policy With Respect to Maintaining High Quality Waters in California,” or “Antidegradation” Policy).

Resolution No. 68-16 is applied on a case-by-case, constituent-by-constituent basis in determining whether a certain degree of degradation can be justified. It is incumbent upon the Discharger to provide technical information for the Board to evaluate that fully characterizes:

- all waste constituents to be discharged, the background quality of the uppermost layer of the uppermost aquifer
- the background quality of other waters that may be affected
- the underlying hydrogeologic conditions
- waste treatment and control measures
- how treatment and control measures are justified as best practicable treatment and control
- the extent the discharge will impact the quality of each aquifer
- the expected degradation compared to water quality objectives

In allowing a discharge, the Board must comply with CWC section 13263 in setting appropriate conditions. The Board is required, relative to the groundwater that may be affected by the discharge, to implement the Basin Plan and consider the beneficial uses to be protected along with the water quality objectives essential for that purpose. The Board need not authorize the full utilization of the waste

assimilation capacity of the groundwater (CWC 13263(b)) and must consider other waste discharges and factors that affect that capacity. The applicable beneficial uses (industrial, agricultural, and domestic supply in this instance), procedure for application of water quality objectives, and the process for and factors to consider in allocating waste assimilation capacity are set forth in the Basin Plan.

This discharge has been occurring for years to a failed pond system. Previous conditions of discharge allowed no degradation. However, certain waste constituents in municipal wastewater are not fully amenable to waste treatment and control and it is reasonable to expect some impact on groundwater. Some degradation for certain constituents is consistent with maximum benefit to the people of California because the technology, energy, water recycling, and waste management advantages of municipal utility service to the State far outweigh the environmental impact damage of a community that would otherwise be reliant on numerous concentrated individual wastewater systems. Economic prosperity of valley communities is of maximum benefit to the people of California, and therefore sufficient reason to accommodate increases in wastewater discharge provided terms of reasonable degradation are defined and met. The proposed Order authorizes some degradation consistent with the maximum benefit to the people of the State.

Groundwater monitoring data at this site is incomplete to establish the most appropriate receiving water limits. In addition certain aspects of waste treatment and control practices may not be justified as representative of BPTC. Reasonable time is necessary to gather specific information about the facility and the site to make informed, appropriate, long-term decisions. This Order, therefore, establishes interim receiving water limitations to assure protection of the beneficial uses of waters of the State pending the completion of certain tasks and provides time schedules to complete specified tasks. The tasks provide that the Discharger is expected to identify, implement, and adhere to best practicable treatment and control as individual practices are reviewed and upgraded in this process. During this period, degradation may occur from certain constituents, but by the interim conditions can never exceed water quality objectives (or ambient background water quality should it exceed objectives) or cause nuisance.

Water quality objectives define the least stringent limits that apply as water quality limitations for groundwater at this location. The exception is when ambient background water quality is unaffected by the discharge of waste and already exceeds the objective. The values below reflect water quality objectives that must be met to maintain specific beneficial uses of groundwater. Unless natural background for a constituent proves higher, the interim groundwater quality limit established in proposed WDR is the most stringent of the values listed for the following constituents.

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<u>Constituent</u>	<u>Units</u>	<u>Value</u>	<u>Beneficial Use</u>	<u>Criteria or Justification</u>
Ammonia	mg/L	0.5	MUN ¹	Taste and Odor ²
Boron	mg/L	0.5	AGR ³	Class I irrigation water (Basin Plan)
		0.63	MUN ¹	Narrative Toxicity Criteria ⁸
		0.7	AGR ³	Boron sensitivity on certain crops ⁴
		2	AGR ³	Class II irrigation water (Basin Plan)
Chloride	mg/L	106	AGR ³	Chloride sensitivity on certain crops irrigated via sprinklers ⁴
		142	AGR ³	Chloride sensitivity on certain crops ⁴
		175	AGR ³	Class I irrigation water (Basin Plan)
		250	MUN ¹	Recommended Secondary MCL ⁵
		350	AGR ³	Class II irrigation water (Basin Plan)
		500	MUN ¹	Upper Secondary MCL ⁵
Conductivity (EC)	µmhos/cm	750	AGR ³	Salt sensitivity ⁴
		900	MUN ¹	Recommended Secondary MCL ⁵
		1,000	AGR ³	Class I irrigation water (Basin Plan)
		1,600	MUN ¹	Upper Secondary MCL ⁵
		3,000	AGR ³	Class II irrigation water (Basin Plan)
Iron	mg/L	0.3	MUN ¹	Secondary MCL ⁶
Manganese	mg/L	0.05	MUN ¹	Secondary MCL ⁶
Nitrate as N	mg/L	10	MUN ¹	Primary MCL ⁷
Nitrite as N	mg/L	1	MUN ¹	Primary MCL ⁷
pH	pH Units	6.5 to	MUN	Secondary MCL ⁸
		8.5		
Sodium	mg/L	69	AGR ³	Sodium sensitivity on certain crops irrigated via sprinklers ⁴
		207	AGR ³	Sodium sensitivity on certain crops ⁴
Total Coliform Organisms	MPN / 100 mL	2.2	MUN ¹	Basin Plan
Total Dissolved Solids	mg/L	450	AGR ³	Salt sensitivity ⁴
		500	MUN ¹	Recommended Secondary MCL ⁵
		700	AGR ³	Class I irrigation water (Basin Plan)
		1,000	MUN ¹	Recommended Upper MCL ⁵
		2,000	AGR ³	Class II irrigation water (Basin Plan)
Total Trihalomethanes	µg/L	80	MUN	MCL ⁹

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<u>Constituent</u>	<u>Units</u>	<u>Value</u>	<u>Beneficial Use</u>	<u>Criteria or Justification</u>
Chloroform	µg/L	1.1	MUN ¹	Narrative Toxicity Criteria ¹⁰
Bromodichloromethane	µg/L	0.27	MUN ¹	Narrative Toxicity Criteria ¹⁰
Dibromochloromethane	µg/L	0.37	MUN ¹	Narrative Toxicity Criteria ¹⁰
Bromoform	µg/L	4.0	MUN ¹	Narrative Toxicity Criteria ⁸

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- ¹ Municipal and domestic supply
² Council of the European Union, On the Quality of Water Intended for Human Consumption, Council Directive 98/83/EC (3 November 1998).
³ Agricultural supply
⁴ Ayers, R. S. and D. W. Westcot, Water Quality for Agriculture, Food and Agriculture Organization of the United Nations – Irrigation and Drainage Paper No. 29, Rev. 1, Rome (1985)
⁵ Title 22, California Code of Regulations (CCR), section 64449, Table 64449-B
⁶ Title 22, CCR, section 64449, Table 64449-A
⁷ Title 22, CCR, section 64431, Table 64431-A
⁸ United States Environmental Protection Agency
⁹ Title 22, CCR, section 64439
¹⁰ California Environmental Protection Agency, Office of Environmental Health Hazard Assessment Cancer Potency Factor as a Drinking Water Level, *California Environmental Protection Agency Toxicity Criteria Database*

Municipal wastewater contains numerous dissolved inorganic waste constituents (i.e., salts, minerals) that together comprise total dissolved solids (TDS). The concentration of each component constituent of TDS is not necessarily critical to a beneficial use. Specific constituents that are critical are individually listed. The cumulative impact from these other constituents, along with the cumulative affect of the constituents that are individually listed can be effectively controlled using TDS as a generic indicator parameter. Most dissolved inorganic substances in water are in the ionized form and so contribute to a solution’s ability to conduct electricity, or its “electrical conductivity” (EC). EC varies both with the number and type of ions the solution contains and is strongly temperature dependent. It is standard practice to report a solution’s EC at 25° Celsius (this value is technically called “specific conductance”). Un-ionized species of weak acids or bases and uncharged soluble organic materials, such as ethyl alcohol and glucose, are poor conductors of electricity even though these constituents comprise a portion of TDS contributing to a solution’s EC. Although EC is affected by the nature of the various ions, their relative concentrations, and ionic strength of the water, EC measurements can provide a quick and inexpensive practical estimate of a solution’s dissolved mineral content once the relationship is established for the solution. An empirical factor representing the relationship may be developed from simultaneous sampling and measurements of TDS and EC.

Treatment Technology and Control

Given the volume and character of municipal wastewater, primary in some cases and in others secondary treatment technology is generally sufficient to control degradation of groundwater from decomposable organic constituents. The Discharger has added disinfection to the treatment train and such will

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significantly reduce populations of pathogenic organisms, and along with reasonable soil infiltration rates and unsaturated soils they can be reduced further. Total coliform organisms, the indicator parameter for pathogenic organisms, should not be found in groundwater in a well-designed, well-operated facility. The groundwater limit for this constituent is nondetect, which is less than the water quality objective.

Chlorine disinfection of effluent causes formation of trihalomethanes, which are toxic priority pollutants. Treatment to reduce these in wastewater generally has not been performed, and little is known at this point on the typical impact on groundwater. The limitation is based on the water quality objective for human consumption. At this time Ozone treatment is used to accomplish disinfection and therefore these are not applicable.

Municipal wastewater typically contains nitrogen in concentrations greater than water quality objectives, which vary according to the form of nitrogen. Degradation by nitrogen can be controlled by an appropriate secondary treatment system (e.g., oxidation ditch), tertiary treatment for nitrogen reduction, and agronomic reuse on harvested crops. The effectiveness varies, but generally best practicable treatment and control should be able to control nitrogen degradation at a concentration well below the water quality objectives. The limitation reflects water quality objectives.

Waste constituents that are forms of salinity pass through the treatment process and soil profile and effective control of long-term effects relies upon effective source control and pretreatment measures. In the best of circumstances, long-term land discharge of treated municipal wastewater will degrade groundwater with salt (as measured by TDS and EC) and the individual components of salts (e.g., sodium, chloride). Not all TDS constituents pass through the treatment process and soil profile in the same manner or rate. Chloride tends to pass through both rapidly to groundwater. As chloride concentrations in most groundwaters in the region are much lower than in treated municipal wastewater, chloride is a useful indicator parameter for evaluating the extent to which effluent reaches groundwater. This Order sets water quality objectives for the interim while site-specific, constituent-specific limits are developed in conjunction with a BPTC evaluation of source control and pretreatment. Subsequent Orders will likely contain effluent limits for salt components that, if met, assure groundwater quality will be controlled to an acceptable level.

Boron is another TDS constituent that may occur in wastewater in concentrations greater than groundwater depending on the source water, to the extent residents use cleaning products containing boron, and whether any industrial dischargers utilize boron (e.g., glass production, cosmetics). Because various crops are sensitive to boron, it has an individual limit intended to protect agricultural use.

Still other constituents in treated municipal waste that may pass through the treatment process and the soil profile include recalcitrant organic compounds (e.g., ethylene glycol, or antifreeze), radionuclides, and pharmaceuticals. Hazardous compounds are not usually associated with domestic wastes and when present are reduced in the discharge to inconsequential concentrations through dilution with domestic waste, treatment, and the implementation of effective pretreatment programs. Since it is inappropriate to allow degradation of groundwater with such constituents, the limitations are set to nondetect.

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A discharge of wastewater that overloads soils with nutrients and organics can result in anaerobic conditions in the soil profile, which in turn creates organic acids and decreases soil pH. Under conditions of low soil pH (i.e., below 5), iron and manganese compounds in the soil can solubilize and leach into groundwater. Discharge of residual sludge to land may also lead to increases in groundwater alkalinity and hardness to concentrations that impair the water's beneficial uses and contribute to an overall increase in TDS. Overloading is preventable and does not constitute BPTC as used in Resolution 68-16. Dissolved iron and manganese, along with elevated alkalinity, hardness, and nitrogen concentrations, are useful indicators to determine whether components of the WWTP with high-strength waste constituents, such as sludge handling facilities, are effectively containing waste. Iron and manganese increases and changes in pH in groundwater are avoidable and limitations should reflect background. However, during this interim investigative period, interim limits are set at the water quality objective for iron, manganese, and pH.

Title 27

Title 27, CCR, section 20380 et seq. ("Title 27"), contains regulations to address certain discharges to land. Title 27 establishes a waste classification system, specifies siting and construction standards for containment of classified waste, requires extensive monitoring of groundwater and the unsaturated zone for any indication of failure of containment, and specifies closure and post-closure maintenance requirements. Generally, no degradation of groundwater quality by any waste constituent is acceptable.

Discharges of domestic sewage and treated effluent can be treated and controlled to a degree that will not result in unreasonable degradation of groundwater. For this reason, they have been conditionally exempted from Title 27, except for residual sludge and solid waste generated as part of the treatment process [section 20090(a) of Title 27]. The condition requires that the discharge not result in violation of any water quality objective in groundwater.

Treatment and storage facilities for sludge that are part of the WWTP are considered exempt from Title 27 under section 20090(a), under the condition that the facilities not result in a violation of any water quality objective. However, residual sludge (for the purposes of the Order, sludge that will not be subjected to further treatment by the WWTP) is not exempt from Title 27. Solid waste (e.g., grit and screenings) that results from treatment of domestic sewage and industrial waste also is not exempt from Title 27. This residual sludge and solid waste are subject to the provisions of Title 27. However this facility will not dispose on-site any of these at this time.

Accordingly, the municipal discharge of effluent and the operation of treatment or storage facilities associated with a municipal wastewater treatment plant can be allowed without requiring compliance with Title 27, but only if resulting degradation of groundwater is in accordance with the Basin Plan. This means, among other things, degradation of groundwater must be consistent with Resolution No. 68-16 and in no case greater than water quality objectives. The conditions for sludge, solid waste, and biosolids management must be evaluated along with other aspects of BPTC.

TERMS AND CONDITIONS

Discharge Prohibitions, Specifications and Provisions

This Order establishes the need to monitor groundwater and the submittal of a complete technical report to evaluate the subdivision's water quality impacts. This Order's discharge performance specifications for BOD₅, TSS, and Oil and Grease are based on the treatment technologies employed. This Order does require the Discharger to disinfect the effluent. Storm water is allowed to runoff the subdivision and the subsurface disposal fields under the general storm water permit. The discharge specifications regarding effluent resurfacing are consistent with Board policy for the prevention of health, pollution, or nuisance conditions, and are applied to all such facilities.

In order to protect public health and safety, this Order requires the Discharger to comply with many of the provisions of Title 22 and to implement best management practices with respect to effluent disposal (e.g., to dispose of effluent at reasonable rates considering soil conditions, climate, and subsurface irrigation management).

Monitoring Requirements

Section 13267 of the CWC authorizes the Board to require monitoring and technical reports as necessary to investigate the impact of a waste discharge on waters of the state. In recent years there has been increased emphasis on obtaining all necessary information, assuring the information is timely as well as representative and accurate, and thereby improving accountability of any discharger for meeting the conditions of discharge. Section 13268 of the CWC authorizes assessment civil administrative liability for failure to furnish technical or monitoring program reports, a statement of compliance, or falsifying any information provided therein.

This Order increases the previous Order's influent and effluent monitoring requirements, and includes flow rates, subsurface disposal fields, and groundwater monitoring requirements. In order to adequately characterize its wastewater effluent, the Discharger is required to monitor for flow, pH, Electrical Conductivity, BOD, nitrates, and oil and grease. To ensure that the subsurface irrigation disposal system does not create nuisance conditions, the Discharger is required to monitor the effluent, systems' physical condition, and perform maintenance as required.

The Title 27 zero leakage protection strategy relies heavily on extensive groundwater and unsaturated zone monitoring to increase the Discharger's awareness of, and accountability for, compliance with the prescriptive and performance standards. With a high volume, concentrated, uncontained discharge to land, monitoring takes on even greater importance. This Order includes monitoring of applied wastewater quality, application rates, and groundwater.

Title 27 regulations pertaining to groundwater monitoring and the detection and characterization of waste constituents in groundwater have been in effect and successfully implemented for many years. No regulation currently specifies similar criteria more suitable for a situation where extensive infiltration into groundwater occurs. When such infiltration occurs, it is appropriate that the Title 27 groundwater monitoring procedures be extended and applied on a case-by-case basis under Water Code section 13267.

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This Order requires installation of an effective groundwater-monitoring network that includes monitoring points represented by wells forming a vertical line that extends from the soil surface into the uppermost layer of water in the uppermost aquifer. One or more wells will monitor the quality of groundwater unaffected by the discharge and serve as 'background.' Other monitoring wells will be for determining compliance with Groundwater Limitations D.1 and D.2.

The Discharger must monitor groundwater for constituents present in the discharge and capable of reaching groundwater and violating groundwater limitations. To determine if the treatment and control, and any dependency of the treatment process on sustained environmental attenuation or treatment, proves to be inadequate. As some groundwater limitations are based on background water quality, it is essential that the discharger install wells in a location that can provide groundwater quality representative of the discharge area but unaffected by both the discharge and other waste sources. This Order requires the Discharger to install sufficient well(s) to characterize receiving groundwater and background water quality with quarterly groundwater sampling events. For each constituent where no increase in concentration is authorized over background, the Discharger must, as part of each monitoring event, compare concentrations of constituents found in each monitoring well to the background concentration to determine compliance.

Reopener

The conditions of discharge in this Order were developed based on currently available technical information and applicable water quality laws, regulations, policies, and plans, and are intended to assure conformance with them. However, information is presently insufficient to develop final effluent and groundwater limitations, so this Order contains interim limitations. Additional information must be developed and documented by the Discharger as required by schedules set forth in this Order. As this additional information is obtained, decisions will be made concerning the best means of assuring the highest water quality possible may involve substantial cost. It may be appropriate to reopen the Order if applicable laws and regulations change, but the mere possibility that such laws and regulations may change is not sufficient basis for reopening the Order. The CWC requires that waste discharge requirements implement all applicable requirements.

Several other more likely reasons for reconsidering terms of the Order exist, and the Order may be opened for this purpose at the Board's discretion. For example, Board procedures require periodic review of the effectiveness of requirements at a frequency proportional to the threat the discharge has to water quality with update as appropriate. The Order will definitely be reopened for consideration of BPTC and establishing final numeric groundwater limitations. It is also conceivable that monitoring of compliance may identify a waste constituent, possibly a toxic waste constituent, that violates or threatens to violate groundwater limitations, establishing a need to consider an appropriate numeric effluent limit for that waste constituent.

Surface water drainage is to the Bear River, tributary to the Feather River, tributary to the Sacramento River.

GWL

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