

**STATE OF CALIFORNIA  
REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL COAST REGION**

**STAFF REPORT FOR REGULAR MEETING OF FEBRUARY 7-8, 2008**  
Prepared September 12, 2007

**ITEM NUMBER: 14**

**SUBJECT: Order No. R3-2008-0018; General Waste Discharge Requirements for Discharges of Winery Waste and Categorical Waiver of Waste Discharge Requirements for Certain Small Wineries**

**KEY INFORMATION**

Location: Throughout the Central Coast Region  
Discharger: Winemaking and bottling facilities that discharge winery process water  
Discharge Type: Liquid and solid winery process waste  
Treatment: Various  
Disposal: Discharge to surface water is prohibited.  
Existing Order: WDR Order No. R3-2002-0084  
**This Action: Reissue General Winery Waste Discharge Requirements.**

**SUMMARY**

About five years ago, the Water Board adopted Order No. R3-2002-0084; *General Waste Discharge Requirements for Discharges of Winery Waste* (hereafter "General Winery WDRs"). The General Winery WDRs prescribed requirements for winery discharges and also waived waste discharge requirements for qualifying small wineries. Since then, staff regulated approximately 200 wineries using the General Winery WDRs, via enrollment in either the waiver or waste discharge requirements. The Water Board is required to review waivers every five years. To effectively address the waiver as it expires, Water Board staff proposes to revise the General Winery WDRs. The revision includes some changes to the General Winery WDRs and to the Notice of Intent (NOI) to Comply Form. Monitoring and Reporting Program (MRP) No. R3-2002-0084 remains substantially unchanged from the existing version.

**DISCUSSION**

Prior to November 2002, the Water Board did not regulate most of the wineries in the central coast region. Water Board staff learned that local agencies were not referring new winery projects to the Water Board unless those winery projects exceeded a discharge flow of 2,500 gallons per day. Such a protocol is in place for domestic, sanitary, on-site systems, but local agencies assumed the approach applied to all discharges. Winery waste streams significantly differ from domestic, sanitary waste streams. Winery wastewater flows are abundant during the "crush" season, and then subside significantly. Domestic, sanitary wastewater flows are relatively consistent and less subject to slug loading. Winery wastewater typically has a much higher organic strength than Domestic, sanitary wastewater. Winery wastewater's pH can fluctuate greatly. The criteria used to regulate domestic, sanitary wastewater cannot be directly applied to winery wastewater. So, in November 2002, the

Water Board adopted Order No. R3-2002-0084; *General Waste Discharge Requirements for Discharges of Winery Waste* (hereafter "General Winery WDRs").

The General Winery WDRs prescribes requirements for winery discharges and contains typical requirements found in many WDRs. In addition to those requirements, the General Winery WDRs:

1. Allows waste discharge requirements to be waived for qualifying small wineries.
2. Prohibit the discharge of winery wastewater to subsurface treatment and disposal systems, unless specifically allowed in writing by the Executive Officer.
3. Prohibits the on-site discharge of water softening brine, unless specifically allowed in writing by the Executive Officer.
4. Provides guidelines for design and pollutant source controls.
5. Specifies design and operational parameters.
6. Requires enrollees to monitor an report on their discharge.

Since the General Winery WDRs were adopted, local agencies routinely refer winery projects to Water Board staff, then require some form of proof that the Water Board "signed off" on the winery discharge. The proof typically takes the form of an enrollment or waiver letter. That process has dramatically reduced the number of non-filers. If there are non-filers, they pre-dated the general winery WDRs. In December 2006, staff compiled a list of potential wineries, then surveyed those potential wineries to determine if they are actually a winery. Some were only tasting rooms and do no processing. Some are only bottling facilities. Some are custom crush facilities that process wine for other entities. Some were small wineries and submitted an NOI.

The central coast's wine industry experienced a boom, especially in the Paso Robles area. Many small wineries flourished. Region-wide, there are now 54 wineries enrolled under the General Winery WDRs, and another 145 small wineries that received a waiver of waste discharge requirements. Some have since failed, some changed names, and some changed hands. The General Winery WDRs include provisions that require wineries to keep the Water Board apprised of such changes. Unfortunately, winery owners often forget to follow through. Keeping up with those changes can be difficult for staff.

The General Winery WDRs have allowed staff to regulate many more wineries. For the most part, this update keeps the General Winery WDRs intact. However some changes are proposed. Staff recommends the following changes to the General Winery WDRs:

#### **Small Winery Waiver**

Application Process – The 2002 General Winery WDRs allowed small wineries to telephone Water Board staff to explain their winery process water treatment systems in place of submitting an NOI. The revised General Winery WDRs would require all wineries, including small wineries, to submit an NOI. Receipt of written applications is important for record keeping and will help streamline the winery enrollment review process.

Qualification– Staff modified the description of a small winery, as follows:

Leachfield/Groundwater Separation – Groundwater depth must be greater than 50 feet (previously 100 feet) at disposal areas or greater than 8 feet (previously 20 feet) at re-use

areas. Such separation requirements better conform to the most conservative separation requirements for sanitary leachfields that are established in section VIII.D.3 of the Basin Plan. The Basin Plan's separation distances allow soils to filter and oxidize pathogens and organic matter before percolated water reaches groundwater. Winery wastewater typically contains no pathogens, but may contain organic matter from the grape crushing process. Winery wastewater is typically a lower threat to water quality than domestic wastewater. Therefore, aligning the winery leachfield/groundwater separation to mirror the most conservative domestic wastewater requirement should not allow degradation of receiving water quality. Reducing leachfield/groundwater separation when recycling winery wastewater will also not degrade receiving water quality. The organic loading rate specified in the General Winery WDRs ensures winery wastewater is applied to land at an agronomic rate, such that the organic material will degrade before the winery wastewater reaches groundwater.

Winery Size – During the first five years of the General Winery WDRs, Water Board staff determined that several medium-sized wineries should be eligible for the waiver because they had relatively low flow rates and fairly simple wastewater treatment systems. However, the General Winery WDRs did not allow enrollment of these facilities under the waiver. Therefore, staff enrolled those discharges under the General Waiver, Resolution No. R3-2002-0115. Unlike the Small Winery Waiver, the General Waiver does not hold wineries accountable to the specifications outlined in the General Winery WDRs. Water Board staff believes issuing Small Winery Waivers to qualifying wineries producing less than 10,000 cases of wine annually is the most appropriate way for all wineries to be held accountable to the specifications of the General Winery WDRs. Consequently, Water Board staff proposes to double the size of wineries that can qualify as a small winery, as follows;

- crushing less than or equal to 160 tons (previously 80 tons) of grapes annually, or
- producing less than or equal to 10,000 cases (previously 5,000 cases) or
- producing less than or equal to 26,000 gallons (previously 13,000 gallons) of pressed wine annually

#### **Prohibitions**

The updated General Winery WDRs propose to prohibit, unless specifically allowed in writing by the Executive Officer:

1. The discharge of winery wastewater to subsurface treatment and disposal systems.
2. The on-site discharge of water softening brine.

#### **Design Specifications and Recommendations**

Constructed Wetlands – Constructed wetlands are widely used in the winery wastewater treatment industry and therefore should be addressed in the General Winery WDRs. Wetlands may fail if not closely monitored during initial years of use. The revised General Winery WDRs provide recommendations and specifications to prevent wetland failure.

Composting Solids – Composting is a common method for disposing of the solids removed during the winery wastewater treatment process. As opposed to hauling solids from the site, Water Board staff typically recommends wineries compost solids at their sites and use the organic-rich material as a vineyard soil enhancement. Even though we suggest wineries compost at their sites, this activity

has the potential to impact surface water bodies. The revised General Winery WDRs specifies that runoff and leachate from composting piles shall not be allowed to enter any surface water bodies.

#### Leachfields

One common method of wastewater disposal is via subsurface application. Typically, wastewater enters a leachfield, where it passes through native soils and undergoes treatment. When that wastewater contains organic material, a soil bacteria population thrives and grows at the trenches' infiltrative surfaces. The resultant bacterial population is commonly referred to as a "clogging mat" because it inhibits the passage of water into the soil. The clogging mat's size and vitality is dependent on its environment, and supply of food, water and oxygen. A typical clogging mat will reach equilibrium when loading is consistent, such as occurs during normal domestic, sanitary conditions of diurnal (morning and evening) peak flows. The application of organic-laden wastewater to leachfields must occur at a rate that allows the leachfield to treat and percolate wastewater without failing. Accordingly, our Basin Plan contains maximum domestic, sanitary wastewater (hereafter, "sanitary wastewater") application rates.

If a winery chooses to dispose of winery process wastewater (hereafter, "winery wastewater") to a leachfield, that leachfield must be designed to effectively accommodate the winery's wastewater, which differs, in flow and quality, from sanitary wastewater. The following describes staff's development of winery wastewater application rates to leachfields.

Staff's development of winery wastewater application rates to leachfields is based on the Basin Plan's sanitary wastewater application rates. As stated earlier, our Basin Plan contains maximum sanitary wastewater application rates for leachfields. Although those rates are listed as volumetric rates, the rates account for both organic and hydraulic loading (as evidenced by the staff report supporting the Basin Plan's sanitary wastewater application rates). That is because leachfields can accept a limited amount of water and a limited amount of organic matter, whether it is from sanitary wastewater or from winery wastewater. Since winery wastewater typically contains more organic material than sanitary wastewater, organic overloading is a concern when applying winery wastewater to a leachfield. Winery wastewater should be applied at a rate that does not exceed the Basin Plan's inferred organic loading rates.

Many references suggest that typical sanitary wastewater contains 300 milligrams per liter of biochemical oxygen demand (or "BOD," which is a measure of a waste stream's organic strength). Consequently, staff assumes that the Basin Plan's typical sanitary wastewater stream contains 300 milligrams per liter of BOD. Using that concentration, each of the Basin Plan's volumetric loading rates for sanitary wastewater can be converted to an organic mass loading rate. Once an organic mass loading rate is determined, one could estimate the volume of winery wastewater that contains an equivalent mass, using assumptions about winery wastewater concentrations.

The existing General Winery WDRs state that wineries generate peak wastewater volumes during the crush season, having BODs that can range from 500 to 12,000 milligrams per liter. For purposes of this analysis, staff chose to estimate crush-season using a mid-range value of 6,000 milligrams per liter of BOD. Staff assumed that a septic tank would reduce BOD by around 30 % (although this is debatably less since winery wastewater probably settles slower and suspends quicker than sanitary wastewater), resulting in a 4,500 milligrams per liter BOD stream entering the leachfield. Using those assumptions, the following volumetric winery wastewater application rates result:

Basin Plan's Percolation Rate	Basin Plan's Sanitary Volumetric Loading Rate	Organic Mass Loading Rate  (Calculated from Basin Plan's Volumetric Loading Rate, assuming 375 gallons per day at 300 mg/l BOD)	Winery Volumetric Loading Rate  (Contains organic mass equal to that of sanitary wastewater, assuming winery wastewater concentration of 4,500 mg/l BOD)
min/in	$\frac{gal}{sq. ft. - day}$	$\frac{lbs}{sq. ft. - day}$	$\frac{gal}{sq. ft. - day}$
1 - 20	0.8	0.0020	0.053
21 - 30	0.6	0.0015	0.040
31 - 60	0.25	0.00063	0.017
61 - 120	0.1	0.00025	0.0067

If a winery produced a crush-season flow rate of 400 gallons per day, that flow would require, depending on the soil's percolation rate, between about 1,500 and 12,000 feet of standard leach trench. Since our Basin Plan requires a 100 percent replacement area for leaching area, the winery would need to install an additional 1,500 and 12,000 feet of standard leach trench. Realistically, constructing such a leachfield would have relatively high costs and would require a lot of land. Also, it is unrealistic to believe that 400 gallons of winery wastewater would flow and disburse evenly throughout that much leach area.

The above leachfield design specifications seem impractical to implement because 1) a prohibitively large amount of trench area would be needed to effectively and reliably treat the winery wastewater, and 2) there is insufficient volume of winery wastewater to evenly distribute, by gravity, throughout the leachfield soils. Therefore, staff proposes to prohibit leachfield use for winery wastewater, unless an applicant can demonstrate that a leachfield can be used effectively. Staff suggests leaving open the possibility for use of leachfields for winery wastewater; use of leachfields for winery wastewater is possible if an applicant employs unusual treatment/dilution practices.

Many existing wineries will not meet this new specification. Only new and replacement facilities must meet the design requirement.

Staff Gauges – The revised General Winery WDRs specifies treatment ponds must have staff gauges. Staff gauges are an accurate method for measuring water level and freeboard in ponds. Without proper pond level measuring devices, operators often have difficulty obtaining accurate water level elevations.

Salt Management – Winery wastewater often contains high concentrations of dissolved salts. The discharge of salt brine from water softeners is a common cause for high salts in the wastewater stream. The revised General Winery WDRs discourages discharging salt brine from water-softening devices into winery process water stream, by requiring the discharger receive written approval from the Executive Officer prior to on-site disposal of salt brine. The Executive Officer will most likely require groundwater monitoring and/or a salts management plan for facilities discharging salt brine into winery process water streams.

### **Nonpoint Source Control**

The Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (Agricultural Waiver), Order No. R3-2004-0117, now regulates management practices at vineyards and includes a monitoring program to evaluate source control measures. The General Winery WDRs is only designed to regulate wineries, not vineyards. The Agricultural Waiver was established after the 2002 General Winery WDRs, so the original General Winery WDRs included management practices relevant to nonpoint source control measures applicable to vineyards. This section has been removed from the General Winery WDRs and instructions about how to apply for the Agricultural Waiver have been added to the Findings.

### **NOI**

The application form has been simplified to help minimize questions from dischargers.

### **ANTIDegradation**

When considering waste discharge requirements, a Water Board must consider State Board Resolution No. 68-16 (titled "Statement of Policy with Respect to Maintaining High Quality Waters in California" and commonly referred to as the "Antidegradation Policy"). That resolution expresses a policy to balance water quality degradation with benefits to the public. A Water Board must consider the need to include a finding that specifies that water quality degradation is permissible when balanced against benefit to the public of the activity in question. There is no reason to believe that that existing water quality will be reduced as a result of adopting the proposed General Winery Waste Discharge Requirements. The existing General Winery Waste Discharge Requirements will remain predominately intact. The substantive, proposed revisions include:

1. Raising the threshold definition for a "small" winery,
2. Lessening the required depth to groundwater over disposal and reuse areas, and
3. Prohibiting subsurface disposal, unless the discharger can demonstrate the subsurface disposal system's ability to adequately treat the waste stream.

Regarding small wineries, staff's five-year experience in implementing the existing General Winery Waste Discharge Requirements refined our understanding of relatively inconsequential winery discharges. Even wineries with production rates of 10,000 cases per day, the proposed threshold for small wineries, have relatively low volume discharges, perhaps 800 gallons per day during the sixty-day (approximately) crush season, and much less the rest of the year. Considering that most wineries re-use process wastewater for vineyard irrigation over many acres, 800 gallons of applied wastewater per day for a 60-day period is not expected to degrade water quality.

Regarding depth to groundwater over disposal and reuse areas, the proposed separation distances are more in line with the Basin Plan's separation distances for sanitary wastewater. Those separation distances have proven reliable in protecting water quality.

### **CEQA SUMMARY**

Each new and expanded winery must comply with the requirements of the California Environmental Quality Act (CEQA) for that specific facility prior to receiving coverage under these General Winery WDRs.

The adoption of these General Winery WDRs is intended to protect water quality. Authorization of discharges under these General WDRs and Waiver from existing facilities that have not expanded the amount of waste they discharge is categorically exempt from the provisions of the California Environmental Quality Act ("CEQA", Public Resources Code sections 21000 et seq.) pursuant to sections 15301, exemption for existing projects, and 15308, actions by regulatory agencies for the protection of the environment.

## COMMENTS AND RESPONSES

The interested parties list (IPL) consists of currently enrolled wineries, wineries that are potentially discharging winery wastewater at their site but have not notified the Water Board, winery wastewater system designers, local agencies, and the media. On July 2, 2007, staff requested input on the scope of revisions from the interested parties. On November 13, 2007, staff notified the interested parties that the first draft was posted on the Central Coast Water Board's website and invited the interested parties to comment. Written comments were due December 14, 2007. Comments received are listed and discussed below.

### Edwin B. (Ned) Lofink, P.E., Axiom Engineers

1. Mr. Lofink was concerned about proposed Prohibition B.2, which says, "*The discharge of winery wastewater to subsurface treatment and disposal systems is prohibited, unless specifically allowed in writing by the Executive Officer.*" Mr. Lofink stated,

"While it is the Boards preference to pretreat winery wastewater by aerated ponds or treatment systems then apply to the vineyard at agronomic rates, small wineries are unable to afford this technology due to space or financial constraints. In that event septic tanks and leachfields are the only option."

Staff Response: Staff disagrees with Mr. Lofink's position. If a winery cannot provide space or finances for a reliable treatment system, then the winery should not be allowed to discharge. The staff report discusses, in detail, why standard septic tank/leachfield systems are not a reliable method of processing winery wastewater. It should be noted that many small wineries collect winery wastewater and reuse it for vineyard irrigation. So, relatively inexpensive process wastewater systems are available to many small wineries.

As explained in the Staff Report, Prohibition B.2. is intended to discourage the use of septic tank/leachfield systems when processing winery wastewater. The prohibition does not rule out septic tank/leachfield system use entirely. It is conceivable that extraordinary measures could be employed to permit safe use of such a system. Thus, the prohibition provides leeway to approve an extraordinary system on a case-by-case basis.

2. To support the use of septic tank/leachfield systems. Mr. Lofink also recommended criteria for using such systems. Many of Mr. Lofink's recommendations are common practices associated with general septic tank and leachfield use, such as:

- Size septic tank/leachfields for peak daily flow during crush
- Require, and alternate between, dual leachfields where each leachfield accommodates 100% of flow
- Screen influent utilizing floor drain screens and secondary rotary or passive parabolic screens
- Minimize discharges of lees, bentonite, and diatomaceous earth to the septic tank and leachfields

- Limit applications to soils that have adequate percolation capacity
- Require sufficient separation from ground water
- Allow pressure distribution system to disperse wastewater in the leachfield trenches
- Allow pre-aeration to reduce the level of BOD prior to or after entering the septic tank system
- Rotate leachfields

Staff Response: The above recommendations are not disputed and, because they are common considerations, do not require any changes to the proposed WDRs.

3. Allow septic tank and leachfield systems, but limit their flows to 1,500 gallons per day, which equates to a 25,000-case facility (approx. 360 ton of crush).

Staff Response: The recommendation seems intended to allow wineries to use septic tanks and leachfields if space or financial constraints preclude other systems. The recommendation seems based on facilitating businesses without concern for water quality protection. The recommendation did not provide an argument that using septic tanks and leachfields would reliably protect water quality. Without a rational water quality protection argument that counters points made in the staff report, the recommendation was not sufficiently supported. As a water quality agency, we should only allow discharges that reliably protect water quality.

4. Limit application rate to 0.3 gpd/sq.ft. (Monterey County standard percolation rate).

Staff Response: The recommendation did not counter the staff report's discussion concerning leachfield application rates. The recommendation seemed to propose an arbitrary application rate that does not consider soil types or organic strength. Without a convincing argument, staff recommends against modifying the proposed WDRs.

5. For smaller systems, allow simultaneous use of dual leachfields during peak crush flow.

Staff Response: The recommendation defies the widely-accepted practice of rotating between dual leachfields. Staff cannot support such a recommendation.

6. It would be helpful in the design and monitoring of pond treatment systems if treatment parameters; such as BOD, pH, and settleable and suspended solids; are listed under the *Specifications Applicable to Winery Wastewater Treatment Ponds*.

Staff Response: Staff has not typically specified those parameters in WDRs for pond systems. For winery wastewater ponds, such a specification may require treatment to an unnecessary level. The wastewater disposal location will determine the level of treatment necessary. For example, discharge in sandy soils with shallow groundwater will require more treatment than a reuse project where the treated wastewater is blended with well water and used for irrigation. The proposed WDRs do specify dissolved oxygen concentration in the upper zone (one foot) of aerated or oxidation pond systems to be at least 1.0 mg/L. That specification seems universal to proper functioning pond systems.

**Robert S. Chrobak, P.E., Vice President, Kennedy/Jenks Consultants**

1. In addition to expanding eligibility for the Small Winery Waivers, has the CRWQCB considered establishing special categories for very small wineries... These categories could potentially have lesser monitoring and reporting requirements...

Staff Response: There are no monitoring and reporting requirements for small wineries. So, staff could not institute changes to the WDRs to accomplish what was suggested.



2. Using domestic, sanitary wastewater as a basis for deriving winery wastewater leachfield application rates is not appropriate because domestic, sanitary wastewater has different characteristics than winery wastewater and soil bacteria respond differently. With good design and operations, winery septic tanks and leachfields can operate for many years.

Staff Response: Staff agrees that winery wastewater differs from domestic wastewater and the treatment reactions that occur in soils may also differ. The degree of difference is debatable. If the difference were significant, then one might expect it to hold true whether the bacteria were in the soil or in a pond environment. Yet, pond design for wineries does not vary a great deal from pond design for domestic wastewater; namely one designs the pond based on organic and hydraulic considerations. Staff has not seen a winery pond design where the nature of the organics affected the design.

For subsurface disposal, staff has no substantiating information on the claim that winery wastewater produces less slime growth or a smaller clogging mat. Without peer reviewed studies and data showing that the bacterial action in a leachfield supplied with winery wastewater behaves in a substantially differently from domestic wastewater, it would be difficult to support another position. Consequently, staff continues to support winery leachfield application rates that are based on the Basin Plan's ISDS applications rates.

3. The lime application rate should indicate whether pure lime is comparable to quick lime or hydrated lime.

Staff Response: The WDRs' lime application rate is based on pure lime. If the applicant wishes to use another form of lime, then the applicant should determine the equivalency. It is not necessary for the WDRs to indicate whether pure lime is comparable to quick lime, hydrated lime, or some other product used to raise soil pH. It serves no regulatory purpose.

**Rob Miller, RCE, Principal Engineer, Wallace Group**

1. Page 3, under "Who Must Apply? And When<sup>1</sup>?", if the RWQCB wishes for a winery that is currently under a waiver or individual WDR to update its application, it is not clear how the winery will be notified.

Staff Response: A winery that is currently under a waiver or individual WDR received a letter from the executive officer informing them accordingly. Each of those letters provided those wineries a deadline, based on the date of waiver or enrollment, to update their waiver or individual WDR.

2. Page 5, under "A. Application Process," Item No. 1 states "A discharger seeking authorization to discharge under the General Order or a waiver of WDRs shall submit a complete Notice of Intent (NOI) to Comply with the Terms of the General Waste Discharge Requirements for Discharges of Winery Waste. The NOI form is included as Attachment B of this Order. The information required with the NOI is equivalent to a Report of Waste Discharge."

With this statement it is assumed that a separate Report of Waste Discharge providing supplemental information and accompanying NOI is not required.

Staff Response: That is true. However, the NOI form's section 7 says, "Attach a detailed description of processes and practices for treatment, disposal, and/or reuse of solid and liquid waste streams. Include engineering design information and map showing irrigated areas if recycling water." Thus, supplemental information must be submitted where warranted. Staff requires submittal of adequate information; whether it is called an NOI or Report of Waste Discharge seems academic.

3. Page 7, under "Design Guidelines", Item 10 should read "settleable" not "suspended" solids.

Staff Response: Staff agrees. The Draft Order was modified accordingly.

4. Page 11, under "Wastewater Recycling/Re-Use Specifications," Item No. 28 states "*Treated winery wastewater shall be applied in such a manner so as not to exceed vegetative demand.*" Vegetative demand (irrigation demand) for plants in this region is less than zero during parts of winter. In requiring that treated wastewater application rates not exceed vegetative demand, the RWQCB effectively prohibits any winter irrigation. Is that the intent?

Staff Response: It is not staff's intent to prohibit winter discharge when the disposal site is capable of performing as intended. Dispersing wastewater over a large area, such as a vineyard, is less likely to cause water quality impacts than discharging in a concentrated manner, such as in a percolation pond. Since the Water Board generally approves of percolation disposal, it seems even more permissible to allow vineyard disposal, considering vineyard disposal's potentially beneficial aspects. Staff intended the "vegetative demand" to mean "vegetative nutrient demand." The word "nutrient" will be inserted for clarification.

## **RECOMMENDATION**

Adopt Order No. R3-2008-0018.

## **ATTACHMENTS**

1. Proposed General WDR Order No. R3-2008-0018
2. Proposed Monitoring and Reporting Program No. R3-2008-0018
3. Proposed Notice of Intent to Comply Form

S:\WDR\Winery Admin\General WDRs for Wineries\2007 Revision\Staff Report.doc