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# Recommended Conditions of Approval and Final Agency Approval Memos

Oak Knoll Hotel, Use Permit Application No. P14-00215-UP
Planning Commission Hearing, January 22, 2020

**PLANNING COMMISSION HEARING – JANUARY 22, 2020**
**CONDITIONS OF APPROVAL**

**Oak Knoll Hotel**
**Use Permit Application No. P14-00215-UP**
**5091 Solano Avenue**
**Assessor's Parcel No. (APN) 035-031-009**

This Permit encompasses and shall be limited to the project commonly known as **Oak Knoll Hotel, located at 5091 Solano Avenue, Napa**. Part I encompasses the Project Scope and general conditions pertaining to statutory and local code references, project monitoring and the process for any future changes or activities. Part II encompasses the ongoing conditions relevant to the operation of the project. Part III encompasses the conditions relevant to construction and the prerequisites for a Final Certificate of Occupancy. It is the responsibility of the permittee to communicate the requirements of these conditions and mitigations (if any) to all designers, contractors, employees, and the general public to ensure compliance is achieved.

Where conditions are not applicable or relevant to this project, they shall be noted as "Reserved" and, therefore, have been removed.

When modifying a legally established entitlement related to this project, these conditions are not intended to be retroactive or to have any effect on existing vested rights except where specifically indicated.

## PART I

### 1.0 PROJECT SCOPE

This Permit encompasses and shall be limited to:

1.1 Construction and operation of an approximately 29,550 square foot (interior conditioned space) hotel complex of buildings with 50 guest rooms and including hotel guest reception space, indoor and outdoor guest lounge, spa and recreation areas (pool, fitness center, bocce court), and hotel operations spaces (administrative office, laundry facilities, storage and maintenance/back-of-house);

1.2 Construction and operation of a maximum 100-seat restaurant in an approximately 5,000 square foot building with a 1,500 square foot outdoor dining patio, with opportunities for the restaurant to conduct periodic events with amplified sound;

1.3 Construction and operation of an art gallery/retail area in an approximately 1,300 square foot building detached from the hotel and restaurant buildings;

1.4 Construction of a 109-stall vehicular parking lot on the property for customer and employee parking for the hotel, restaurant and art gallery uses;

1.5 Demolition of all existing structures, pavements and storage tanks on and under the property, including removal of 15 existing walnut, mulberry, sycamore and fruit trees, and installation of new perimeter and on-site

landscaping to include retention of 11 existing perimeter trees and planting of new trees, shrubs and groundcover throughout the site;

1.6 Utilization of existing water connections to obtain potable water from the City of Napa, and installation of underground tanks for storage of potable water to ensure supply during peak periods of demand; and

1.7 Removal of the existing wastewater treatment system tanks and leachlines and installation of an on-site wastewater treatment system, including new subsurface tanks, for treatment of all wastewater generated at the project site to Title 22 recycled water requirements, with the majority of treated effluent reused in landscaping irrigation and sanitary fixtures on-site and the remaining effluent dispersed via dispersal lines installed under the 109-stall parking lot.

The proposed hotel, restaurant and art gallery/retail project shall be designed in substantial conformance with the submitted site plan, elevation drawings, and other submittal materials and shall comply with all requirements of the Napa County Code (the County Code). It is the responsibility of the permittee to communicate the requirements of these conditions and mitigations (if any) to all designers, contractors, employees, and the general public to ensure compliance is achieved. Any expansion of or change in use or alternative locations for fire suppression or other types of water tanks shall be approved in accordance with the County Code and may be subject to the permit modification process.

## 2.0 STATUTORY AND CODE SECTION REFERENCES

All references to statutes and code sections shall refer to their successor as those sections or statutes may be subsequently amended from time to time.

## 3.0 MONITORING COSTS

All Staff costs associated with monitoring compliance with these conditions, previous permit conditions, and project revisions shall be borne by the permittee and/or property owner. Costs associated with conditions of approval and mitigation measures that require monitoring, including investigation of complaints, other than those costs related to investigation of complaints of non-compliance that are determined to be unfounded, shall be charged to the property owner or permittee. Costs shall be as established by resolution of the Board of Supervisors in accordance with the hourly consulting rate established at the time of the monitoring and shall include maintenance of a $500 deposit for construction compliance monitoring that shall be retained until issuance of a Final Certificate of Occupancy. Violations of conditions of approval or mitigation measures caused by the permittee's contractors, employees, and/or guests are the responsibility of the permittee.

The Planning Commission may implement an audit program if compliance deficiencies are noted. If evidence of a compliance deficiency is found to exist by the Planning Commission at some time in the future, the Planning Commission may institute the program at the permittee's expense (including requiring a deposit of funds in an amount determined by the Commission) as needed until compliance assurance is achieved. The Planning Commission may also use the data, if so warranted, to commence revocation proceedings in accordance with the County Code.

## PART II

## 4.0 OPERATIONAL CHARACTERISTICS OF THE PROJECT

Permittee shall comply with the following during operation of the project:

4.1 GROUND WATER MANAGEMENT – WELLS **[RESERVED]**

4.2 AMPLIFIED MUSIC **[RESERVED]**

4.3 TRAFFIC

To the maximum extent feasible, scheduling of reoccurring vehicle trips to and from the site for employees and deliveries shall not occur during peak travel times (4:00 p.m. – 6:00 p.m., weekdays; 1:00 p.m. – 3:00 p.m., Saturdays and Sundays). All road improvements on private property required per Engineering Services shall be maintained in good working condition and in accordance with the Napa County Roads and Streets Standards.

4.4 PARKING **[RESERVED]**

4.5 BUILDING DIVISION – USE OR OCCUPANCY CHANGES

Please contact the Building Division with any questions regarding the following:

In accordance with the California Building Code (CBC), no change shall be made in the use or occupancy of an existing building unless the building is made to comply with requirements of the current CBC as for a new building.

4.6 FIRE DEPARTMENT – TEMPORARY STRUCTURES

Please contact the Fire Department with any questions regarding the following:

The permittee and/or designee shall obtain a tent permit from the Fire Department for any temporary structures utilized for authorized events allowed per COA No.1.0 above.

4.7 NAPA COUNTY MOSQUITO ABATEMENT PROGRAM

The installation, operation and maintenance of the outdoor swimming pool and adjoining spa shall be in conformance with the Napa County Mosquito Abatement District's program for eliminating mosquito sources and managing mosquito-breeding areas in order to reduce mosquitoes to a tolerable and healthful level.

4.8 GENERAL PROPERTY MAINTENANCE – LIGHTING, LANDSCAPING, PAINTING, OUTDOOR EQUIPMENT STORAGE, MECHANICAL EQUIPMENT, AND TRASH ENCLOSURE AREAS

a. All lighting shall be permanently maintained in accordance with the lighting and building plans approved by the County.

b. All landscaping shall be permanently maintained in accordance with the landscaping approved by the County.

c. All outdoor screening, storage, mechanical equipment and utility structures shall be permanently maintained in accordance with the landscaping and building plans approved by the County. No stored items shall exceed the height of the screening. Exterior equipment shall be maintained so as not to create a noise disturbance or exceed noise thresholds in the County Code.

d. The colors used for the roof, exterior walls and built landscaping features of the project shall be limited to earth tones that will blend the facility into the colors of the surrounding site-specific vegetation. The permittee shall obtain the written approval of the Planning Division prior to any change in paint color that differs from the approved building permit. Highly reflective surfaces are prohibited.

e. Designated trash enclosure areas shall be made available for use by the project and properly maintained for intended use.

4.9 NO TEMPORARY SIGNS

Temporary off-site signage, such as "A-Frame" signs are prohibited.

4.10 COMPLIANCE WITH OTHER DEPARTMENTS AND AGENCIES - OPERATIONAL CONDITIONS

The attached project conditions of approval include all of the following County Divisions, Departments and Agencies' requirements. Without limiting the force of those other requirements which may be applicable, the following are incorporated by reference as enumerated herein:

a. Engineering Services Division operational conditions as stated in their Memorandum dated December 16, 2019.

b. Environmental Health Division operational conditions as stated in their Memorandum dated December 12, 2019.

c. Building Division operational conditions as stated in their Memorandum dated January 13, 2020.

d. Department of Public Works operational conditions as stated in their Memorandum dated October 30, 2019.

e. Fire Department operational conditions as stated in their Inter-Office Memo dated October 21, 2019.

f. Regional Water Quality Control Board operational conditions as stated in their letter dated December 2, 2019.

The determination as to whether or not the permittee has substantially complied with the requirements of other County Divisions, Departments and Agencies shall be determined by those County Divisions, Departments or Agencies. The inability to substantially comply with the requirements of other County Divisions, Departments and Agencies may result in the need to modify this permit.

4.11 OPERATIONAL MITIGATION MEASURES **[RESERVED]**

4.12 OTHER CONDITIONS APPLICABLE TO THE OPERATIONAL ASPECTS OF THE PROJECT

a. Wastewater flows from the project shall not exceed the maximum daily flow volume permitted for the property by the Regional Water Quality Control Board (RWQCB). Prior to issuance of a building, grading or environmental permit for the project, the applicant shall provide to the PBES Department an analysis that demonstrates that the maximum wastewater flow from the project at full occupancy will not exceed the permitted daily flow volume permitted by the RWQCB. Estimates of wastewater flows shall be based on standard County wastewater generation rates for hotel, retail and restaurant uses. For purposes of this condition, full occupancy shall mean occupancy of all rooms of the hotel and service of no fewer than five meals per seat in the indoor dining room and outdoor dining patio areas of the restaurant. One hotel room service meal shall be equivalent to one meal served to a customer seated in the restaurant.

   If the applicant cannot demonstrate that wastewater flows generated from full occupancy of the project would not exceed permitted volumes, the project may be required to be reduced in scope (number of rooms or restaurant seats). Revision of the project scope to reduce the number of rooms or restaurant seats would be subject to a Use Permit Minor Modification process pursuant to subsection B of Napa County Code section 18.124.130.

b. The maximum number of restaurant seats and restaurant patrons in any indoor plus outdoor dining areas shall not exceed 100 at any given time. In accordance with this condition, on any day that the restaurant hosts an event, the number of dining seats made available to the general public shall be reduced by a number that is equivalent to the number of guests projected to attend the event.

c. The rooftop lounge area shall be made available solely to overnight, transient resident guests of the hotel and shall not be available for use as part of the operation of the restaurant nor to any other patrons of the resort that are not overnight guests. At no time shall tables and chairs for restaurant-related dining or beverage service be placed or maintained on the rooftop lounge. Access to the rooftop lounge shall be by key card, door code or other secured entry and limited to overnight hotel guests and hotel employees.

d. Lighting on the rooftop lounge shall be low wattage, directed downward, and shielded so as not to create upward glow of the night sky or nighttime glare off-site.

e. The facility's speaker/amplification system shall not operate at noise levels that exceed County standards (i.e., Exterior: 45 $L_{50}$/65 $L_{max}$ during

daytime and nighttime hours; Interior: 45 $L_{eq}$) as measured at the property line. The speaker/amplification system shall be recalibrated once a year, or more frequently if the County receives complaints about noise generated during events, to ensure that the system continues to operate in compliance with County noise standards. The results of the calibration, including monitored noise levels, shall be provided to the County. If an exceedance of County standards occurs, the speaker system shall be recalibrated, volumes shall be lowered if necessary, and the system shall be re-reviewed by the County to demonstrate compliance with the County standards. (See also COA 6.13.e.)

f. The facility operators shall require that music and audio vendors, such as disc jockeys at events, utilize the facility's fixed in-house speaker/amplification audio system for events. Additional event speakers beyond those installed as part of the facility's fixed system shall be prohibited.

g. The permittee shall orient all speakers installed with the facility's fixed in-house speaker/amplification audio system such that the speakers face either west, south or east, but not north. Speakers used for events with amplified music shall be installed in locations that are completely shielded from view of the northern property line by intervening buildings.

h. Operation of amplified music and/or voices shall not be permitted in locations within the project site that are not fully enclosed between the hours of 10:00 p.m. and 7:00 a.m., seven days a week. (See also COA 6.13.e.)

i. The permittee will procure a Type 2 sound level meter and conduct measurements of amplified music systems at both the 50-foot distance and at the northern property line to ensure the County's noise standards are not exceeded.

j. Activity at the on-site loading dock shall not exceed the County's exterior noise standards (i.e., 50 $L_{50}$/70 $L_{max}$ during daytime hours [7:00 a.m. to 10:00 p.m.] and 45 $L_{50}$/65 $L_{max}$ during nighttime hours [10:00 p.m. to 7:00 a.m.]; Interior: 45 $L_{eq}$) at any existing noise sensitive receptor. Operation of loading docks shall not be permitted between the hours of 10:00 p.m. and 7:00 a.m., seven days a week. (See also COA 6.13.d.)

k. Any change in use of the 1,300 square foot building, approved for use under this use permit as art gallery or retail area, shall be in accordance with the applicable zoning of the property (currently CL [Commercial Limited] District) and may require amendment of the use permit to identify a different or additional use.

l. The location of visitor parking and truck loading zone areas shall be identified using directional and traffic control signage. Employee, customer and contractor parking shall be limited to approved parking spaces on-site only and shall not occur along access or public roads,

including but not limited to, Solano Avenue and Oak Knoll Avenue/Wurz Lane.

For authorized events, overflow parking shall occur only in accordance with Section 18.104.130, subsection D, of Napa County Code, as may be amended from time to time. Temporary overflow parking in support of commercial activity at the property shall not occur on any parcel zoned AP (Agricultural Preserve) or AW (Agricultural Watershed District.

In no case shall temporary or regular parking on or off of the property impede emergency vehicle access or public roads.

4.13 PREVIOUS CONDITIONS **[RESERVED]**

## PART III

## 5.0 PREREQUISITE FOR ISSUANCE OF PERMITS

5.1 PAYMENT OF FEES
No building, grading or sewage disposal permits shall be issued or other permits authorized until all accrued planning permit processing fees have been paid in full. This includes all fees associated with plan check and building inspections, associated development impact fees established by County Ordinance or Resolution, and the Napa County Affordable Housing Mitigation Fee in accordance with County Code.

## 6.0 GRADING/DEMOLITION/ENVIRONMENTAL/BUILDING PERMIT/OTHER PERMIT PREREQUISITES

Permittee shall comply with the following with the submittal of a grading, demolition environmental, building and/or other applicable permit applications:

6.1 COMPLIANCE WITH OTHER DEPARTMENTS AND AGENCIES - PLAN REVIEW, CONSTRUCTION AND PREOCCUPANCY CONDITIONS

The attached project conditions of approval include all of the following County Divisions, Departments and Agencies' requirements. The permittee shall comply with all applicable building codes, zoning standards, and requirements of County Divisions, Departments and Agencies at the time of submittal and may be subject to change. Without limiting the force of those other requirements which may be applicable, the following are incorporated by reference as enumerated herein:

a. Engineering Services Division plan review/construction/preoccupancy conditions as stated in their Memorandum dated December 16, 2019.

b. Environmental Health Division plan review/construction/preoccupancy conditions as stated in their Memorandum dated December 12, 2019.

c. Building Division plan review/construction/preoccupancy conditions as stated in their Memorandum dated January 13, 2020.

d. Department of Public Works plan review/construction/preoccupancy conditions as stated in their Memorandum dated October 30, 2019.

e. Fire Department plan review/construction/preoccupancy conditions as stated in their Inter-Office Memo dated October 21, 2019.

f. Regional Water Quality Control Board plan review/construction/preoccupancy conditions as stated in their letter dated December 2, 2019.

The determination as to whether or not the permittee has substantially complied with the requirements of other County Divisions, Departments and Agencies shall be determined by those County Divisions, Departments or Agencies. The inability to substantially comply with the requirements of other County Divisions, Departments and Agencies may result in the need to modify the permit.

6.2 BUILDING DIVISION – GENERAL CONDITIONS
Please contact the Building Division with any questions regarding the following:

a. A building permit shall be obtained for all construction occurring on the site not otherwise exempt by the CBC or any State or local amendment adopted thereto

b. If there are any existing structures and/or buildings on the property that will need to be removed to accommodate construction activities, a separate demolition permit shall be required from the Building Division prior to removal. The permittee shall provide a "J" number from the Bay Area Air Quality Management District (BAAQMD) at the time the permittee applies for a demolition permit if applicable.

c. All areas of newly designed and newly constructed buildings, facilities and or site improvements must comply with CBC, Title 24 Accessibility requirements, as well as, American with Disabilities Act requirements when applicable. When alterations or additions are made to existing buildings or facilities, an accessible path of travel to the specific area of alteration or addition shall be provided as required per the CBC.

6.3 LIGHTING – PLAN SUBMITTAL

a. Two (2) copies of a detailed lighting plan showing the location and specifications for all lighting fixtures to be installed on the property shall be submitted for Planning Division review and approval. All lighting shall comply with the CBC.

b. All exterior lighting, including landscape lighting, shall be shielded and directed downward; located as low to the ground as possible; the minimum necessary for security, safety, or operations; on timers; and shall incorporate the use of motion detection sensors to the greatest extent practical. All lighting shall be shielded or placed such that it does not shine directly on adjacent properties or impact vehicles on adjacent streets. No flood-lighting or sodium lighting of the building is permitted,

including architectural highlighting and spotting. Low-level lighting shall be utilized in parking areas as opposed to elevated high-intensity light standards.

6.4 LANDSCAPING – PLAN SUBMITTAL

a. Two (2) copies of a detailed final landscaping and irrigation plan, including parking details, shall be submitted with the building permit application package for the Planning Division's review and approval prior to the issuance of any building permit associated with this permit. The plan shall be prepared pursuant to the Water Efficient Landscape Ordinance (Chapter 18.118 of the County Code) requirements in effect at the time of building permit application submittal, as applicable, and shall indicate the names and locations of all plant materials to be used along with their method of maintenance.

b. Plant materials shall be purchased locally when practical, and, to the greatest extent possible, the plant materials shall be the same native plants found in Napa County. The Agricultural Commissioner's office shall be notified of all impending deliveries of live plants with points of origin outside of Napa County.

c. No trees greater than six-inch diameter at breast height shall be removed, except for those identified on the submitted site plan. Any Oak trees removed as a result of the project shall be replaced at a 2:1 ratio and shown on the landscaping plans for the Planning Division's review and approval. Trees to be retained shall be protected during construction by fencing securely installed at the outer most dripline of the tree or trees. Such fencing shall be maintained throughout the duration of the work undertaken in connection with project development/construction. In no case shall construction material, debris or vehicles be stored in the fenced tree protection area.

d. Evergreen screening shall be installed between the industrial portions of the operation (e.g., tanks, crushing area, parking area, etc.) and any off-site residence from which these areas can be viewed.

e. All landscaped areas and sidewalks shall be separated from parking and drive aisle areas by a minimum six-inch wide raised concrete curb.

6.5 COLORS

The colors used for the roof, exterior walls and built landscaping features of the project shall be limited to earth tones that will blend the facility into the colors of the surrounding site specific vegetation. The permittee shall obtain the written approval of the Planning Division in conjunction with building permit review and/or prior to painting the building. Highly reflective surfaces are prohibited.

6.6 OUTDOOR STORAGE/SCREENING/UTILITIES

a. Details of outdoor storage areas and structures shall be included on the building and landscape plans. All outdoor storage of equipment shall be screened from the view of residences of adjacent properties by a visual barrier consisting of fencing or dense landscaping. No stored item shall

exceed the height of the screening. Water and fuel tanks, and similar structures, shall be screened to the extent practical so as to not be visible from public roads and adjacent parcels.

b. New utility lines required for this project that are visible from any designated scenic transportation route (see Community Character Element of the General Plan and the County Code) shall be placed underground or be made virtually invisible from the subject roadway.

6.7 MECHANICAL EQUIPMENT

a. Roof mounted equipment shall be screened by a parapet wall of equal or greater height than the highest piece of roof mounted equipment or vent. Equipment may be screened by a separate roof screen that is architecturally integrated with the building if screening by a parapet wall is not feasible or is architecturally undesirable. When separate roof screens are used, roof equipment should be organized into major groups screening a smaller number of units rather than multiple areas. The PBES Director may approve exceptions for solar equipment. All screening is subject to review and approval by the PBES Director. Any skylights shall be subject to review and approval by the PBES Director prior to the issuance of building permits.

b. The term "equipment" includes roof mounted equipment or vents, electrical equipment, gas meter, communication antennas, irrigation valves, storage tanks, or other mechanical equipment. The manner of screening shall be as follows: Communications equipment, including microwave equipment, may remain unscreened if visually integrated with the building design through color, location, and construction; all building mounted equipment, including but not limited to louvers, pipes, overhead doors or service doors, access ladders, downspouts, conduit, and electrical/service boxes, shall be painted consistent with the color scheme of the building.

c. Ground mounted equipment shall be screened by walls or landscaping to the satisfaction of the PBES Director.

d. Exterior equipment shall be located, enclosed or muffled so as not to exceed noise thresholds in the County Code.

6.8 TRASH ENCLOSURES

Adequate area must be provided for collection and loading of garbage and recyclables generated by the project. The applicant must work with the franchised garbage hauler for the service area in which they are located, in order to determine the area and the pedestrian and vehicle access needed for the collection site. The garbage and recycling enclosure shall meet the minimum enclosure requirements established by staff and the franchised hauler, which shall be included in the building permit submittal.

6.9 ADDRESSING

All project site addresses shall be determined by the PBES Director, and be reviewed and approved by the United States Post Office. The PBES Director

reserves the right to issue or re-issue an appropriate situs address at the time of issuance of any building permit to ensure proper identification and sequencing of numbers. For multi-tenant or multiple structure projects, this includes building permits for later building modifications or tenant improvements.

6.10 HISTORIC RESOURCES **[RESERVED]**

6.11 DEMOLITION ACTIVITIES

a. Final demolition plans of the vacant commercial restaurant and retail buildings, trees, paved surfaces and wastewater treatment system shall be submitted for building permit issuance. A site plan prepared by a qualified professional shall denote streams, stream setbacks, existing and proposed improvements and slopes. No new construction or earthmoving activities are allowed within established stream setbacks unless specifically approved as part of this permit in COA No.1.0 (Scope) above. As determined by the PBES Director or designee, temporary construction fencing shall be placed at the stream setback line to prevent unauthorized encroachments.

B. **[RESERVED]**

6.12 VIEWSHED – EXECUTION OF USE RESTRICTION **[RESERVED]**

6.13 PERMIT PREREQUISITE MITIGATION MEASURES

The permittee shall comply with the following permit prerequisite mitigation measures identified in the certified Environmental Impact Report (EIR) and Mitigation Monitoring and Reporting Program prepared for the project:

a. **EIR Mitigation Measure 3.2-3: Prepare a lighting plan.**
Prior to issuance of any building permit pursuant to this approval, two copies of a detailed lighting plan showing the location and specifications for all lighting fixtures to be installed on the property shall be submitted for Planning Division review and approval. The plan shall detail, and commit to, project features intended to reduce potential effects from lighting, including:

i. Providing the minimum lighting needed for safety and wayfinding;

ii. Shielding and downcasting all exterior lighting;

iii. Use of low level, indirect lighting wherever exterior lighting is installed at the buildings;

iv. Locating all exterior lighting as low to the ground as possible;

v. No use of flood lights or sodium lights; and

vi. All project lighting will be compliant with the most recent update of the “Nonresidential Compliance Manual for California’s Energy Efficiency Standards” and the most recent update of the California Building Code.

Method of Monitoring: The permittee shall submit two copies of the lighting plan to the PBES Department for review and approval by the Planning Division, prior to issuance of the first building permit for the project.

Responsible Agency: Napa County PBES Department

b. **Mitigation Measure 3.4-1: Avoid and minimize loss of special-status bats**.
No more than 14 days prior commencement of tree removal, demolition, or construction activities associated with the project, suitable roosting habitat for bats on the project site shall be surveyed by a qualified biologist knowledgeable in bat biology and behavior. Surveys shall consist of a daytime pedestrian survey looking for evidence of bat use (e.g., guano) and a subsequent evening emergence survey. If no bat roosts are found, then no further mitigation is required.

If roosts of pallid bats or any other special-status bat species are determined to be present and must be removed, the bats shall be excluded from the roosting site before demolition of the structure or tree removal occurs. A program addressing compensation, exclusion methods, and roost removal procedures shall be developed in consultation with the California Department of Fish & Wildlife (CDFW) before demolition occurs. Exclusion methods may include use of one-way doors at roost entrances (bats may leave but not reenter), or sealing roost entrances when the site can be confirmed to contain no bats. Exclusion efforts shall be restricted during periods of sensitive activity [e.g., when bats are found to be hibernating on site or while females in maternity colonies are nursing young (April – August for pallid bats)]. The loss of each roost (if any) may be replaced in consultation with CDFW and may require construction and installation of bat boxes suitable to the bat species and colony size excluded from the original roosting site. If determined necessary during consultation with CDFW, replacement roosts shall be implemented before bats are excluded from the original roost sites. Once the replacement roosts are constructed and it is confirmed that bats are not present in the original roost site, the structures containing roost sites may be demolished and/or trees removed.

Method of Monitoring: The permittee shall commission a survey of the property by a qualified biologist knowledgeable in bat biology and behavior, in accordance with the mitigation measure. No building demolition or tree removal shall occur prior to the survey.

If the biologist finds no suitable bat habitat on the property, the permittee shall submit to the PBES Department an application for same-day demolition permit, along with a copy of the biologist's findings, within seven days of the date of the survey and shall commence demolition of buildings and removal of trees within seven days of issuance of the permit.

If the biologist finds suitable bat habitat on the property, the County shall not issue a building permit until the permittee has presented to the PBES Department a program approved by CDFW for compensation, exclusion methods and roost removal procedures. Issuance of the demolition permit shall thereafter be in accordance with the timelines specified in the CDFW-approved program, but in no case more than seven days after the most hired biologist's most current survey confirming absence of bats from the property.

Responsible Agency(ies): Napa County PBES Department, CDFW

c. **Mitigation Measure 3.4-2: Avoid loss of migratory bird nests**.
To avoid loss of migratory bird nests, vegetation removal and demolition of buildings within the project site shall occur outside of the nesting season for migratory birds, between September 1-March 1. If all suitable nesting habitat is removed during the nonbreeding season, no further mitigation will be required. If it is infeasible for vegetation removal and building demolition to occur outside of the nesting season, a qualified biologist shall conduct pre-construction surveys for nesting birds within the project site. The surveys shall be conducted no more than 15 days before vegetation removal or demolition commences. If active nests are located within the project site, a non-disturbance buffer shall be placed around the nest. Within this non-disturbance buffer, no vegetation removal or demolition shall occur until the young have fledged and the nest is no longer active. The radius of the non-disturbance buffer shall be determined by the qualified biologist, based on the species nesting, existing levels of disturbance at the nest, and any vegetative or other screening that may reduce the distance at which the nest would be disturbed.

Method of Monitoring: The permittee shall apply for a demolition permit for the property between September 1 and March 1. Demolition in accordance with the permit shall occur within that same timeframe. If the permittee submits an application for demolition permit outside of those months, the permittee shall commission a survey of the property by a qualified biologist. If the biologist finds no suitable bird habitat on the property, the permittee shall submit to the PBES Department an application for same-day demolition permit, along with a copy of the biologist's findings, within seven days of the date of the survey and shall commence demolition of buildings and removal of trees within seven days of issuance of the permit.

If the biologist finds suitable bird habitat on the property, the County shall not issue a building permit until the permittee has presented to the PBES Department a program, developed by the consulting biologist, for protection of active nests, in accordance with the mitigation measure. The permittee shall be responsible for ensuring that contractors' work related to demolition occurs in accordance with the biologist's program.

Responsible Agency: Napa County PBES Department

d. **Mitigation Measure 3.7-3a: Reduce exposure of existing sensitive receptors to noise generated by commercial loading/unloading activity.**
The project applicant shall submit final design and operation plans that include measures to reduce the effect of noise levels generated by on-site stationary noise sources. The applicant shall demonstrate through the plan how activities in the loading area would be reduced below applicable County noise standards. Measures could include, but are not limited to the following:

i. Loading docks shall be located and designed such that noise generated by activity at the loading dock would not exceed the County's exterior noise standards (i.e., Exterior: 50 $L_{50}$/70 $L_{max}$ during daytime hours [7:00 a.m. to 10:00 p.m.] and 45 $L_{50}$/65 $L_{max}$ during nighttime hours [10:00 p.m. to 7:00 a.m.]; Interior: 45 $L_{eq}$) at any existing noise sensitive receptor. A specialized noise study shall be completed to evaluate the specific design and ensure compliance with Napa County noise standards. Reduction of loading dock noise can be achieved by locating loading docks as far away as possible from noise sensitive land uses, constructing noise barriers between loading areas and noise-sensitive land uses, or using buildings and topographic features to provide acoustic shielding for noise-sensitive land uses. Final design, location, and orientation shall be dictated by findings in the noise study.

ii. Operation of loading docks shall not be permitted between the hours of 10:00 p.m. and 7:00 a.m., seven days a week.

Method of Monitoring: The permittee shall submit to the PBES Department, for County review concurrently with the building permit application, the final design and operations plan and specialized noise study describing the methods for achieving compliance with the Napa County noise standards identified in the mitigation measure.

Responsible Agency: Napa County PBES Department

e. **Mitigation Measure 3.7-3b: Reduce exposure of existing sensitive receptors to noise generated by special events on the project site**.
The project applicant shall submit a speaker/amplification operation plan prepared by an acoustical engineer, that includes measures or siting and operation protocols that would be implemented to reduce the effect of noise levels generated by on-site stationary noise sources. The applicant shall demonstrate through the plan how the speaker/amplification system would not exceed applicable County noise standards. The plan at a minimum should include the following:

i. The applicant shall assess the level of noise generated by any proposed speaker/amplification system and model of the system chosen to determine the locations and settings so that they operate at noise levels that do not exceed County standards (i.e.,

Exterior: 45 $L_{50}$/65 $L_{max}$ during daytime and nighttime hours; Interior: 45 $L_{eq}$) for any existing sensitive receptor. The locations and settings of the speaker/amplification system shall be reviewed and approved by the County. The speaker/amplification system shall be recalibrated once a year to ensure that it continues to operate in compliance with County noise standards. The results of the calibration, including monitored noise levels, shall be provided to the County. If an exceedance of County standards occurs, the speaker system shall be recalibrated, volumes shall be lowered if necessary, and the system shall be re-reviewed by the County to demonstrate compliance with the County standards.

ii. Operation of amplified music and/or voices shall not be permitted in locations within the project site that are not fully enclosed between the hours of 10:00 p.m. and 7:00 a.m., seven days a week.

Method of Monitoring: The permittee shall submit to the PBES Department, for County review concurrently with the building permit application, the submit a speaker/amplification operation plan prepared by an acoustical engineer describing the methods for achieving compliance with the Napa County noise standards referenced in the mitigation measure. Ongoing compliance with the standards shall occur in accordance with COA 4.12.e.

Responsible Agency: Napa County PBES Department

f. **Mitigation Measure 3.7-3c: Reduce exposure of existing sensitive receptors to noise generated by mechanical equipment**.
The project applicant shall submit final design plans that include measures to reduce the effect of noise levels generated by mechanical equipment. The applicant shall demonstrate through the plan how noise from mechanical equipment would be reduced below applicable County noise standards. These measures could include, but are not limited to the following:

i. Stationary source mechanical equipment (e.g., pump house; heating, ventilation and air conditioning [HVAC] equipment; emergency generator) shall be located and designed such that noise generated by the mechanical equipment would not exceed the County's exterior noise standards (i.e., Exterior: 50 $L_{50}$/70 $L_{max}$ during daytime hours [7:00 a.m. to 10:00 p.m.] and 45 $L_{50}$/65 $L_{max}$ during nighttime hours [10:00 p.m. to 7:00 a.m.]; Interior: 45 $L_{eq}$) at any existing noise sensitive receptor. A specialized noise study shall be completed by an acoustical engineer to evaluate the specific design and ensure compliance with Napa County noise standards. Reduction of mechanical equipment noise can be achieved by locating mechanical equipment as far away as possible from noise sensitive land uses, fully enclosing mechanical equipment, constructing noise barriers between mechanical equipment and noise-sensitive land uses, or using

buildings and topographic features to provide acoustic shielding for noise-sensitive land uses. Final design, location, and orientation shall be dictated by findings in the noise study.

Method of Monitoring: The permittee shall submit to the PBES Department, for County review concurrently with the building permit application, final design plans that specify maximum decibel levels of mechanical equipment to be used on the property, along with measures that will reduce equipment operations noise levels to within the Napa County standards referenced in the mitigation measure.

Responsible Agency(ies): Napa County PBES Department

g. **Mitigation Measure 3.9-5: Pedestrian facility improvements**. Prior to building permit approval, the following amendments shall be made to the final design of the project and be approved by Napa County:

i. The permittee shall be responsible for design and installation of a pedestrian crossing of Solano Avenue at the intersection of Solano Avenue/Oak Knoll Avenue West, approximately 100 feet north of where the crosswalk is proposed on the conceptual plan (see Exhibit 3.9-2). Final design shall include the specification and installation of two high-visibility signs and advance yield lines in each direction given the high-speed nature of the roadway and potential for frequent pedestrian crossings. Subject to approval by the County Public Works Department, the permittee shall install the pedestrian crossing and related signage improvements prior to issuance by the County of a certificate of occupancy for any building on the property.

ii. Prior to installation of the pedestrian crossing and related signage improvements, the permittee shall design and construct a bicycle and pedestrian connection between the proposed pedestrian crosswalk described above, and the Napa Valley Vine Trail. This would require that the bicycle and pedestrian connection cross the drainage channel that runs parallel to, and between Solano Avenue and the Napa Valley Vine Trail. The applicant shall coordinate with the County to determine the necessary permits for, and design of the bicycle and pedestrian connection over the drainage channel. Crossing of the drainage channel may be subject to regulation by CDFW under Section 1602 of the California Fish and Game Code. If such a connection over the drainage channel is deemed to be infeasible due to permitting and/or construction constraints, the applicant shall coordinate with the County to identify and implement an appropriate alternative that will ensure adequate pedestrian access, connectivity, and safety for the project.

iii. The permittee shall install on-site pedestrian facilities that connect the relocated crosswalk to the main entrance of the project site,

prior to issuance by the County of a certificate of occupancy for any building on the property.

Method of Monitoring: The permittee shall submit to the Napa County Public Works Department copies of improvement plans for the pedestrian improvements described in subsections i and ii of this COA, prior to submittal of the first building permit application for the project. Improvement plans shall be subject to review by the Public Works Department, and must have received Public Works Department approval before the PBES Department will issue the first building permit requested for the project. On-site pedestrian facilities described in subsection iii of this COA shall be incorporated into the site improvement, landscaping and architectural plans submitted with the building permit application for construction of the project, and shall be subject to Planning and Engineering Services Divisions' review and approval prior to issuance of the requested building permit.

Responsible Agencies: Napa County Public Works Department, Napa County PBES Department

h. **Mitigation Measure 3.9-8: Traffic safety improvements to site plans.** Prior to building permit approval, the following amendments shall be made to the final designs of the project and approved by Napa County:

i. The project applicant shall ensure that the proposed landscaping does not encroach into the sight distance triangle (a triangle formed between the location where the driver makes the decision to exit the driveway [decision point], the location of the approaching vehicle on Solano Avenue, and the location where the two vehicles would intersect).

ii. The left-turn lane proposed on the conceptual plan shall be designed in accordance with the current Napa County Road and Street Standards at the time of submittal of final design.

iii. The project applicant shall redesign the southeastern corner of the property, in the vicinity of the loading area, to include a turnaround that would allow large vehicles to turn around on-site and to make forward movements both off of and onto Solano Avenue. The redesigned site improvements in this portion of the property shall be subject to approval by the County Engineering and Roads Divisions prior to the Public Works Director's issuance of an encroachment permit to construct the driveway from Solano Avenue into the loading area.

Method of Monitoring: The permittee shall submit to the Napa County Public Works Department and the Engineering Division of the PBES Department copies of improvement plans for the left turn lane and large vehicle access described in subsections ii and iii of this COA, prior to submittal of the first building permit application for the project. Improvement plans shall be subject to review by the Public Works

Department and Engineering Division, and must have received Public Works Department and Engineering Division approval before the PBES Department will issue the first building permit requested for the project. On-site elements described in subsections i and iii of this COA shall be incorporated into the site improvement, landscaping and architectural plans submitted with the building permit application for construction of the project, and shall also be subject to Planning and Engineering Services Divisions' review and approval prior to issuance of the requested building permit.

Responsible Agency: Napa County Public Works Department, Napa County PBES Department

i. **Mitigation Measure 3.9-9: Traffic Control Plan/Detour Plan.** Prior to construction, a detailed Traffic Control Plan/Detour Plan shall be submitted to the County that takes into account the safety of all modes of travel during construction in the County's right-of-way. The requirements of the Traffic Control Plan/Detour Plan shall be dictated, reviewed, and approved by the Napa County Public Works Department. At a minimum, the plan shall include:

   i. Description of street closures and/or bicycle and pedestrian facility closures including: duration, advance warning and posted signage, safe and efficient access routes for existing businesses and emergency vehicles, and use of manual traffic control.

   ii. Description of driveway access plan including: provisions for safe vehicular, pedestrian, and bicycle travel, minimum distance from any open trench, special signage, and private vehicle accesses.

Method of Monitoring: The permittee shall submit to the Napa County Public Works Department a Traffic Control Plan/Detour Plan concurrently with the encroachment permit application for off-site improvements, and prior to each issuance of a demolition permit and a building permit that would require staging or other construction-related activity outside the boundaries of the project. The Traffic Control Plan/Detour Plan shall be subject to review by the Public Works Department, and must have received Public Works Department approval before the Public Works Department will issue the requested encroachment permit, and before the PBES Department will issue the respective demolition or building permit requested for the project.

Responsible Agency(ies): Napa County Public Works Department, Napa County PBES Department

6.14 PARCEL CHANGE REQUIREMENTS **[RESERVED]**

6.15 FINAL MAPS **[RESERVED]**

6.16 OTHER CONDITIONS APPLICABLE TO THE PROJECT PERMITTING PROCESS

a. To ensure use of the rooftop lounge is limited to hotel guests and not restaurant customers, in accordance with COA 4.12.a, the permittee shall revise the architectural plans to eliminate the interior stairwell connection between the restaurant and the rooftop lounge. This revision shall be incorporated into the plans submitted with the building permit application and shall be verified by staff prior to issuance of the building permit for the restaurant.

b. The plans submitted with the building permit application for the restaurant building shall include details, area calculations, and furniture layout that confirms that seating capacity for all indoor and outdoor food service areas will not exceed 100 seats at any time.

c. The final landscaping plans shall exclude any plants (e.g., pampasgrass, eucalyptus, etc.) identified as invasive by the California Invasive Plant Council or other reputable state or regional horticultural organization.

## 7.0 PROJECT CONSTRUCTION

Permittee shall comply with the following during project construction:

### 7.1 SITE IMPROVEMENT

Please contact Engineering Services with any questions regarding the following:

a. GRADING & SPOILS

All grading and spoils generated by construction of the project facilities shall be managed per Engineering Services direction. Alternative locations for spoils are permitted, subject to review and approval by the PBES Director, when such alternative locations do not change the overall concept, and do not conflict with any environmental mitigation measures or conditions of approval.

b. DUST CONTROL

Water and/or dust palliatives shall be applied in sufficient quantities during grading and other ground disturbing activities on-site to minimize the amount of dust produced. Outdoor construction activities shall not occur when average wind speeds exceed 20 miles per hour.

c. AIR QUALITY

During all construction activities the permittee shall comply with the most current version of BAAQMD Basic Construction Best Management Practices including but not limited to the following, as applicable:

1. Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. The BAAQMD's phone number shall also be visible.

2. Water all exposed surfaces (e.g., parking areas, staging areas, soil piles, grading areas, and unpaved access roads) two times per day.

3. Cover all haul trucks transporting soil, sand, or other loose material off-site.

4. Remove all visible mud or dirt tracked onto adjacent public roads by using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

5. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.

6. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

7. Idling times shall be minimized either by shutting off equipment when not in use or reducing the maximum idling time to five (5) minutes (as required State Regulations). Clear signage shall be provided for construction workers at all access points.

8. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator. Any portable engines greater than 50 horsepower or associated equipment operated within the BAAQMD's jurisdiction shall have either a California Air Resources Board (ARB) registration Portable Equipment Registration Program (PERP) or a BAAQMD permit. For general information regarding the certified visible emissions evaluator or the registration program, visit the ARB FAQ http://www.arb.ca.gov/portable/perp/perpfaq_04-16-15.pdf or the PERP website http://www.arb.ca.gov/portable/portable.htm.

d. STORM WATER CONTROL
The permittee shall comply with all construction and post-construction storm water pollution prevention protocols as required by the County Engineering Services Division, and the State Regional Water Quality Control Board.

7.2 ARCHEOLOGICAL FINDING
In the event that archeological artifacts or human remains are discovered during construction, work shall cease in a 50-foot radius surrounding the area of discovery. The permittee shall contact the PBES Department for further guidance, which will likely include the requirement for the permittee to hire a qualified professional to analyze the artifacts encountered and to determine if additional measures are required.

If human remains are encountered during project development, all work in the vicinity must be halted, and the Napa County Coroner informed, so that the Coroner can determine if an investigation of the cause of death is required, and if the remains are of Native American origin. If the remains are of Native American

origin, the permittee shall comply with the requirements of Public Resources Code Section 5097.98.

7.3 CONSTRUCTION NOISE

Construction noise shall be minimized to the greatest extent practical and feasible under State and local safety laws, consistent with construction noise levels permitted by the General Plan Community Character Element and the County Noise Ordinance. Construction equipment muffling and hours of operation shall be in compliance with the County Code. Equipment shall be shut down when not in use. Construction equipment shall be staged, loaded, and unloaded on the project site, if at all practicable. If project terrain or access road conditions require construction equipment to be staged, loaded, or unloaded off the project site (such as on a neighboring road or at the base of a hill), such activities only shall occur daily between the hours of 8:00 a.m. to 5:00 p.m.

7.4 CONSTRUCTION MITIGATION MEASURES

The permittee shall comply with the following construction mitigation measures identified in the certified Environmental Impact Report and Mitigation Monitoring and Reporting Program prepared for the project:

a. **Mitigation Measure 3.5-1: Implement Mitigation Measure CUL-1**.

i. In accordance with State CEQA Guidelines Subsection 15064.5(f), should site contractors encounter cultural resources (including midden soil, artifacts, chipped stone, nonnative rock, or unusual amounts of baked clay, shell, or bone) during ground disturbing activities of the project, the permittee and his or her contractors shall halt work within 50 feet of the find and immediately contact a qualified archaeologist (36 CFR Part 61) to assess the significance of the find. If the find is determined to be Native American in origin, the qualified archaeologist shall notify the culturally affiliated tribe. Construction activities could continue in other areas. If the discovery proves to be significant, additional work, such as data recovery excavation, may be warranted and would be discussed in consultation with the applicant, Napa County, the culturally affiliated Native American tribe, and/or any other relevant regulatory agency, as appropriate.

ii. Should site contractors discover paleontological resources during ground disturbing activities of the project, the permittee and his or her contractors shall halt work in that area and within 50 feet of the find and immediately contact a qualified paleontologist to evaluate the find. Construction activities could continue in other areas. If the discovery proves to be significant under Society of Vertebrate Paleontology criteria, additional work, such as fossil recovery excavation, may be warranted and would be discussed in consultation with the applicant, Napa County, and/or any other relevant regulatory agency, as appropriate.

iii. If site contractors encounter human remains during ground disturbing activities of the project, the permittee and his or her

contractors shall immediately notify the Napa County Coroner of the find to determine if an investigation of the cause of death is required and/or if the remains are of Native American origin. Pursuant to Public Resources Code Section 5097.98, if such remains are of Native American origin, the Coroner will notify the Native American Heritage Commission, which will determine and notify a Most Likely Descendent (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

iv. The permittee shall ensure that all persons working on-site shall be bound by contract and instructed in the field to adhere to these provisions and restrictions.

Method of Monitoring: The permittee shall include the text of this mitigation measure as notes on the grading and utilities plans prepared as part of applications for project permits from the PBES Department. The permittee shall ensure that contractors working on-site are informed of these requirements.

Responsible Agency: Napa County PBES Department

b. **Mitigation Measure 3.7-1: Reduce exposure of existing sensitive receptors to noise generated by construction activities**.
The project applicant shall prepare a plan for construction noise reduction and submit the plan to the County for review and approval. The plan shall include measures that demonstrate how the effect of noise levels generated by construction noise sources would be reduced so as not to exceed County noise standards. Noise-control measures shall include:

i. Noise-reducing enclosures and techniques shall be used around stationary noise-generating equipment (e.g., concrete mixers, generators, compressors).

ii. Install temporary noise curtains as close as possible to the noise-generating activity such that the curtains obstruct the direct line of sight between the noise-generating construction activity and the nearby sensitive receptors. Temporary noise curtains shall consist of durable, flexible composite material featuring a noise barrier layer bounded to sound-absorptive material on one side. The noise barrier layer shall consist of rugged, impervious, material with a surface weight of at least one pound per square foot and result in a minimum of a five-decibel noise reduction at nearby sensitive receptors.

Additional noise control measures could include, but are not limited to the following:

iii. All equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations. Equipment engine shrouds shall be closed during equipment operation.

iv. Where available and feasible, equipment with back-up alarms shall be equipped with either audible self-adjusting backup alarms or alarms that only sound when an object is detected. Self-adjusting backup alarms shall automatically adjust to five decibels over the surrounding background levels. All non-self-adjusting backup alarms shall be set to the lowest setting required to be audible above the surrounding noise levels.

v. Heavy-duty equipment shall be operated at the lowest operating power possible.

Method of Monitoring: The permittee shall submit to the PBES Department, for County review concurrently with the demolition and building permit applications for the project, a construction noise reduction plan that specifies estimated equipment noise levels and measures that will reduce equipment operations noise levels to within the standards in Napa County Code (Chapter 8.16). The permittee shall include the text of noise reduction measures described in the construction noise reduction plan as notes on the civil engineering and architectural plans prepared as part of applications for project permits from the PBES Department. The permittee shall ensure that contractors working on-site are informed of these requirements.

Responsible Agency: Napa County PBES Department

7.5 OTHER CONSTRUCTION CONDITIONS APPLICABLE TO THE PROJECT PROPOSAL **[RESERVED]**

## 8.0 TEMPORARY CERTIFICATE OF OCCUPANCY – PREREQUISITES

A Temporary Certificate of Occupancy (TCO) may be granted pursuant to the County Code to allow specific limited use of the project prior to completion of all project improvements. Permittee shall comply with the following before a TCO is granted:

8.1 TEMPORARY OCCUPANCY
All life and safety conditions shall be addressed prior to issuance of a TCO by the County Building Official. TCOs shall not be used for the occupancy of hospitality buildings and shall not exceed the maximum time allowed by the County Code, which is 180 days. In special circumstances, Departments and/or Agencies with jurisdiction over the project are authorized as part of the TCO process to require a security deposit or other financial instrument to guarantee completion of unfinished improvements.

## 9.0 FINAL CERTIFICATE OF OCCUPANCY – PREREQUISITES

Permittee shall comply with the following before a Final Certificate of Occupancy is granted by the County Building Official, which upon granting, authorizes all use permit activities to commence:

9.1 FINAL OCCUPANCY

All project improvements, including compliance with applicable codes, conditions, and requirements of all Departments and Agencies with jurisdiction over the project, shall be completed.

9.2 SIGNS

Detailed plans, including elevations, materials, color, and lighting for any project identification or directional signs shall be submitted to the Department for administrative review and approval prior to installation. Administrative review and approval is not required if the signage to be installed is consistent with signage plans submitted, reviewed and approved as part of this permit approval. All signs shall meet the design standards as set forth in the County Code. Any off-site signs allowed shall be in conformance with the County Code.

9.3 GATE/ENTRY STRUCTURES

Any gate installed at the project entrance shall be reviewed by the PBES Department and the Fire Department to assure that the design allows large vehicles, such as motorhomes, to turn around if the gate is closed without backing into the public roadway, and that fire suppression access is available at all times. If the gate is part of an entry structure an additional permit shall be required pursuant to the County Code and in accordance with the Napa County Roads and Street Standards. A separate entry structure permit is not required if the entry structure is consistent with entry structure plans submitted, reviewed, and approved as part of this permit approval.

9.4 LANDSCAPING

Landscaping shall be installed in accordance with the approved landscape plan.

9.5 ROAD OR TRAFFIC IMPROVEMENT REQUIREMENTS

The permittee shall construct a vehicular left turn lane on Solano Avenue at the project frontage (off-site) and a large vehicle turnaround for the loading area (on-site). The permittee shall also install a marked crossing for pedestrians on Solano Avenue, along with pedestrian connections between: 1) the pedestrian crossing and the Vine Trail (off-site) and 2) between the pedestrian crossing and the entrances to the hotel, restaurant and art gallery buildings (on-site). The design of these improvements, described in COA 6.13.g and 6.13.h, shall be submitted to the Public Works Department for review and approval. The improvements shall be designed in substantial conformance with the submitted site plan, and other submittal materials and shall comply with all requirements of the County Code and Napa County Road and Street Standards.

9.6 DEMOLITION ACTIVITIES

All demolition activities associated with the removal of existing commercial buildings, pavements, wastewater infrastructure and trees shall be completed, landscaping installed, and debris cleared from the subject parcel.

9.7 GRADING SPOILS
All spoils piles shall be removed in accordance with the approved grading permit and/or building permit.

9.8 MITIGATION MEASURES APPLICABLE PRIOR TO ISSUANCE OF A FINAL CERTIFICATE OF OCCUPANCY **[RESERVED]**

9.9 OTHER CONDITIONS APPLICABLE PRIOR TO ISSUANCE OF A FINAL CERTIFICATE OF OCCUPANCY **[RESERVED]**

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**Planning, Building & Environmental Services**

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Napa, CA 94559
www.countyofnapa.org

**David Morrison**
Director

# MEMORANDUM

| To: | Dana Ayers, Planning | From: | Jeannette Doss, Engineering JD |
|---|---|---|---|
| Date: | December 16, 2019 | Re: | Oak Knoll Hotel<br>Use Permit – Engineering CoA<br>5091 Solano Avenue, Napa, CA<br>P4-00215 APN: 035-031-009-000 |

The Engineering Division received a referral for comment on a new use permit. Based upon the information provided in the application, Engineering finds the application **complete** and recommends the following conditions of approval:

## RECOMMENDED APPROVAL CONDITIONS:

### OPERATIONAL CHARACTERISTICS

1. All roadway, access drive, and parking area improvements shall be completed **prior to execution** of any new entitlements approved under this Use Permit.

### PREREQUISITES FOR ISSUANCE OF PERMITS

2. **Prior to issuance of a building or grading permit** the owner shall demonstrate on the plans that all private roadways, access driveways, and parking areas serving the project either currently meet the requirements and/or how they will be improved to meet the requirements as outlined in the latest edition of the Napa County Road & Street Standards for Commercial development at the time of approval of this application. The property owner shall obtain a permit for all proposed roadway and parking improvements.

3. All driveway access, and parking areas serving the project shall be improved to a dust free all weather surface.

4. Parking area layout, dimensions, and details shall conform to the requirements of the 2019 Napa County Road and Street Standards.

5. Parking areas shall have a minimum structural section capable of supporting apparatus weighing 75,000 pounds and be designed by a licensed Civil or Geotechnical Engineer. The minimum structural section shall not be less than two inches of asphalt concrete over five inches of Class II Aggregate.

6. Access drives shall meet the requirements of a commercial drive and provide a minimum of 22 feet of horizontal clearance (20 foot wide paved travel way plus 2 additional feet of shoulder/clearance).

7. All access roads must be a paved surface meeting the minimum pavement section as defined in Section 20 of the 2019 Napa County Road and Street Standards. Structural sections shall be calculated by a licensed Civil or Geotechnical Engineer to be capable of supporting apparatus weighing 75,000 pounds and shall conform to the procedures contained in Chapter 600 of the State of California Department of Transportation Design Manual or approved equivalent. The minimum structural section shall not be less than two inches of asphalt concrete over five inches of Class II Aggregate.

8. The driveway connection to the publicly maintained road shall meet the design specifications as depicted in detail P-2 of the 2019 Napa County Road and Street Standards for Driveway Connection to Arterial Roads in Rural Areas. The applicant shall obtain all necessary encroachment permits from the Napa County Department of Public Works to construct the driveway approach. The applicant shall work with the Napa County Engineering Division to make any modifications to detail P-2 of the 2019 Napa County Road and Street Standards if necessitated by roadway design requirements from Public Works.

9. All on site civil improvements including but not limited to the excavation, fill, general grading, drainage, curb, gutter, surface drainage, storm drainage, parking and drive isles, shall be constructed according to plans prepared by a registered civil engineer, which will be reviewed and approved by the Engineering Division of the Napa County Planning, Building, and Environmental Services Department (PBES) **prior to the commencement** of any on site land preparation or construction. Plans shall be wet signed and submitted with the building and grading permit documents at the time of permit application. A plan check fee will apply.

10. Grading and drainage improvements shall be constructed according to the current Napa County Road and Street Standards, Chapter 16.28 of the Napa County Code, and Appendix J of the California Building Code.

11. **Prior to issuance of a building permit and/or grading permit** the owner shall submit the necessary documents for Erosion Control as determined by the area of disturbance of the proposed development in accordance with the Napa Countywide Stormwater Pollution Prevention program Erosion and Sediment Control Plan Guidance for Applicant and Review Staff dated December 2014.

12. **Prior to issuance of a building and/or grading permit** the owner shall prepare a Stormwater Control Plan (SCP) in accordance with the latest edition of the BASMAA Post-Construction Manual for review and approval by the Engineering Division in PBES.

13. **Prior to issuance of a building permit and/or grading permit**, an Operation and Maintenance Plan shall be submitted and tentatively approved by the Engineering Division in PBES. **Before final occupancy** the property owner must legally record the "Operation and Maintenance Agreement", approved by the Engineering Division in PBES.

**PREREQUISITES DURING PROJECT CONSTRUCTION**

14. Required on-site pre-construction meeting with the Napa County PBES Engineering Division **prior to start of construction.**

**PREREQUISITES FOR TEMPORARY CERTIFICATE OF OCCUPANCY**

15. All roadway, access drive, and parking area improvements shall be completed **prior to** issuance of temporary occupancy of any new and/or remodeled structures. ** **If no temporary occupancy is requested, then this becomes a requirement prior to final occupancy.**

**PREREQUISITES FOR FINAL CERTIFICATION OF OCCUPANCY**

16. Operations and Maintenance Agreement for any required post-construction Stormwater facilities must be legally recorded.

17. Site shall be completely stabilized to the satisfaction of the County Engineer prior to Final Occupancy.

**Any changes in use may necessitate additional conditions for approval.**

If you have any questions regarding the above items, please contact Jeannette Doss from Napa County Planning, Building, and Environmental Services Department, Engineering and Conservation Division, at (707) 259-8179 or by email at Jeannette.Doss@countyofnapa.org

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David Morrison
Director

# MEMORANDUM

| | | | |
|---|---|---|---|
| To: | Charlene Gallina, Project Planner | From: | Kim Withrow, Environmental Health Supervisor KMW |
| Date: | December 12, 2019 | Re: | Oak Knoll Hotel<br>Assessor Parcel #035-031-009<br>Permit# P14-00215 |

Environmental Health staff has reviewed an application requesting approval to construct a new hotel and related improvements as described and depicted in application materials. If the project is approved the following conditions shall be included:

Prior to approval of building permit(s):

1. Because the proposed facility will have a food facility that will be used for food preparation for distribution at retail, this kitchen must be regulated under the California Retail Food Code and permitted by this Division. Complete plans and specifications for the food preparation, service area(s), storage area(s) and the employee restrooms shall be submitted for review and approval by this Division prior to approval of any building permit for said areas. Additionally, as a condition of approval and permitting of this food facility, the owner will have to comply with water system sampling and reporting as required. Owner shall apply for and obtain an annual food permit prior to issuance of a final on this project.

2. The proposed development shall continue to be obtain water from the City of Napa. Proof of service must be submitted before a building permit for any new structures is issued.

   Additionally, plans for the proposed underground water storage tank(s) and plumbing shall be submitted prior to issuance of a building permit to determine compliance with the Safe Drinking Water Act and Related Laws, including but not limited to water line setbacks, underground storage tank separation to groundwater, and storage tank construction. The separation distances between waterlines, sewer lines and storm drain piping shall be identified on the plan and meet the minimum requirements in California Code of Regulations (CCR), Title 22, California Waterworks Standards, Section 64572. Groundwater monitoring data addressing depth to groundwater and separation between the proposed underground storage tank(s) and

groundwater and underground storage tank construction standards shall be included in the plan and comply with CCR, Title 22, California Waterworks Standards, Section 64585.

3. The plans submitted for building permits must clearly show storm water improvements for the new development and the routing of such shall meet setbacks contained in Napa County Code Title 13. The storm water improvements shall also be included on wastewater plans submitted for review. New storm water improvements will not be approved within the proposed wastewater system reserve areas or within setbacks to those areas.

4. Prior to drilling a well, including groundwater monitoring wells, a permit must be obtained by a licensed well driller from this Division.

5. Complete plans for the swimming pool and/or spa shall be submitted to this Division for review and approval prior to approval of building permits. Setbacks between the pool and wastewater system shall comply with Napa County Code Section 13.28.040. An annual pool permit will be required.

6. The applicant shall secure a discharge requirement from the Regional Water Quality Control Board for the proposed waste water treatment system improvements including the commercial laundry system. The requirements as outlined in letter dated December 2, 2019 from Melissa Gunter, Water Resources Control Engineer, are incorporated by reference.

7. The Report of Waste Discharge application and plans submitted to Regional Water Quality Control Board must be submitted for review and approval to this Division. No building clearance (or issuance of a building permit) for any structure that generates wastewater to be disposed of by this system will be approved until such plans are approved by this Division. Improvements shall meet setbacks in Napa County Code 13.28.040 specifically water, wastewater and storm water infrastructure.

8. A permit to construct the proposed wastewater treatment system shall be secured from this Division prior to approval of a building clearance (or issuance of a building permit) for any structure that generates wastewater to be disposed of by this system. Inspections of the construction of this system will be conducted by this Division. Once finalized, the system will be regulated by the San Francisco Regional Water Quality Control Board.

During construction and/or prior to final occupancy being granted:

9. During the construction, demolition, or renovation period of the project the applicant shall use the franchised garbage hauler for the service area in which they are located for all wastes generated during project development, unless applicant transports their own waste. If the applicant transports their own waste, they shall use the appropriate landfill or solid waste transfer station for the service area in which the project is located.

10. If soil or groundwater contamination is discovered at any time during the development of the property, Environmental Health shall be contacted within 48 hours of the discovery at 707-253-4471.

11. The owner shall obtain annual food and pool operating permits from this Division.

Upon final occupancy and thereafter:

12. Wastewater may only be hauled from the site and disposed at a permitted wastewater treatment plant during emergencies and as part of routine maintenance. Whenever hauling of wastewater is necessary, the operator shall notify the San Francisco Regional Water Quality Control Board and Environmental Health staff within 48 hours.

13. Pursuant to Chapter 6.95 of the California Health and Safety Code, businesses that store hazardous materials above threshold planning quantities (55 gallons liquid, 200 cubic feet compressed gas, or 500 pounds of solids) shall obtain a permit, file an approved Hazardous Materials Business Plan to http://cers.calepa.ca.gov/ , and be approved by this Division within 30 days of said activities.

14. All solid waste shall be stored and disposed of in a manner to prevent nuisances or health threats from insects, vectors and odors.

15. The proposed water system to serve this project is not currently required to be regulated as a small public water system by this Division.

    However, by storing treated water in underground storage tank(s), the water quality may degrade and therefore shall be monitored regularly. As part of the food facility permit, water sample results for bacteriological quality and disinfection byproducts shall be submitted quarterly showing the water is free from bacteriological contamination and disinfection byproducts. If the bacteriological quality cannot be maintained in the tank(s), additional treatment shall be installed which would then require the owner to obtain a permit to operate a small public water system. In the event a small public water system permit is required, plans and an engineering report shall be designed and submitted showing the water system will meet all requirements in the Safe Drinking Water Act and related laws, including but not limited to, water line and storage tank setbacks

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**Planning, Building & Environmental Services**

1195 Third Street, Suite 210
Napa, CA 94559
www.countyofnapa.org

**David Morrison**
Director

**MEMORANDUM**

| To: | Dana Ayers, Contract Planner | From: | Stacie Gutierrez, Plans and Permit Supervisor |
|---|---|---|---|
| Date: | January 13, 2020 | Re: | Oak Knoll Hotel, P14-00215-UP |

**Building Inspection Division Planning Use Permit Review Comments**

**Address:** 5091 Solano Avenue, Napa, CA 94558

**APN:** 035-031-009-000

**Project:** Oak Knoll Hotel, P14-00215-UP

**Owner:** Oak Knoll Resort, LLC

**Contact:** Brian Russell

**Description:** Request for a conditional use permit to redevelop a 3.54-acre parcel with a 50-room hotel. The proposed hotel would include amenities for hotel guests (pool, fitness center, lounges), as well as a spa, art gallery/retail space and a 100-seat restaurant available to the general public. The 3.54-acre parcel on which the project is proposed to be constructed is located at 5091 Solano Avenue, north of north Napa city limits, in the CL (Commercial Limited) District.

**Comments:** The Building Division is not reviewing this project for compliance with the California Building Standards Codes at this time; the Building Division is reviewing the proposed Planning entitlements only. The Building Division has no issues or concerns with the approval of Use Permit Application P14-00215; it is a Planning entitlement and does not in itself authorize any construction activities. Separate building permits shall be required.

**The plans provided for Use Permit Application P14-00215 do not provide enough information in sufficient detail to determine all code requirements. A complete and**

**thorough plan review will be performed at the time an application is made for the required building, plumbing, mechanical, and electrical and any other construction permits required by other Napa County agencies. The following comments are provided to make the applicant aware of those codes with which the applicant will be required to comply, as well as issues that may need to be addressed prior to or during the building permit application and review process.**

1. Building permits will be required to be pulled for structures and improvements proposed in the Use Permit. All permits are valid 365 days from issuance of the permit. Please see the Building Departments website for more information on submittal requirements.

2. In accordance with the California Building Code, Chapter 1, Division 1, Section 1.1.9, which states, "**only those standards approved by the California Building Standards Commission that are effective at the time application for a building permit is submitted shall apply to the plans and specifications for, and the construction under that permit.**" The codes adopted at this time are 2019 California Building Standards Codes, Title 24, part 2, Building volumes 1 & 2, part 3 Electrical, part 4 Mechanical, part 5 Plumbing, part 6 Energy, part 9 Fire, and part 11 Green Buildings

3. Consult with your design professional to ensure at the time of Building Permit submittal that you have provided that proper separation from any mixed occupancies. Have your design professional provide an exit plan at the time of permit application.

4. During plan review, occupant loads will determine occupancy types, exiting requirements, and restroom facilities. Consult with your design professional to make sure they accounted for that during the design phase.

5. As there are existing structures and buildings on the property that will need to be removed to accommodate project construction activities, a separate demolition permit will be required from the Napa County Building Division prior to the removal of those existing structures and buildings. Please note the applicant will be required to provide a "J" number from the Bay Area Air Quality Management District at the time the applicant applies for a demolition permit.

6. Consult with your design professional to design an Accessibility Plan. The site and associated buildings are required to be accessible to persons with disabilities. This includes but not limited to a van accessible parking stall, accessible path of travel from the parking stall to all buildings, restrooms, and areas on the site that are available to employees and the public. This plan will be reviewed during the plan review for your building permit.

7. All cooking equipment in occupancies other than residential shall be commercial grade. Commercial kitchens are required to comply with the California Mechanical Code. Cooking equipment used in processes producing steam, smoke or grease-laden vapors shall be equipped with an exhaust system that complies with all the equipment and performance requirements of the Mechanical Code, and all such equipment and performance shall be maintained per the Mechanical Code during all periods of operation of the cooking equipment. Specifically, the following equipment shall be kept in good working condition: a) cooking equipment; b) hoods; c) ducts; d) fans; e) fire suppression systems; f) special effluent or energy control equipment. All airflows shall be maintained. Maintenance and repairs shall be performed on all components at intervals necessary to maintain working conditions.

8. **In accordance with the California Building Code, no change shall be made in the use or occupancy of an existing building unless the building is made to comply with the requirements of the California Building Code as for a new building.**

Issues of compliance with the California Building Code, Title 24, will be addressed during the building permit application, review and approval process. If the applicant has any questions, contact the Building Division at phone number (707) 253-4417.

**All plans and documents for commercial projects are required by California Law to be prepared and coordinated under the direction of a California Licensed Design Professional, such as an Architect and/or Engineer, in accordance with the California Business and Professions Code Chapter 3, and the California Building Code, Chapter 1.**

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**Department of Public Works**

1195 Third Street, Suite 101
Napa, CA 94559-3092
www.countyofnapa.org/publicworks

Main: (707) 253-4351
Fax: (707) 253-4627

**Steven Lederer**
Director

# MEMORANDUM

| | | | |
|---|---|---|---|
| To: | PBES Staff | From: | Ahsan Kazmi, P. E.<br>Senior Traffic Engineer |
| Date: | October 30, 2019 | Re: | Oak Knoll Hotel (P14-00215)<br>**Conditions of Approval** |

This memorandum on the Conditions of Approval is prepared at the request of Planning, Building, and Environmental Services (PBES) staff regarding the use permit application # P14-00215 for the Oak Knoll Hotel Project, located at 5091 Solano Avenue, Napa, California.

In preparation of this memorandum, I have reviewed the following documents and recently performed a site visit and also have discussed historical information with Mr. Steve Lederer, Director, of the Department of Public Works (DPW) and Ms. Dana Ayers, Project Planner, On-Call Consultant (former staff member of the PBES Department) related to the proposed Project:

- Traffic Impact Study (TIS) Report for the Oak Knoll Hotel Project, prepared by W-Trans, dated: April 2018;
- Draft Environmental Impact Report (DEIR) for the Oak Knoll Hotel Project, prepared by Ascent Environmental, Inc., dated: June 2018;
- Memorandum from DPW to PBES Staff, dated: February 2016;
- Memorandum from DPW to PBES Staff, dated: July 2017.

After careful evaluation and review of all the above mentioned documents and the methodology used in the preparation of the TIS Report, the DPW put on the following Conditions of Approval and each condition shall be fully met before issuance of occupancy and building permits:

1. The applicant/permittee shall provide a left-turn lane on northbound Solano Avenue at West Oak Knoll Avenue and at the proposed site driveway (main entry/exit point for the proposed project) per the Napa County Road and Street Standards (NC-RSS);

2. The applicant/permittee shall provide deceleration lane on southbound Solano Avenue at the proposed site driveway (main entry/exit point for proposed project) per the NC-RSS;

3. The applicant/permittee shall provide a highlighted crosswalk on Solano Avenue just south of West Oak Knoll Road, improvements included; necessary signing/striping and installation of ADA ramps on the southeast and southwest corners of Solano Avenue at West Oak Knoll Road per the California Manual on Traffic Control Devices (CA-MUTCD) and NC-RSS;

4. The applicant/permittee shall provide a bicycle and pedestrian connection between the crosswalk described above, and the Napa Valley Vine Trail in accordance with EIR Mitigation Measure 3.9-5. This would require that the bicycle and pedestrian connection cross the drainage channel that runs

parallel to, and between Solano Avenue and the Napa Valley Vine Trail per the CA-MUTCD and NC-RSS;

5. The applicant/permittee shall provide a pedestrian sidewalk along Solano Avenue on the Westside fronting the proposed project between the site main driveway and the new highlighted crosswalk at the intersection of Solano Avenue @ West Oak Knoll Road per CA-MUTCD and NC-RSS.

6. There shall be **one** driveway access along Solano Avenue serving the traffic related to the Oak Knoll Hotel Project.

7. The applicant/permittee is advised to contact the California Department of Fish and Wildlife and the Napa Valley Vine Trail Coalition regarding any permitting requirements related to the connection between the crosswalk to the Vine Trail crossing over the drainage channel;

8. An encroachment Permit is required during the building permit phase. Please contact the Roads office at (707) 944-0196 to initiate the encroachment permit process.

Please contact me at Ahsan.Kazmi@countyofnapa.org or call (707) 259-8370 if you have questions or need additional information related to this condition of approval memorandum.

Napa County Fire Department
Fire Marshal's Office
Hall of Justice, 2nd Floor
1125 3rd Street
Napa, CA 94559

Office: (707) 299-1466

Adam Mone
Fire Plans Examiner

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# MEMORANDUM

| | |
|---|---|
| TO: Planning | DATE: 10/21/19 |
| FROM: Adam Mone, Plans Examiner | |
| SUBJECT: **P14-00215** | APN: **035-031-009-000** |

The Napa County Fire Marshal's Office has reviewed the submittal package for the above proposed project. The Fire Marshal approves as submitted and requires the following conditions to be incorporated as part of permit issuance.

1. All construction and use of the facility shall comply with all applicable standards, regulations, codes and ordinances at time of Building Permit issuance.

2. Beneficial occupancy will not be granted until all fire department fire and life safety items have been installed, tested and finaled.

3. Projects shall have an approved water supply for fire protection be made available as soon as combustible material arrives on the site. All underground fire lines, pump and tank plans are required to be a separate submittal from the building or civil plans.

4. Separate submittals required for Underground Fire Lines, Fire Pump, Automatic Fire Sprinklers, Fire Alarm Systems, Kitchen Hood Extinguishing Systems, High Piled Storage (any combustible stored over 12 feet in height).

5. All buildings, facilities, and developments shall be accessible to fire department apparatus by way of approved access roadways and/or driveways. The fire access road shall comply with the requirements of the Napa County Road & Street Standards.

6. Access roads shall be designed and maintained to support the imposed loads of fire apparatus and shall be surfaced so as to provide all-weather driving capabilities. Provide an engineered analysis of the proposed roadway noting its ability to support apparatus weighing 75,000 lbs.

7. Provide fire department access roads to within 150 feet of any exterior portion of the buildings as measured by an approved route around the exterior of the building or facility.

Napa County Fire Department
Fire Marshal's Office
Hall of Justice, 2nd Floor
1125 3rd Street
Napa, CA 94559

Office: (707) 299-1466

Adam Mone
Fire Plans Examiner

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# MEMORANDUM

8. Gates for driveways and/or roadways shall comply with the California Fire Code, section 503.5 and the Napa County Road & Street Standards and CA Fire Safe Regulations for projects within SRA.

9. Commercial - Water storage (for buildings not served by a public water system) and fire flow calculations shall be provided by a Certified State Licensed Civil Engineer, C-16 licensed contractor, or registered engineer indicating compliance with California Fire Code Appendix B.

10. Commercial - Approved steamer hydrants shall be installed within 250 feet of any exterior portion of the building as measured along vehicular access roads. Private fire service mains shall be installed, tested and maintained per NFPA 24 2013 edition.

11. Commercial - Fire Department Connections (FDC) for automatic sprinkler systems shall be located fully visible and recognizable from the street or fire apparatus access roads. FDC shall be located within 50 feet of an approved fire hydrant.

12. Commercial - The minimum main size of all fire hydrants shall be 6 inches in diameter. Piping shall be installed with C-900 class 200 piping or ductile iron or equivalent per NFPA 24, 2013 edition for the installation of Underground Fire Protection Mains

13. An automatic fire sprinkler system shall be installed in accordance with provisions set forth in the California Fire Code as amended by the County of Napa and the applicable National Fire Protection Association Standard. Automatic fire sprinkler systems shall be designed by a fire protection engineer or C-16 licensed contractor.

14. All buildings shall comply with California Fire Code, Chapter 10 Means of Egress requirements. Including but not limited to; exit signs, exit doors, exit hardware and exit illumination.

15. Provide 100 feet of defensible space around all structures.

Please note that the comments noted above are based on a Fire Marshal review only. There may be additional comments or information requested from other County Departments or Divisions reviewing this application submittal package. Napa County Fire Marshal's Office Development Guidelines can be found @ www.countyofnapa.org/firemarshal. Should you have any questions of me, contact me at (707)299-1466 or email at adam.mone@countyofnapa.org

December 2, 2019
CIWQS Place ID 818321 (MDG)

Kim Withrow
Napa County Planning, Building, and Environmental Services
Division of Environmental Health
1195 Third Street, Suite 210
Napa, CA 94559
*Sent electronically to* Kim.Withrow@countyofnapa.org

Brian Russell
1485 Main Street, # 205
St. Helena, CA 94574
*Sent electronically to* napalandlaw@gmail.com

**Subject:** Proposed Oak Knoll Hotel Wastewater Treatment and Recycling System Comments, 5091 Solano Avenue, Napa, Napa County

Dear Ms. Withrow and Mr. Russell:

The proposed Oak Knoll Hotel (Project) is designed to consist of a 50-room hotel and spa, indoor and outdoor hotel guest amenities, 100-seat restaurant, retail space, onsite wastewater treatment system, and underground water tanks. In support of Napa County's permitting process for the Oak Knoll Hotel, I offer the following comments based upon a review of West Yost Associates' May 4, 2018, *Peer Review of Onsite Wastewater Treatment System* technical memorandum (Peer Review Memo) and the draft Environmental Impact Report dated June 2018 (EIR):

1. The applicant shall prepare and submit an updated Report of Waste Discharge to the San Francisco Bay Regional Water Quality Control Board (Regional Water Board) and a Title 22 Engineering Report to the Regional Water Board and the State Water Resources Control Board (State Water Board) Division of Drinking Water. The purpose of the Title 22 Engineering Report is to describe how the recycled water project will comply with California Code of Regulations Title 22, division 4, chapter 3 Water Recycling Criteria, sections 60301 through 60355. The Title 22 Engineering Report shall also address the use of recycled water in the laundry facility even if it is a closed loop water recycling system that does not contribute wastewater to the main wastewater system. Commercial laundries are a recycled water use per Title 22 section 60307(a).

Title 22 section 60323 discusses the Engineering Report. Attached are *Guidelines for the Preparation of an Engineering Report for the Production, Distribution, and Use of Recycled Water* and the Report of Waste Discharge form. The Report of Waste Discharge and the Title 22 Engineering Report shall be approved by the Regional Water Board and Division of Drinking Water prior to the initiation of the recycled water uses.

The Regional Water Board contact is Melissa Gunter, Melissa.Gunter@waterboards.ca.gov, (510) 622-2390, and the Division of Drinking Water contact is Sheri Miller, Sheri.Miller@waterboards.ca.gov, (707) 576-2734.

2. Design plans of each wastewater treatment system component, including the above ground operator's shed, shall be submitted to the Regional Water Board for review. The plans can be submitted prior to or with the Title 22 Engineering Report.

3. Constructing structures or pavement over a leachfield and wastewater treatment system components risks damage caused by vehicle traffic and leads to compaction and covering of the soil. Covering the soil prohibits transpiration of the effluent and inhibits oxygen flow into the soil, which supports treatment and soil health. Additionally, pavement can inhibit future repairs of the treatment and discharge systems. Since the effluent will be disinfected tertiary recycled water, the soil providing supplemental treatment is less of a concern with this project. The applicant is required to submit a Contingency Plan to the Regional Water Board that addresses, but is not limited to, the following:

   a. Method(s) for assessing that the leachfield and subsurface wastewater treatment system components are operating effectively.

   b. Method(s) for conducting wastewater treatment system and leachfield inspections and repairs.

   c. Alternative discharge option(s) if the subsurface disposal is not available.

   d. Discussion of alternative options to decrease the quantity of recycled water discharged via the leachfield such as, but not limited to, increasing irrigation / landscape / rooftop garden areas.

4. In concurrance with the Peer Review Memo, the onsite soil testing results that characterize soils and support the percolation/infiltration rates for the leachfield shall be included in the updated Report of Waste Discharge.

5. The Peer Review Memo states that effective precipitation, defined as 30 percent of the precipitation in any month, is used in estimating landscape irrigation demands. It also states that full precipitation values are typically used to support water balance calculations. The water balance included in the 2015 draft Report of Waste Discharge applied the effective precipitation. The Regional Water Board water balance requirements vary based on the project type and whether it includes a pond. The applicant shall provide additional rationale for using the effective precipitation rather than the monthly precipitation values and provide a water balance that considers full precipitation values.

6. Section 7.4 of the Oak Knoll Hotel 2015 draft Report of Waste Discharge includes an anti-degradation analysis for nutrient and salinity impacts. Section 7.4 states that 80% of the salts that accumulate in the top three feet of soil will be removed annually through natural leaching.

   i. Include a comparison to existing ground water quality conditions in the anti-degradation analysis in the revised Report of Waste Discharge. If site-specific ground water quality data are not available, groundwater elevation and water quality data may be available online through the State Water Board's GeoTracker Groundwater Ambient Monitoring and Assessment (GAMA) database accessible at http://geotracker.waterboards.ca.gov/gama/.

   ii. Address the sources of salinity to the wastewater and source control best management practices to reduce the salinity levels in the effluent in the revised Report of Waste Discharge.

7. Section 4.4 *Groundwater Conditions* of the 2015 draft Report of Waste Discharge states that more reliable groundwater levels will be determined with the installation of onsite groundwater monitoring wells. More reliable groundwater levels or additional information on obtaining the levels via groundwater monitoring wells shall be provided in the revised Report of Waste Discharge. Note that the Department of Water Resources Groundwater Information Center online interactive map platform contains groundwater level data. The data are accessible online at https://gis.water.ca.gov/app/gicima/. The Geotracker GAMA online database referenced herein (comment 6.i.) also contains groundwater level data.

8. A detailed description of the irrigation system shall be included in the Title 22 Engineering Report as stated in the 2015 draft Report of Waste Discharge.

9. Ozone disinfection is proposed as part of the wastewater treatment system. The Title 22 Engineering Report shall address the following:

   a. How the off-gases from the ozone contactor will be destroyed in the ozone destruct unit to prevent employee exposure.

   b. Which corrosion-resistant material(s) will be used since ozone is corrosive.

10. To better understand Water Board permitting requirements in addition to Title 22 Water Recycling Criteria, we recommend that the applicant review the *General Waste Discharge Requirements for Small Domestic Wastewater Treatment Systems* Order WQ 2014-0153-DWQ, which is attached for reference. Order Attachment B addresses recommended information to be addressed in the Report of Waste Discharge.

    Order Provision E.1.a. requires the submittal of a Spill Prevention and Emergency Response Plan within 90 days of the Regional Water Board's issuance of the Notice of Applicability for enrollment under Order WQ 2014-0153-DWQ. The Spill Prevention and Emergency Response Plan shall address the following:

    a. Operation and Control of Wastewater Treatment - A description of the wastewater treatment equipment, operational controls, flow measurement and

calibration procedures, and treatment system schematic including valve/gate locations.

b. Collection System Maintenance - A description of collection system cleaning and maintenance, equipment tests, and alarm functionality tests to minimize the potential for wastewater spills originating in the collection system.

c. Emergency Response - A description of emergency response procedures including for emergencies such as power outage, severe weather, recycled water spills, or flooding. An equipment and telephone list for contractors/consultants, emergency personnel, and equipment vendors. Attached is the Regional Water Board's recycled water spill response protocol.

d. Notification Procedures - Coordination procedures with fire, police, Governor's Office of Emergency Services (CalOES), Regional Water Board, and Napa County personnel.

11. EIR section 1.2.1 *Hydrology and Water Quality* states that excess stormwater would be routed to an underground stormwater retention system for storage and landscape irrigation. Design details/plans of the underground stormwater retention system shall be included in the Title 22 Engineering Report.

12. EIR section 3.4.1 *Environmental Setting*, subsection *Waters of the United States and State* states that the project does not contain any potential waters of the state. For clarification purposes, Porter-Cologne Water Quality Control Act chapter 2, section 13050 declares that waters of the state include groundwater. The project is overlying the Napa-Sonoma Valley – Napa Valley groundwater basin.

13. EIR section 3.8.3 *Environmental Impacts and Mitigation Measures*, subsection *Impact 3.8-3: Impacts to water or wastewater treatment* refers to a letter issued by the Regional Water Board on December 30, 2015, that concurred with the feasibility of the Oak Knoll Hotel to discharge to land via irrigation and intermittently via leachfields. The EIR states that the letter indicates that the design of the onsite treatment system would meet Regional Water Board requirements. For clarification purposes, additional information is needed prior to determining whether the Project meets Regional Water Board requirements.

If you have any questions or would like to discuss further, contact me via email to melissa.gunter@waterboards.ca.gov or at (510) 622-2390.

Sincerely,

Melissa Gunter
Water Resources Control Engineer

Attachments: A: Title 22 Engineering Report Preparation Guidelines
B: Report of Waste Discharge / Application
C: Order WQ 2014-0153-DWQ
D: Regional Water Board Recycled Water Spill Notification Protocol
E: Peer Review of Onsite Wastewater Treatment System Memo

Copy to (by email): Napa County
Dana Ayers, Dana.Ayers@countyofnapa.org

Regional Water Board
Margaret Monahan, Margaret.Monahan@Waterboards.ca.gov

DEPARTMENT OF HEALTH SERVICES
DIVISION OF DRINKING WATER AND ENVIRONMENTAL MANAGEMENT
DRINKING WATER PROGRAM
RECYCLED WATER UNIT

# GUIDELINES FOR THE PREPARATION OF AN ENGINEERING REPORT FOR THE PRODUCTION, DISTRIBUTION AND USE OF RECYCLED WATER

**March 2001**
**(Replaces September 1997 Version)**

## 1.0 INTRODUCTION

The current State of California Water Recycling Criteria (adopted in December 2000) require the submission of an engineering report to the California Regional Water Quality Control Board (RWQCB) and the Department of Health Services (DHS) before recycled water projects are implemented. These reports must also be amended prior to any modification to existing projects. The purpose of an engineering report is to describe the manner by which a project will comply with the Water Recycling Criteria. The Water Recycling Criteria are contained in Sections 60301 through 60355, inclusive, of the California Code of Regulations, Title 22. The Criteria prescribe:

* Recycled water quality and wastewater treatment requirements for the various types of allowed uses,

* Use area requirements pertaining to the actual location of use of the recycled water (including dual plumbed facilities), and

* Reliability features required in the treatment facilities to ensure safe performance.

Section 60323 of the Water Recycling Criteria specifies that the engineering report be prepared by a properly qualified engineer, registered in California and experienced in the field of wastewater treatment.

Recycled water projects vary in complexity. Therefore, reports will vary in content, and the detail presented will depend on the scope of the proposed project and the number and nature of the agencies involved in the production, distribution, and use of the recycled water. The report should contain sufficient information

to assure the regulatory agencies that the degree and reliability of treatment is commensurate with the requirements for the proposed use, and that the distribution and use of the recycled water will not create a health hazard or nuisance.

The intent of these guidelines is to provide a framework to assist in developing a comprehensive report which addresses all necessary elements of a proposed or modified project. Such a report is necessary to allow for the required regulatory review and approval of a recycled water project.

References which may assist in addressing various project elements include:

- State of California Water Recycling Criteria (December 2000)
- State of California Regulations Relating to Cross-Connections
- California Waterworks Standards
- California Water Code
- Guidelines for the Distribution of Non-potable Water, (California-Nevada Section-AWWA, 1992)
- Guidelines For The On-Site Retrofit of Facilities Using Disinfected Tertiary Recycled Water (California-Nevada Section-AWWA, 1997)
- Manual of Cross-Connection Control/Procedures and Practices (DOHS)
- Ultraviolet Disinfection – Guidelines for Drinking Water and Water Reuse (NWRI/AWWARF, December 2000)

## 2.0 RECYCLED WATER PROJECT

The following sections discuss the type of information that should be presented and described in the engineering report. Some sections may be applicable only to certain types of uses.

### 2.1 General

The report shall identify all agencies or entities that will be involved in the design, treatment, distribution, construction, operation and maintenance of the recycled facilities, including a description of any legal arrangements outlining authorities and responsibilities between the

agencies with respect to treatment, distribution and use of recycled water. In areas where more than one agency/entity is involved in the reuse project, a description of arrangements for coordinating all reuse-related activities (e.g. line construction/repairs) shall be provided. An organizational chart may be useful.

## 2.2 Rules and Regulations

The procedures, restrictions, and other requirements that will be imposed by the distributor and/or user should be described. In multiple projects covered under a Master Permit issued by the Regional Boards where the reuse oversight responsibility is delegated to the distributor and/or user, the requirements and restrictions should be codified into a set of enforceable rules and regulations. The rules and regulations should include a compliance program to be used to protect the public health and prevent cross connections. Describe in the report the adoption of enforceable rules and regulations that cover all of the design and construction, operation and maintenance of the distribution systems and use areas, as well as use area control measures. Provide a description of the organization of the agency or agencies who has the authority to implement and enforce the rules and regulations, and the responsibilities of pertinent personnel involved in the reuse program. Reference to any ordinances, rules of service, contractual arrangements, etc. should be provided.

## 2.3 Producer – Distributor - User

The producer is the public or private entity that will treat and/or distribute the recycled water used in the project. Where more than one entity is involved in the treatment or distribution of the recycled water, the roles and responsibilities of each entity (i.e. producer, distributor, user) should be described.

## 2.4 Raw Wastewater

Describe the chemical quality, including ranges with median and 95th percentile values;

Describe the source of the wastewater to be used and the proportion and types of industrial waste, and

Describe all source control programs.

## 2.5 Treatment Processes

Provide a schematic of the treatment train;

Describe the treatment processes including loading rates and contact times;

All filtration design criteria should be provided (filtration and backwash rates, filter depth and media specifications, etc.). The expected turbidities of the filter influent (prior to the addition of chemicals) and the filter effluent should be stated;

State the chemicals that will be used, the method of mixing, the degree of mixing, the point of application, and the dosages. Also describe the chemical storage and handling facilities, and

Describe the operation and maintenance manuals available.

## 2.6 Plant Reliability Features

The plant reliability features proposed to comply with Sections 60333 - 60355 of the Water Recycling Criteria should be described in detail. The discussion of each reliability feature should state under what conditions it will be actuated. When alarms are used to indicate system failure, the report should state where the alarm will be received, how the location is staffed, and who will be notified. The report should also state the hours that the plant will be staffed.

## 2.7 Supplemental Water Supply

The report should describe all supplemental water supplies. The description should include:

* Purpose

* Source

* Quality

* Quantity available

* Cross-connection control and backflow prevention measures

## 2.8 Monitoring and Reporting

The report should describe the planned monitoring and reporting program, including all monitoring required by the Water Recycling Criteria, and include the frequency and location of sampling. Where continuous analysis and recording equipment is used, the method and frequency of calibration

should be stated. All analyses shall be performed by a laboratory approved by the State Department of Health Services.

### 2.9 Contingency Plan

Section 60323 (c) of the Water Recycling Criteria requires that the engineering report contain a contingency plan designed to prevent inadequately treated wastewater from being delivered to the user. The contingency plan should include:

* A list of conditions which would require an immediate diversion to take place;

* A description of the diversion procedures;

* A description of the diversion area including capacity, holding time and return capabilities;

* A description of plans for activation of supplemental supplies (if applicable);

* A plan for the disposal or treatment of any inadequately treated effluent;

* A description of fail safe features in the event of a power failure, and

  A plan (including methods) for notifying the recycled water user(s), the regional board, the state and local health departments, and other agencies as appropriate, of any treatment failures that could result in the delivery of inadequately treated recycled water to the use area.

## 3.0 TRANSMISSION AND DISTRIBUTION SYSTEMS

Maps and/or plans showing the location of the transmission facilities and the distribution system layout should be provided. The plans should include the ownership and location of all potable water lines, recycled water lines and sewer lines within the recycled water service area and use area(s).

## 4.0 USE AREAS

The description of each use area should include:

* The type of land uses;

* The specific type of reuse proposed;

* The party(s) responsible for the distribution and use of the recycled water at the site;

* Identification of other governmental entities which may have regulatory jurisdiction over the re-use site such as the US Department of Agriculture, State Department of Health Services, Food and Drug Branch, the State Department of Health Services, Licensing and Certification Section, etc. These agencies should also be provided with a copy of the Title 22 Engineering Report for review and comment.

* Use area containment measures;

* A map showing:

  -Specific areas of use

  -Areas of public access

  -Surrounding land uses

  -The location and construction details of wells in or within 1000 feet of the use area

  -Location and type of signage

* The degree of potential access by employees or the public;

* For use areas where both potable and recycled water lines exist, a description of the cross-connection control procedures which will be used.

*In addition to the general information described above, the following should be provided for the following specific proposed uses:*

### 4.1 Irrigation

-Detailed plans showing all piping networks within the use area including recycled, potable, sewage and others as applicable.

-Description of what will be irrigated (e.g. landscape, specific food crop, etc.);

-Method of irrigation (e.g. spray, flood, or drip);

-The location of domestic water supply facilities in or adjacent to the use area;

-Site containment measures;

-Measures to be taken to minimize ponding;

-The direction of drainage and a description of the area to which the drainage will flow;

-A map and/or description of how the setback distances of Section 60310 will be maintained;

-Protection measures of drinking water fountains and designated outdoor eating areas, if applicable;

-Location and wording of public warning signs,

-The proposed irrigation schedule (if public access is included), and

-Measures to be taken to exclude or minimize public contact.

**4.2 Impoundments**

-The type of use or activity to be allowed on the impoundment;

-Description of the degree of public access;

-The conditions under which the impoundment can be expected to overflow and the expected frequency, and

-The direction of drainage and a description of the area to which the drainage will flow.

**4.3 Cooling**

-Type of cooling system (e.g. cooling tower, spray, condenser, etc.);

-Type of biocide to be used, if applicable;

-Type of drift eliminator to be used, if applicable, and

-Potential for employee or public exposure, and mitigative measures to be employed.

**4.4 Groundwater Recharge**

An assessment of potential impacts the proposal will have on underlying groundwater aquifers. The appropriate information

shall be determined through consultation with the Department on a case by case basis.

### 4.5 Dual Plumbed Use Areas

In accordance with Sections 60313 through 60316 of the Water Recycling Criteria.

### 4.6 Other Industrial Uses

The appropriate information shall be determined on a case by case basis.

### 4.7 Use Area Design

The report should discuss how domestic water distribution system shall be protected from the recycled water in accordance with the Regulations Relating to Cross-Connections and the California Waterworks Standards, and how the facilities will be designed to minimize the chance of recycled water leaving the designated use area. Any proposed deviation from the Water Recycling Criteria and necessity therefore, should be discussed in the report.

### 4.8 Use Area Inspections and Monitoring

The report should describe the use area inspection program. It should identify the locations at the use area where problems are most likely to occur (e.g. ponding, runoff, overspray, cross-connections, etc.) and the personnel in charge of the monitoring and reporting of use area problems.

### 4.9 Employee Training

The report should describe the training which use area employees will receive to ensure compliance with the Recycled Water Criteria, and identify the entity that will provide the training and its' frequency. The report should also identify any written manuals of practice to be made available to employees.

# INTRODUCTION

This application package constitutes a Report of Waste Discharge (ROWD) pursuant to California Water Code Section 13260. Section 13260 states that persons discharging or proposing to discharge waste that could affect the quality of the waters of the State, other than into a community sewer system, shall file a ROWD containing information which may be required by the appropriate Regional Water Quality Control Board (RWQCB).

This package is to be used to start the application process for all waste discharge requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permits* issued by a RWQCB except:

a) Those landfill facilities that must use a joint Solid Waste Facility Permit Application Form, California Integrated Waste Management Board Form E-1-77; and
b) General WDRs or general NPDES permits that use a Notice of Intent to comply or specify the use of an alternative application form designed for that permit.

**This application package contains:**

1. Application/General Information Form for WDRs and NPDES Permits [Form 200 (10/97)].
2. Application/General Information Instructions.

## Instructions

Instructions are provided to assist you with completion of the application. If you are unable to find the answers to your questions or need assistance with the completion of the application package, please contact your RWQCB representative. *The RWQCBs strongly recommend that you make initial telephone or personal contact with RWQCB regulatory staff to discuss a proposed new discharge before submitting your application.* The RWQCB representative will be able to answer procedural and annual fee related questions that you may have. (See map and telephone numbers inside of application cover.)

All dischargers regulated under WDRs and NPDES permits must pay an annual fee, except dairies, which pay a filing fee only. The RWQCB will notify you of your annual fee based on an evaluation of your proposed discharge. Please do NOT submit a check for your first annual fee or filing fee until requested to do so by a RWQCB representative. Dischargers applying for reissuance (renewal) of an existing NPDES permit or update of an existing WDR will be billed through the annual fee billing system and are therefore requested NOT to submit a check with their application. Checks should be made payable to the State Water Resources Control Board.

## Additional Information Requirements

A RWQCB representative will notify you within 30 days of receipt of the application form and any supplemental documents whether your application is complete. If your application is incomplete, the RWQCB representative will send you a detailed list of discharge specific information necessary to complete the application process. The completion date of your application is normally the date when all required information, including the correct fee, is received by the RWQCB.

*** NPDES PERMITS:** If you are applying for a permit to discharge to surface water, you will need an NPDES permit which is issued under both State and Federal law and may be required to complete one or more of the following Federal NPDES permit application forms: Short Form A, Standard Form A, Forms 1, 2B, 2C, 2D, 2E, and 2F. These forms may be obtained at a RWQCB office or can be ordered from the National Center for Environmental Publications and Information at (513) 891-6561.

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

State of California
Regional Water Quality Control Board

**APPLICATION/REPORT OF WASTE DISCHARGE**
**GENERAL INFORMATION FORM FOR**
**WASTE DISCHARGE REQUIREMENTS OR NPDES PERMIT**

# INSTRUCTIONS

## FOR COMPLETING THE APPLICATION/REPORT OF WASTE DISCHARGE GENERAL INFORMATION FORM FOR: WASTE DISCHARGE REQUIREMENTS/NPDES PERMIT

If you have any questions on the completion of any part of the application, please contact your RWQCB representative. A map of RWQCB locations, addresses, and telephone numbers is located on the reverse side of the application cover.

### I. FACILITY INFORMATION

You must provide the factual information listed below for ALL owners, operators, and locations and, where appropriate, for ALL general partners and lease holders.

**A. FACILITY:**
Legal name, physical address including the county, person to contact, and phone number at the facility. (**NO P.O. Box numbers!** If no address exists, use street and nearest cross street.)

**B. FACILITY OWNER:**
Legal owner, address, person to contact, and phone number. Also include the owner's Federal Tax Identification Number.

**OWNER TYPE:**
Check the appropriate Owner Type. The legal owner will be named in the WDRs/NPDES permit.

**C. FACILITY OPERATOR (The agency or business, not the person):**
If applicable, the name, address, person to contact, and telephone number for the facility operator. Check the appropriate Operator Type. If identical to B. above, enter "same as owner".

**D. OWNER OF THE LAND:**
Legal owner of the land(s) where the facility is located, address, person to contact, and phone number. Check the appropriate Owner Type. If identical to B. above, enter "same as owner".

**E. ADDRESS WHERE LEGAL NOTICE MAY BE SERVED:**
Address where legal notice may be served, person to contact, and phone number. If identical to B. above, enter "same as owner".

**F. BILLING ADDRESS**
Address where annual fee invoices should be sent, person to contact, and phone number. If identical to B. above, enter "same as owner".

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

State of California
Regional Water Quality Control Board

# APPLICATION/REPORT OF WASTE DISCHARGE GENERAL INFORMATION FORM FOR WASTE DISCHARGE REQUIREMENTS OR NPDES PERMIT

## II. TYPE OF DISCHARGE

Check the appropriate box to describe whether the waste will be discharged to: A. Land, or B. Surface Water.

Check the appropriate box(es) which best describe the activities at your facility.

Hazardous Waste - **If you check the Hazardous Waste box,** STOP **and contact a representative of the RWQCB for further instructions.**

Landfills - **A separate form, APPLICATION FOR SOLID WASTE FACILITY PERMIT/WASTE DISCHARGE REQUIREMENTS, California Integrated Waste Management Board Form E-1-77, may be required. Contact a RWQCB representative to help determine the appropriate form for your discharge.**

## III. LOCATION OF THE FACILITY

1. Enter the Assessor's Parcel Number(s) (APN), which is located on the property tax bill. The number can also be obtained from the County Assessor's Office. Indicate the APN for both the facility and the discharge point.

2. Enter the Latitude of the entrance to the proposed/existing facility and of the discharge point. Latitude and longitude information can be obtained from a U.S. Geological Survey quadrangle topographic map. Other maps may also contain this information.

3. Enter the Longitude of the entrance to the proposed/existing facility and of the discharge point.

## IV. REASON FOR FILING

**NEW DISCHARGE OR FACILITY:**
A discharge or facility that is proposed but does not now exist, or that does not yet have WDRs or an NPDES permit.

**CHANGE IN DESIGN OR OPERATION:**
A material change in design or operation from existing discharge requirements. Final determination of whether the reported change is material will be made by the RWQCB.

**CHANGE IN QUANTITY/TYPE OF DISCHARGE:**
A material change in characteristics of the waste from existing discharge requirements. Final determination of whether the reported change would have a significant effect will be made by the RWQCB.

**CHANGE IN OWNERSHIP/OPERATOR:**
Change of legal owner of the facility. Complete Parts I, III, and IV only and contact the RWQCB to determine if additional information is required.

**WASTE DISCHARGE REQUIREMENTS UPDATE OR NPDES PERMIT REISSUANCE:**
WDRs must be updated periodically to reflect changing technology standards and conditions. A new application is required to reissue an NPDES permit which has expired.

**OTHER:**
If there is a reason other than the ones listed, please describe the reason on the space provided. (If more space is needed, attach a separate sheet.)

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

State of California
Regional Water Quality Control Board

# APPLICATION/REPORT OF WASTE DISCHARGE GENERAL INFORMATION FORM FOR WASTE DISCHARGE REQUIREMENTS OR NPDES PERMIT

## V. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

It should be emphasized that communication with the appropriate RWQCB staff is vital before starting the CEQA documentation, and is recommended before completing this application. There are Basin Plan issues which may complicate the CEQA effort, and RWQCB staff may be able to help in providing the needed information to complete the CEQA documentation.

Name the Lead Agency responsible for completion of CEQA requirements for the project, i.e., completion and certification of CEQA documentation.

Check YES or NO. Has a public agency determined that the proposed project is exempt from CEQA?
If the answer is YES, state the basis for the exemption and the name of the agency supplying the exemption on the space provided. (Remember that, if extra space is needed, use an extra sheet of paper, but be sure to indicate the attached sheet under Section VII. Other.)

Check YES or NO. Has the "Notice of Determination" been filed under CEQA? If YES, give the date the notice was filed and enclose a copy of the Notice of Determination and the Initial Study, Environmental Impact Report, or Negative Declaration. If NO, check the box of the expected type of CEQA document for this project, and include the expected date of completion using the timelines given under CEQA. The date of completion should be taken as the date that the Notice of Determination will be submitted. (If not known, write "Unknown")

## VI. OTHER REQUIRED INFORMATION

To be approved, your application MUST include a COMPLETE characterization of the discharge. If the characterization is found to be incomplete, RWQCB staff will contact you and request that additional specific information be submitted.

This application MUST be accompanied by a site map. A USGS 7.5' Quadrangle map or a street map, if more appropriate, is sufficient for most applications.

## VII. OTHER

If any of the answers on your application form need further explanation, attach a separate sheet. Please list any attachments with the titles and dates on the space provided.

## VIII. CERTIFICATION

Certification by the owner of the facility or the operator of the facility, if the operator is different from the owner, is required. The appropriate person must sign the application form.
Acceptable signatures are:

1. **for a corporation,** a principal executive officer of at least the level of senior vice-president;
2. **for a partnership or individual (sole proprietorship),** a general partner or the proprietor;
3. **for a governmental or public agency,** either a principal executive officer or ranking elected/appointed official.

# DISCHARGE SPECIFIC INFORMATION

In most cases, a request to supply additional discharge specific information will be sent to you by a representative of the RWQCB. If the RWQCB determines that additional discharge specific information is not needed to process your application, you will be so notified.

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

State of California
Regional Water Quality Control Board

# APPLICATION/REPORT OF WASTE DISCHARGE
# GENERAL INFORMATION FORM FOR
# WASTE DISCHARGE REQUIREMENTS OR NPDES PERMIT

## I. FACILITY INFORMATION

### A. Facility:

| | | | |
|---|---|---|---|
| Name: | | | |
| Address: | | | |
| City: | County: | State: | Zip Code: |
| Contact Person: | | Telephone Number: | |

### B. Facility Owner:

| | | | |
|---|---|---|---|
| Name: | | | Owner Type (Check One)<br>1. ☐ Individual 2. ☐ Corporation<br>3. ☐ Governmental Agency 4. ☐ Partnership<br>5. ☐ Other: _____ |
| Address: | | | |
| City: | State: | Zip Code: | |
| Contact Person: | Telephone Number: | Federal Tax ID: | |

### C. Facility Operator (The agency or business, not the person):

| | | | |
|---|---|---|---|
| Name: | | | Operator Type (Check One)<br>1. ☐ Individual 2. ☐ Corporation<br>3. ☐ Governmental Agency 4. ☐ Partnership<br>5. ☐ Other: _____ |
| Address: | | | |
| City: | State: | Zip Code: | |
| Contact Person: | Telephone Number: | | |

### D. Owner of the Land:

| | | | |
|---|---|---|---|
| Name: | | | Owner Type (Check One)<br>1. ☐ Individual 2. ☐ Corporation<br>3. ☐ Governmental Agency 4. ☐ Partnership<br>5. ☐ Other: _____ |
| Address: | | | |
| City: | State: | Zip Code: | |
| Contact Person: | Telephone Number: | | |

### E. Address Where Legal Notice May Be Served:

| | | |
|---|---|---|
| Address: | | |
| City: | State: | Zip Code: |
| Contact Person: | Telephone Number: | |

### F. Billing Address:

| | | |
|---|---|---|
| Address: | | |
| City: | State: | Zip Code: |
| Contact Person: | Telephone Number: | |

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

State of California
Regional Water Quality Control Board

# APPLICATION/REPORT OF WASTE DISCHARGE GENERAL INFORMATION FORM FOR WASTE DISCHARGE REQUIREMENTS OR NPDES PERMIT

## II. TYPE OF DISCHARGE

**Check Type of Discharge(s) Described in this Application (A or B):**

☐ **A. WASTE DISCHARGE TO LAND** ☐ **B. WASTE DISCHARGE TO SURFACE WATER**

**Check all that apply:**

- ☐ Domestic/Municipal Wastewater Treatment and Disposal
- ☐ Cooling Water
- ☐ Mining
- ☐ Waste Pile
- ☐ Wastewater Reclamation
- ☐ Other, please describe: _____
- ☐ Animal Waste Solids
- ☐ Land Treatment Unit
- ☐ Dredge Material Disposal
- ☐ Surface Impoundment
- ☐ Industrial Process Wastewater
- ☐ Animal or Aquacultural Wastewater
- ☐ Biosolids/Residual
- ☐ Hazardous Waste (see instructions)
- ☐ Landfill (see instructions)
- ☐ Storm Water

## III. LOCATION OF THE FACILITY

**Describe the physical location of the facility.**

| 1. Assessor's Parcel Number(s) | 2. Latitude | 3. Longitude |
|---|---|---|
| **Facility:** | **Facility:** | **Facility:** |
| **Discharge Point:** | **Discharge Point:** | **Discharge Point:** |

## IV. REASON FOR FILING

- ☐ New Discharge or Facility
- ☐ Changes in Ownership/Operator (see instructions)
- ☐ Change in Design or Operation
- ☐ Waste Discharge Requirements Update or NPDES Permit Reissuance
- ☐ Change in Quantity/Type of Discharge
- ☐ Other: _____

## V. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

**Name of Lead Agency:** _____

**Has a public agency determined that the proposed project is exempt from CEQA?** ☐ **Yes** ☐ **No**

**If Yes, state the basis for the exemption and the name of the agency supplying the exemption on the line below.**

**Basis for Exemption/Agency:** _____

**Has a "Notice of Determination" been filed under CEQA?** ☐ **Yes** ☐ **No**

**If Yes, enclose a copy of the CEQA document, Environmental Impact Report, or Negative Declaration. If no, identify the expected type of CEQA document and expected date of completion.**

Expected CEQA Documents:

☐ **EIR** ☐ **Negative Declaration** **Expected CEQA Completion Date:** _____

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

State of California
Regional Water Quality Control Board

# APPLICATION/REPORT OF WASTE DISCHARGE GENERAL INFORMATION FORM FOR WASTE DISCHARGE REQUIREMENTS OR NPDES PERMIT

## VI. OTHER REQUIRED INFORMATION

Please provide a COMPLETE characterization of your discharge. A complete characterization includes, but is not limited to, design and actual flows, a list of constituents and the discharge concentration of each constituent, a list of other appropriate waste discharge characteristics, a description and schematic drawing of all treatment processes, a description of any Best Management Practices (BMPs) used, and a description of disposal methods.

Also include a site map showing the location of the facility and, if you are submitting this application for an NPDES permit, identify the surface water to which you propose to discharge. Please try to limit your maps to a scale of 1:24,000 (7.5' USGS Quadrangle) or a street map, if more appropriate.

## VII. OTHER

**Attach additional sheets to explain any responses which need clarification. List attachments with titles and dates below:**

_____

_____

_____

**You will be notified by a representative of the RWQCB within 30 days of receipt of your application. The notice will state if your application is complete or if there is additional information you must submit to complete your Application/Report of Waste Discharge, pursuant to Division 7, Section 13260 of the California Water Code.**

## VIII. CERTIFICATION

**"I certify under penalty of law that this document, including all attachments and supplemental information, were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."**

**Print Name:** _____ **Title:** _____

**Signature:** _____ **Date:** _____

**FOR OFFICE USE ONLY**

| Date Form 200 Received: | Letter to Discharger: | Fee Amount Received: | Check #: |
|---|---|---|---|
| | | | |

# California Environmental Protection Agency
# Bill of Rights for Environmental
# Permit Applicants

California Environmental Protection Agency (Cal/EPA) recognizes that many complex issues must be addressed when pursuing reforms of environmental permits and that significant challenges remain. We have initiated reforms and intend to continue the effort to make environmental permitting more efficient, less costly, and to ensure that those seeking permits receive timely responses from the boards and departments of the Cal/EPA. To further this goal, Cal/EPA endorses the following precepts that form the basis of a permit applicant's "Bill of Rights."

1. Permit applicants have the right to assistance in understanding regulatory and permit requirements. All Cal/EPA programs maintain an Ombudsman to work directly with applicants. Permit Assistance Centers located throughout California have permit specialists from all the State, regional, and local agencies to identify permit requirements and assist in permit processing.

2. Permit applicants have the right to know the projected fees for review of applications, how any costs will be determined and billed, and procedures for resolving any disputes over fee billings.

3. Permit applicants have the right of access to complete and clearly written guidance documents that explain the regulatory requirements. Agencies must publish a list of all information required in a permit application and of criteria used to determine whether the submitted information is adequate.

4. Permit applicants have the right of timely completeness determinations for their applications. In general, agencies notify the applicant within 30 days of any deficiencies or determine that the application is complete. California Environmental Quality Act (CEQA) and public hearing requests may require additional information.

5. Permit applicants have the right to know exactly how their applications are deficient and what further information is needed to make their applications complete. Pursuant to California Government code Section 65944, after an application is accepted as complete, an agency may not request any new or additional information that was not specified in the original application.

6. Permit applicants have the right of a timely decision on their permit application. The agencies are required to establish time limits for permit reviews.

7. Permit applicants have the right to appeal permit review time limits by statute or administratively that have been violated without good cause. For state environmental agencies, appeals are made directly to the Cal/EPA Secretary or to a specific board. For local environmental agencies, appeals are generally made to the local governing board or, under certain circumstances, to Cal/EPA. Through this appeal, applicants may obtain a set date for a decision on their permit and, in some cases, a refund of all application fees (ask boards and departments for details).

8. Permit applicants have the right to work with a single lead agency where multiple environmental approvals are needed. For multiple permits, all agency actions can be consolidated under a lead agency. For site remediation, all applicable laws can be administered through a single agency.

9. Permit applicants have the right to know who will be reviewing their application and the time required to complete the full review process.


# STATE WATER RESOURCES CONTROL BOARD
# ORDER WQ 2014-0153-DWQ

# GENERAL WASTE DISCHARGE REQUIREMENTS FOR SMALL DOMESTIC WASTEWATER TREATMENT SYSTEMS

**September 23, 2014**

CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

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STATE WATER RESOURCES CONTROL BOARD
ORDER WQ 20140-0153-DWQ
GENERAL WASTE DISCHARGE REQUIREMENTS
FOR SMALL DOMESTIC WASTEWATER TREATMENT SYSTEMS

## Contents

## List of Tables



## General Order Attachment



## Information Sheet Attachments

| **ACRONYMS AND ABBREVIATIONS** | |
|---|---|
| afy | acre feet per year |
| AGR | Agricultural Supply |
| Antidegradation Policy | State Water Board Resolution 68-16 |
| APMP | Advanced Protection Management Program |
| AQUA | Aquaculture |
| Basin Plan | Water Quality Control Plan |
| BOD | Biochemical Oxygen Demand |
| BPTC | Best Practicable Treatment or Control |
| CalOES | California Office of Emergency Services |
| CDPH | California Department of Public Health |
| CEC | Constituents of Emerging Concern |
| CEQA | California Environmental Quality Act |
| C.F.R. | Code of Federal Regulations |
| DDW | State Water Board, Division of Drinking Water |
| E. coli | Escherichia coli |
| e.g. | Latin *exempli gratia* (for example) |
| FDS | Fixed Dissolved Solids |
| FEMA | Federal Emergency Management Agency |
| FRESH | Fresh Water Replenishment |
| General Order | General Waste Discharge Requirements Order |
| gpd | gallons per day |
| GWR | Groundwater Recharge |
| I/I | Inflow and Infiltration |
| IND | Industrial Service Supply |
| LAA | Land Application Area |
| MBR | Membrane Biological Reactor |
| MCL | Maximum Contaminant Level |
| mg/L | Milligrams per liter |
| MPI | Minutes Per Inch |
| MPN | Most Probable Number |
| MRP | Monitoring and Reporting Program |
| MUN | Municipal Supply |
| N | Nitrogen |
| NOA | Notice of Applicability |
| NPDES | National Pollutant Discharge Elimination System |
| NTU | Nephelometric Turbidity Unit |
| OWTS Policy | Onsite Wastewater Treatment System Policy |
| P | Phosphorus |
| pdf | Portable Document Format |
| Perc Rate | Percolation Rate |
| PROC | Industrial Process Supply |
| REC-1 | Water Contact Recreation |
| Regional Water Board | Regional Water Quality Control Board |

| ACRONYMS AND ABBREVIATIONS | |
|---|---|
| RV | Recreational Vehicle |
| ROWD | Report of Waste Discharge |
| SAP | Sampling and Analysis Plan |
| SNMP | Salt and Nutrient Management Plan |
| State Water Board | State Water Resources Control Board |
| TBD | To Be Determined |
| TDS | Total Dissolved Solids |
| TKN | Total Kjeldahl Nitrogen |
| TMDL | Total Maximum Daily Load |
| TSS | Total Suspended Solids |
| USEPA | United States Environmental Protection Agency |
| Wat. Code | Water Code |
| WILD | Wildlife Habitat |
| WDRs | Waste Discharge Requirements |
| WQO 97-10-DWQ | Water Quality Order 97-10 Division of Water Quality |
| § or §§ | Section or Sections |

STATE WATER RESOURCES CONTROL BOARD
ORDER WQ 2014-0153-DWQ
GENERAL WASTE DISCHARGE REQUIREMENTS
FOR SMALL DOMESTIC WASTEWATER TREATMENT SYSTEMS

## BACKGROUND INFORMATION

**Findings:**
The State Water Resources Control Board (State Water Board) finds that:

1. Water Code section 13260(a) requires that any person discharging waste or proposing to discharge waste within any region, other than to a community sewer system, that could affect the quality of the waters of the state, file a Report of Waste Discharge (ROWD) to obtain coverage under Waste Discharge Requirements (WDRs) or a waiver of WDRs. "Waste" is defined in Water Code section 13050(d).

2. Discharges to land from Small Domestic Wastewater Treatment Systems (hereafter Small Domestic Systems) have certain common characteristics, such as similar constituents, concentrations of constituents, disposal techniques, flow ranges, and they require the same or similar treatment standards. These types of discharges are appropriately regulated under a General Waste Discharge Requirements Order (General Order). State Water Board Water Quality Order 97-10-DWQ (WQO 97-10-DWQ) is a 1997 General Order addressing Small Domestic Systems. Once effective, this General Order will supersede WQO 97-10-DWQ which will no longer be available for additional enrollees.

3. For the purposes of this General Order, the term "wastewater system" shall mean the collection system, treatment equipment, pumping stations, treatment ponds, clarifiers, sand/media filters, disinfection systems, recycled water systems (including distribution systems), storage ponds, land application areas, and other systems associated with the collection, treatment, storage, and disposal of wastewater.

4. Only Small Domestic Systems, with a monthly average flow rate of 100,000 gallons per day (gpd) or less, that discharge to land are eligible for coverage under this General Order. Small Domestic Systems are typically located at individual residences, rural parks, schools, campgrounds, mobile home parks, roadside rest stops, small commercial or residential subdivisions, restaurants, resort hotels/lodges, small correctional facilities, temporary fire-fighting camps, and recreational vehicle (RV) dump locations, including RV parks. An owner and/or operator of such a wastewater system is hereafter referred to as Discharger in this General Order. A Small Domestic System that uses subsurface disposal may be regulated by a local agency rather than a Regional Water Board, consistent with the Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems Policy (OWTS Policy). Wastewater systems regulated by local agencies may continue that coverage unless directed by the local agency or the Regional Water Board Executive Officer to seek WDRs from the Regional Water Board.

5. Wastewater treatment technologies evolve over time. Septic tanks and gravity fed leach fields provide the lowest level of acceptable treatment. Other treatment may include aerobic treatment systems, sand/media filters, package treatment plants, constructed wetlands, activated sludge, membrane biological reactors, and disinfection systems. Similarly, other dispersal options for the treated effluent may include pressure dosing, drip irrigation, land application, mound/at grade systems, or

evapotranspiration systems. The level of treatment shall be based upon the wastewater quality and the receiving water quality at the wastewater disposal location. For flow rates that exceed 20,000 gallons per day (gpd), Attachment 1, *Nitrogen Effluent Limit Evaluation*, provides direction in evaluating a discharge and determining when nitrogen control is required. Seepage pits may be considered part of the disposal system if inadequate land exists for a leach field dispersal system, other site conditions require the use of seepage pits, and site conditions are favorable for the use of seepage pits (groundwater quality shall be maintained consistent with this General Order). The discussion of treatment and disposal alternatives is not intended to limit the selection of alternatives available to the wastewater system designer.

6. All WDRs must implement the applicable Regional Water Quality Control Board's (Regional Water Board's) Water Quality Control Plan (Basin Plan) for the region in which the discharge occurs; therefore this General Order requires Dischargers to comply with all applicable Basin Plan requirements, including any prohibitions and/or water quality objectives, governing the discharge. The Discharger must comply with any more stringent standards in the applicable Basin Plan. In the event of a conflict between the requirements of this General Order and the Basin Plan, the more stringent requirement prevails.

7. This General Order allows the production and use of recycled water (as defined in Water Code section 13050(n)) and requires all recycled water use to comply with the applicable requirements described in California Code of Regulations, title 22, division 4, chapter 3, (hereafter title 22). Compliance with title 22 water recycling criteria and title 17 sanitation requirements shall be determined by the State Water Board Division of Drinking Water (DDW) (formerly California Department of Public Health), which reviews title 22 Engineering Reports. This General Order also allows for the application of treated wastewater to land that does not meet the definition of beneficial use, and is therefore not subject to the title 22 requirements.

8. Wastewater and treated wastewater quality vary depending upon source water quality, the activities generating the wastewater, water conservation efforts, inflow and infiltration (I/I), and treatment technology. Typical domestic wastewater and treated wastewater characteristics are presented in Table 1. Published wastewater textbooks and/or United States Environmental Protection Agency (USEPA) wastewater publications may also be used to characterize wastewater characteristics.

**Table 1: Summary of Domestic Wastewater Characteristics**

| Constituent | Units[a] | Typical Domestic Wastewater | Septic Tank Influent | Septic Tank Effluent | Secondary Treatment Effluent | Equivalent to Secondary Treatment Effluent |
|---|---|---|---|---|---|---|
| Biochemical Oxygen Demand | mg/L | 200-290 [b] | 155-286 [c] | 140-200 [d] | 30-45 [e] | 65 percent reduction [f] |
| Total Suspended Solids | mg/L | 200-290 [b] | 155-330 [c] | 50-100 [d] | 30-45 [e] | [p] |
| Ammonia (as N) | mg/L | 6-18 [b] | 4-13 [c] | --[g,o] | -- [g,h] | -- [g,h,i] |
| Total Nitrogen | mg/L | 35-100 [b] | 26-75 [c] | 40-100 [d] | 50% [m] | 43-80% [k,h,i] |

| Constituent | Units[a] | Typical Domestic Wastewater | Septic Tank Influent | Septic Tank Effluent | Secondary Treatment Effluent | Equivalent to Secondary Treatment Effluent |
|---|---|---|---|---|---|---|
| Nitrite and Nitrate (as N) | mg/L | <1 [b] | <1 [c] | --[g,o] | --[g,h] | -- [g,h,i] |
| Total Phosphorus (as P) | mg/L | 6-12 [b] | 6-12 [c] | 5-15 [d] | 51% [m] | 50% [k,h,i] |

a. mg/L denotes milligrams per liter.
b. Data from Table 4-3, USEPA Wastewater Treatment/Disposal for Small Communities, Manual, September 1992, EPA/625/R-92/005.
c. Data from Table 3-7, USEPA Onsite Wastewater Treatment System Manual, June 2005, EPA/625/R-00/008.
d. Data from Table 3-19, USEPA Onsite Wastewater Treatment Systems Manual, June 2005, EPA/625/R-00/008.
e. Data from Exhibit 5-6, USEPA NPDES Permit Writers' Manual, December 1996, EPA-833-B-96-003.
f. Data from Section 5.2.2, USEPA NPDES Permit Writers' Manual, December 1996, EPA-833-B-96-003.
g. "--" denotes data not available.
h. Value highly variable depending upon treatment technology.
i. No technology based limit established by USEPA.
k. Percent reduction from influent, wastewater pond treatment. USEPA webpage <http://www.epa.gov/ caddis/ssr_urb_ww1.html>, accessed August 29, 2014.
m. Percent reduction from influent wastewater, activated sludge treatment. USEPA webpage <http://www.epa.gov/ caddis/ssr_urb_ww1.html>, accessed August 29, 2014.
o. Insignificant change expected in treatment.
p. TSS limit not appropriate for land discharge.

9. Discharges from RV holding tanks or portable toilets may contain chemicals that can pollute groundwater quality. Some commercially available products used to control holding tank/portable toilet odors may contain harmful chemicals such as formaldehyde, zinc, or phenol. The harmful chemicals can kill the bacteria in the wastewater treatment system and cause wastewater to be inadequately treated. Inadequately treated wastewater may cause additional problems such as leachfield/ seepage pit failure, surfacing wastewater, and potential exposure and health risks. Discharge of the harmful chemicals to groundwater that creates pollution may result in enforcement activities requiring groundwater remediation. The best and least expensive method to prevent groundwater pollution is to not use harmful chemicals by educating RV owners about the pollution hazard.

10. Total dissolved solids (TDS) consists of both volatile (organic) and fixed (inorganic) fractions. A varying concentration of volatile dissolved solids will exist in wastewater effluent depending upon the wastewater source and treatment technology. In a properly operated land application system, volatile dissolved solids in percolate are generally reduced to negligible concentrations (less than 2 mg/L) by filtration and biological degradation following percolation through five feet of soil.[1] However, fixed

[1] USEPA, Process Design Manual, Land Treatment of Municipal Wastewater, Section 4.2.1, 1981.

dissolved solids (FDS) do not degrade biologically. Elevated concentrations of FDS in land applied effluent can change soil chemistry and degrade groundwater quality.

11. Wastewater discharged to land in close proximity to a surface water body may impact surface water quality. Additional monitoring may be required by a Regional Water Board's Executive Officer to determine if the discharge has degraded surface water quality. The USEPA recommends *Escherichia coli* (E. coli) and enterococci bacteria, which exist in fecal material from humans and other warm-blooded animals, as the best indicators of health risk from water contact.[2] Because both bacteria are present in domestic wastewater, there is no need to monitor separately for them in wastewater effluent. The effectiveness of disinfection procedures are similar for bacteria, therefore total coliform organisms, which is a less expensive analysis, is appropriate to determine if wastewater effluent is effectively disinfected. Total coliform monitoring is required for recycled water use consistent with title 22.

12. Use of recycled water in lieu of potable water is encouraged by the State Water Board as described below:

    a. The State Water Board's Strategic Plan Update 2008-2012 includes a priority to increase sustainable local water supplies available for meeting existing and future beneficial uses by 1,725,000 acre-feet per year (afy) in excess of 2002 levels by 2015.

    b. The State Water Board's Policy for Water Quality Control for Recycled Water states the following goals (in part): 1) Increase the use of recycled water over the 2002 level by at least 1 million afy by 2020 and by at least 2 million afy by 2030. 2) Increase the amount of water conserved in urban and industrial uses by 20 percent compared to 2007. 3) Substitute as much recycled water for potable water as possible by 2030.

13. The Recycled Water Policy calls on local water and wastewater entities together with other stakeholders who contribute salt and nutrients to a groundwater basin or sub-basin, to fund and develop Salt and Nutrient Management Plans (SNMPs) to comprehensively address all sources of salts and nutrients. The State Water Board herein reasserts the need for comprehensive salt and nutrient management planning and directs that salinity and nutrient increases should be managed in a manner consistent with the Recycled Water Policy. It is the intent of the Recycled Water Policy that every groundwater basin/sub-basin in California ultimately has a consistent Salt and Nutrient Management Plan. The appropriate way to address salt and nutrient issues is through the development of regional or subregional SNMPs. Dischargers may be directed to perform or participate in SNMP planning activities as described in the Provisions of this General Order.

[2] USEPA Internet page accessed June 10, 2014 <http://water.epa.gov/type/rsl/monitoring/vms511.cfm>.

14. The Recycled Water Policy includes monitoring requirements for Constituents of Emerging Concern[3] for the use of recycled water for groundwater recharge by surface and subsurface application methods. The monitoring requirements and criteria for evaluating monitoring results in the Recycled Water Policy are based on recommendations from a Science Advisory Panel.[4] Because this General Order is limited to non-potable uses and does not authorize groundwater replenishment activities, monitoring for Constituents of Emerging Concern is not required.

15. The Recycled Water Policy requires permits for landscape irrigation with recycled water to include priority pollutant monitoring at the recycled water production facility. Annual monitoring is required for design production flows greater than one million gallons per day; a five year monitoring frequency is required for flows less than one million gallons per day. Priority pollutants are listed in Appendix A of 40 Code of Federal Regulations (C.F.R.) Part 423.

16. Beneficial uses for groundwater are determined by each Regional Water Board and are listed in their respective Basin Plans. Beneficial uses for groundwater are: municipal supply (MUN), industrial service supply (IND), industrial process supply (PROC), fresh water replenishment (FRESH), aquaculture (AQUA), wildlife habitat (WILD), water contact recreation (REC-1), agricultural supply (AGR), and groundwater recharge (GWR). Some beneficial uses only apply to certain geographic areas within regions.

17. Basin Plans establish groundwater quality objectives to protect beneficial uses. The objectives may be narrative, numerical, or both. This General Order requires the Discharger to comply with those objectives in receiving groundwater.

## WASTEWATER DISPERSAL

18. Wastewater dispersal will occur by different methods. It may be percolated from ponds; applied to the surface by spray, flood, or drip methods; or discharged to a subsurface dispersal area such as a leachfield or seepage pit. The choice of disposal method will depend upon the amount of wastewater generated, the value of the wastewater for irrigation, and the receiving environment.

    a. Wastewater discharged to a pond for treatment and/or storage can result in groundwater degradation or nuisance odors. Ponds can also be vulnerable to damage caused by burrowing animals.

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[3] For this order, Constituents of Emerging Concern are defined to be chemicals in personal care products, pharmaceuticals including antibiotics, antimicrobials; industrial, agricultural, and household chemicals; hormones; food additives; transformation products, inorganic constituents; and nanomaterials.

[4] The Science Advisory Panel was convened in accordance with provision 10.b of the Recycled Water Policy. The panel's recommendations were presented in the report; *Monitoring Strategies for Chemicals of Emerging Concern in Recycled Water - Recommendations of a Science Advisory Panel*, dated June 25, 2010.

Wastewater percolated from a pond to the subsurface has the potential to degrade groundwater quality to an unacceptable extent. Reducing the amount of wastewater percolated by lining a pond with a synthetic or low permeability liner can control the percolation rate, but an alternative method of wastewater disposal may be required. Land application (discussed below) is often selected as the method to dispose of the wastewater from lined ponds.

Overloading a wastewater pond with Biochemical Oxygen Demand (BOD) constituents can result in nuisance odor generation. Source control of BOD constituents, additional pretreatment prior to discharge to the pond, or mechanical aeration of wastewater in the pond are typically used to prevent a pond from generating nuisance odors.

Burrowing animals can result in rapid failure of a containment berm. The population of such animals should be promptly controlled and repairs to the containment completed as soon as possible.

b. When land application of wastewater is selected as a disposal method, adequate acreage must be available to allow application rates that will not create nuisance conditions (e.g. vectors, nuisance odors, off-site discharge) or degrade groundwater quality to an unacceptable extent.

   Crops are often grown and harvested from a land application area (LAA) to take up wastewater constituents such as nitrogen and dissolved solids, as well as maintain roots which promote wastewater infiltration rates. When climatic conditions are favorable, double cropping an LAA can increase the uptake of wastewater constituents.

   Hydraulic loading of an LAA must be controlled to prevent off-site wastewater discharge; if wastewater is not disinfected prior to land application, storm water that falls on the LAA must be contained to prevent the potential migration off-site of pathogenic organisms. LAAs are sometimes equipped with a tailwater control system that allows for reapplication of wastewater to the LAA or returning tailwater to a wastewater pond.

c. Subsurface disposal areas may be constructed as leachfields or when conditions allow, seepage pits. If seepage pits are employed, they are often located at the end of a leachfield distribution pipe to maximize shallow distribution of wastewater.

   If conditions are not favorable for traditional leachfield construction, an at-grade, or an above grade (mound) system may be used. Typically, at-grade and above grade systems are dosed using a dosing pump and pump controller. Dosed systems use relatively small diameter pipe to distribute the wastewater to zones within the dispersal area. Even in well operated systems, some suspended solids will be pumped into the distribution piping. Cleanouts or a flushing system on the distribution piping are required to remove the solids that will accumulate if the emitters are small enough diameter to prevent suspended solids from passing through the distribution equipment. Gravelless trench systems which do not use gravel, typically use distribution piping and a dosing

system, and should be constructed with cleanouts or a flushing system similar to at-grade and/or above grade systems when needed.

Subsurface disposal areas should be planted with shallow rooted plants to prevent erosion and provide for uptake of wastewater nutrients; trees and shrubs should be removed to prevent roots from damaging the leachfield. Similarly, burrowing animals can damage an at-grade or above grade (mound) disposal system and result in leakage. Burrowing animals should be promptly controlled and repairs to the disposal system completed as soon as possible.

19. Setbacks from wastewater treatment areas, dispersal areas, and/or LAAs from domestic wells, flowing and/or ephemeral streams, lakes/reservoirs, and property lines are provided in this General Order. Setbacks are included as a means of reducing pathogenic risks by coupling pathogen inactivation rates with groundwater travel time to a well or other potential exposure route (e.g. water contact activities). In general, a substantial unsaturated zone reduces pathogen survival compared to saturated soil conditions. Fine grained (silt or clay) soil particles reduce the rate of groundwater transport and therefore are generally less likely to transport pathogens; coarse grained soil particles or fracture flow groundwater conditions may be more likely to transport pathogens. Setbacks also provide attenuation of other wastewater constituents through physical, chemical, and biological processes. The setbacks provided in this General Order are based on the title 22 water recycling criteria, the California Well Standards, the OWTS Policy, the California Plumbing Code, and commonly imposed setbacks by regulatory agencies.

20. The OWTS Policy identified wastewater disposal as a potential contributing source of pathogens or nitrogen to an impaired surface water body.[5] OWTS Policy Tier 3 addresses impaired surface water bodies and describes an Advanced Protection Management Program (APMP) as the minimum management program for wastewater systems subject to the OWTS Policy. In general, wastewater systems located within the geographic area[6] of an APMP are not eligible for coverage under this General Order unless the Regional Water Board's Executive Officer determines the discharge is acceptable based on site-specific conditions, the level of wastewater treatment, and/or total maximum daily load (TMDL) implementation plan requirements.

[5] Impaired surface water bodies are those identified on a list approved first by the State Water Board and then approved by USEPA pursuant to Section 303(d) of the Federal Clean Water Act.

[6] The geographic area of an APMP is established (in order of hierarchy) by an approved TMDL, an approved local agency defined APMP, or 600 feet from the water body.

## APPLICATION PROCESS

21. Dischargers seeking coverage under this General Order shall file an ROWD with the appropriate Regional Water Board. The application process is summarized in Attachment A. Some Regional Water Boards may provide procedures for electronic submittal of application documents. An ROWD consists of:

    a. A completed Form 200, which is available at: http://www.waterboards.ca.gov/publications_forms/forms/docs/form200.pdf .

    b. An application fee that serves as the first annual fee. Fees are based on threat and complexity ratings, and the treatment technology employed. Threat and complexity ratings are defined in the fee schedule listed in California Code of Regulations, title 23, section 2200 and also available at: <http://www.waterboards.ca.gov/resources/fees/docs/ fy1112fee_schdl_wdr.pdf>.

    c. A technical report that describes the wastewater generation, treatment, storage, and disposal. Submittal of the report in the recommended format provided in Attachment B1 will allow for an expedited review by Regional Water Board staff. (Some Regional Water Boards' staff may have different or additional technical report requirements in addition to Attachment B1. An applicant is advised to inquire with the Regional Water Board staff before performing investigations and/or preparing the technical report.)

    Upon review of the ROWD, Regional Water Board staff will determine if coverage under this General Order is appropriate. The Regional Water Board's Executive Officer will issue a Notice of Applicability (NOA) when coverage under this General Order has been authorized. The NOA will contain the necessary site-specific monitoring and reporting requirements.

22. Dischargers covered by WQO 97-10-DWQ or another administrative mechanism may continue discharging under that authority until notified of the need to update their coverage by the State Water Board or Regional Water Board.

23. Although a Discharger may be eligible for coverage under this General Order, the appropriate Regional Water Board Executive Officer may determine that the discharge would be better regulated by a waiver of WDRs, individual WDRs, a different general order, an enforcement order, or a National Pollutant Discharge Elimination System (NPDES) Permit.

## ANTIDEGRADATION ANALYSIS

24. State Water Board Resolution 68-16, the *Statement of Policy with Respect to Maintaining High Quality of Waters in California* (hereafter the Antidegradation Policy) requires that disposal of waste into the waters of the state be regulated to achieve the highest water quality consistent with the maximum benefit to the people of the state. The quality of some waters is higher than established by adopted policies and that higher quality water shall be maintained to the maximum extent possible consistent with the Antidegradation Policy. The Antidegradation Policy requires the following:

a. Higher quality water will be maintained until it has been demonstrated to the state that any change will be consistent with the maximum benefit to the people of the state, will not unreasonably affect present and anticipated beneficial use of the water, and will not result in water quality less than that prescribed in the policies.

b. Any activity that produces a waste and discharges to existing high quality waters will be required to meet WDRs that will result in the Best Practicable Treatment or Control (BPTC) of the discharge necessary to assure pollution or nuisance will not occur, and the highest water quality consistent with the maximum benefit to the people of the state will be maintained.

25. The Antidegradation Policy requires maintenance of high quality of waters of the state unless limited degradation is consistent with the maximum benefit to the people of the state. When issuing NOAs under this General Order, Executive Officers must assure that Dischargers implement BPTC as necessary to maintain the highest water quality consistent with the maximum benefit to the people of the state.

26. This General Order allows discharges to numerous groundwater bodies, each with its own chemical characteristics. There are not sufficient data to determine which receiving waters are high quality waters. To the extent a discharge covered under this General Order may be to high quality waters, this General Order authorizes limited degradation consistent with the Antidegradation Policy as described in the findings below.

27. This General Order limits a discharge flow rate to 100,000 gpd; therefore, only small Dischargers will be eligible for coverage. Wastewater systems with a flow rate greater than 20,000 gpd must evaluate the discharge with the method presented in Attachment 1 to determine if nitrogen effluent limits are appropriate. Discharge of domestic wastewater at lower flow rates inherently has less potential to significantly degrade water quality.

28. Limited degradation of groundwater by some waste constituents associated with domestic wastewater effluent, after effective source control, treatment, and control measures are implemented, is consistent with the maximum benefit to the people of the state. The technology, energy, water recycling, and waste management advantages of centralized wastewater treatment systems far exceed any benefits derived from reliance on numerous, concentrated individual wastewater systems, and the cumulative impact on water quality will be substantially less. The economic prosperity of communities and associated industry is of maximum benefit to the people of the state and provides sufficient justification for allowing the limited groundwater degradation that may occur pursuant to this General Order provided the terms of the applicable Basin Plan, and other applicable State Water Board and Regional Water Board policies are consistently met. The State Water Board recognizes variability in a small community's ability to construct wastewater treatment systems based on financial resources.

29. Constituents of concern that have the potential to degrade groundwater include salinity, nutrients, and pathogens (represented by coliform bacteria). In addition, excessive BOD loading of ponds or LAAs may result in nuisance odors or anaerobic

conditions, which are not favorable biological treatment conditions. This General Order includes effluent limits for nitrogen and BOD, and a process to determine how to apply the limits. Implementation of the process to determine the effluent limit that applies will result in the BPTC for the wastewater constituents. In addition, this General Order provides guidance on preparing a monitoring program that ensures the treatment is effective. Each of the wastewater constituents of concern are discussed below:

a. Salinity is a measure of dissolved solids in water. Excessive salinity can reduce the beneficial uses of water. Salinity can be affected by the discharge of wastewater with elevated concentrations of TDS. TDS consists of both volatile (organic) and fixed (inorganic) fractions. In a well-operated land application system, volatile dissolved solids in percolate will be reduced to negligible concentrations. The best approach for addressing salinity is through source control activities. This General Order allows an Executive Officer to require participation in salt and nutrient management planning processes.

b. Nitrogen is a nutrient normally present in domestic wastewater at a concentration that can degrade groundwater quality. The potential for degradation depends upon the wastewater treatment method and the environment into which the wastewater effluent is discharged. Nitrogen concentration reduction is not required in every situation, such as when wastewater treatment and application is performed in a way that is protective of the beneficial uses of water.

   When needed, nitrogen concentrations can be reduced in a number of ways, such as nitrification, denitrification, and/or crop uptake and removal. However, the General Order requires that the effluent limit for nitrogen be determined based on procedures in Attachment 1, which provides additional criteria to determine when and how much nitrogen control is required. Effluent limits are determined based on the threat to groundwater quality. If nitrogen control is needed, a minimum of 50-percent reduction is required. In cases where a higher threat to groundwater exists, a total nitrogen concentration limit of 10 mg/L is required. By imposing the total nitrogen limit of 10 mg/L, the wastewater derived nitrogen cannot exceed the maximum contaminant level (MCL) for groundwater. Because natural systems are rarely 100-percent efficient, the nitrogen concentration limit will be protective of the existing and/or potential beneficial use of groundwater. Effluent limitations for nitrogen are contained in this General Order. To ensure the nitrogen control is effective, the model Monitoring and Reporting Program (MRP) provided as Information Sheet Attachment C includes monitoring that can be implemented to verify compliance with effluent limits.

c. Pathogens and other microorganisms are present in domestic wastewater. Wastewater treatment processes will reduce the concentration of pathogens but disinfection is required to significantly reduce their presence. Coliform bacteria are used as a surrogate (indicator) because they are excreted by warm-blooded animals, are present in high numbers, survive in the environment similar to

pathogenic bacteria, and are easy to detect and quantify. Disinfection of wastewater is not required in every situation, such as when the wastewater application is performed in such a way that public contact is minimized through physical controls and/or notification.

When needed, disinfection can be performed in a number of ways. The title 22 water recycling criteria lists disinfection requirements for specific activities. To ensure the disinfection is effective, the model MRP provided as Information Sheet Attachment C includes monitoring that can be implemented to verify compliance with effluent limits.

30. Compliance with the General Order, the NOA, DDW requirements, and any mitigation measures will ensure compliance with the applicable Basin Plan.

## TITLE 27 EXEMPTION

31. The wastewater treatment, storage, and disposal activities described in this General Order are exempt from the requirements of *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste* in California Code of Regulations, title 27, division 2, Subdivision 1, section 20005, et seq. The activities are exempt from the requirements of title 27 so long as the activity meets, and continues to meet, all preconditions listed below. (Cal. Code Regs., tit. 27, § 20090.)

    a. Sewage—Discharges of domestic sewage or treated effluent which are regulated by WDRs issued pursuant to California Code of Regulations, title 23, division 3, chapter 9, or for which WDRs have been waived, and which are consistent with applicable water quality objectives, and treatment or storage facilities associated with municipal wastewater treatment plants, provided that residual sludge or solid waste from wastewater treatment facilities shall be discharged only in accordance with the applicable State Water Board promulgated provisions of this division. (Cal. Code Regs., tit. 27, § 20090(a).)

    b. Wastewater—Discharges of wastewater to land, including but not limited to evaporation ponds, percolation ponds, or subsurface leach fields if the following conditions are met:

        (1) the applicable Regional Water Board has issued WDRs, reclamation requirements, or waived such issuance;

        (2) the discharge is in compliance with the applicable water quality control plan; and

        (3) the wastewater does not need to be managed according to, California Code of Regulations, title 22, division 4.5, chapter 11, as a hazardous waste. (Cal. Code Regs., tit. 27, § 20090(b).)

    c. Underground Injection—Discharges of waste to wells by injection pursuant to the Underground Injection Control Program established by the USEPA under the Safe Drinking Water Act, 42 US Code section 300(h), see Code of Federal Regulations title 40, Parts 144 to 146. (Cal. Code Regs., tit. 27, § 20090(c).)

d. Soil Amendments—Use of nonhazardous decomposable waste as a soil amendment pursuant to applicable best management practices, provided that Regional Water Boards may issue waste discharge or reclamation requirements for such use. (Cal. Code Regs., tit. 27, § 20090(f).)

e. Fully Enclosed Units—Waste treatment in fully enclosed facilities, such as tanks, or in concrete lined facilities of limited areal extent, such as oil water separators designed, constructed, and operated according to American Petroleum Institute specifications. (Cal. Code Regs., tit. 27, § 20090(i).)

**Table 2: Summary of Wastewater System and California Code of Regulations, Title 27 Exemptions**

| Example of Wastewater System Element/ Activity | Potentially Applicable Exemption(s) |
|---|---|
| Wastewater collection, treatment, storage, and disposal systems. | Section 20090 (a) Sewage, domestic wastewater, and treated effluent |
| Applying wastewater to evaporation ponds, storage ponds, percolation ponds, rapid infiltration basins, leach fields, seepage pits, land application areas, spray fields, etc. | Section 20090 (b) Wastewater discharges to land |
| Disposal of wastewater in injection wells or seepage pits. | Section 20090 (c) Underground injection |
| Application of treated wastewater containing suspended solids to a land application area. | Section 20090 (f) Soil amendments, nonhazardous decomposable waste |
| Wastewater collection, flow equalization, and treatment in a septic tank, Imhoff tank, sand/media filter, package treatment tank, aeration basin, clarifier, sludge holding/thickening tank, pumping sumps, lined sludge drying beds, etc. | Section 20090 (i) Waste treatment in fully enclosed facilities. |

## CALIFORNIA ENVIRONMENTAL QUALITY ACT

32. This General Order is intended to cover both new and existing Small Domestic Systems.

    a. The adoption of this General Order for existing Small Domestic Systems is categorically exempt from the California Environmental Quality Act (CEQA) pursuant to California Code of Regulations, title 14, section 15301 (ongoing or existing projects), section 15302 (replacement or reconstruction of existing utility systems), and section 15303 (new construction or conversion of small structures).

b. For new or expanding Small Domestic Systems, the State Water Board considered the environmental impacts associated with the adoption of this General Order and prepared an Initial Study in accordance with California Code of Regulations, title 14 section 15063. Analysis in the Initial Study and early consultation with responsible and trustee agencies did not identify any significant impacts on the environment. Therefore, a Negative Declaration was prepared. The State Water Board adopted the Negative Declaration (Resolution 2014-0054) on September 23, 2014.

c. New or expanding systems are subject to further CEQA evaluation on a site-specific basis by local agencies performing CEQA evaluations of proposed projects. The potential significant environmental impacts from discharges of domestic wastewater can be mitigated to less than significant impacts by compliance with this General Order, the NOA, and any mitigation measures adopted by local agencies.

## OTHER REGULATORY ISSUES

33. Dischargers that meet the criteria for coverage under State Water Board Order No. 2006-0003-DWQ, *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems,* or updated order, are required to obtain coverage.

34. Consistent with Water Code section 13241, the State Water Board, in establishing the requirements contained herein, considered factors including, but not limited to, the following:

    a. Past, present, and probable future beneficial uses of water.

    b. Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.

    c. Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area.

    d. Economic considerations.

    e. The need for developing housing within the region(s).

    f. The need to develop and use recycled water.

35. Water Code section 13263(i) states, The State Water Board or a Regional Water Board may prescribe general WDRs for a category of discharges if the State Water Board or that Regional Water Board finds or determines that all of the following criteria apply to the discharges in that category:

    1) The discharges are produced by the same or similar operations.

    2) The discharges involve the same or similar types of waste.

    3) The discharges require the same or similar treatment standards.

    4) The discharges are more appropriately regulated under general WDRs than individual WDRs.

Small Domestic Systems that will be regulated under this General Order are consistent with the criteria listed above and therefore a general order is appropriate. All discharges regulated under this order will be from similar operations and will be consistent with the description of domestic wastewater as defined in Finding 8. The discharges will use similar treatment methods (e.g. screening, settling, biological treatment, clarification, and application to land). Individual WDRs are not necessary because the discharges are similar and discharge requirements would be similar if individual WDRs were issued.

36. Technical and monitoring reports specified in this General Order are required. (Wat. Code, § 13267.) Failing to furnish the reports by the due date or falsifying information in the reports, are misdemeanors that may result in assessment of civil liabilities against the Discharger. Water Code section 13267 states, in part:

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

The technical reports required by this General Order, the NOA, and the MRP are necessary to assure compliance with this General Order. The burden and cost of preparing the reports is reasonable and consistent with the interest of the state in maintaining water quality.

37. The BOD and Total Suspended Solids (TSS) effluent limitations contained in this General Order are technology based. USEPA has developed technology based effluent limits for secondary treatment for use in NPDES permits. However, pond treatment systems often cannot comply with the limits that apply to activated sludge treatment systems due to algae growth in the pond. In response, USEPA developed an equivalent to secondary treatment definition for alternative biological treatment technologies such as a trickling filter or waste stabilization pond. (40 C.F.R. §133.05). Although this General Order only authorizes discharges to land, some of the secondary treatment standards are appropriate to demonstrate that wastewater is adequately treated. For pond and/or trickling filter wastewater systems, the total suspended solids limit is not appropriate because application of algal solids to land is not a concern.

38. This General Order does not preempt or supersede the authority of municipalities, flood control agencies, or other local agencies to prohibit, restrict, or control discharges of waste subject to their jurisdiction.
39. The State Water Board has notified potential Dischargers and all other known interested parties of the intent to prescribe WDRs as described in this General Order.
40. The State Water Board, in a public meeting, has heard and considered all comments pertaining to the proposed discharge.

## IT IS HEREBY ORDERED

**IT IS HEREBY ORDERED** that upon adoption of this General Order, WQO 97-10-DWQ is classified as in effect, but inactive for future Discharger enrollment.

Pursuant to Water Code section 13263 and 13267, the Discharger, its agents, successors, and assigns, in order to meet the provisions contained in division 7 of the Water Code and regulations adopted hereunder, shall comply with the following:

### A. Prohibitions

1. The direct or indirect discharge of any wastewater to surface waters or surface water drainage courses is prohibited.
2. The use of cesspools, an excavation or device that allows wastewater infiltration into the soil without treatment, is prohibited.
3. The treatment, storage, and/or disposal of waste in or at the wastewater system shall not cause or contribute to a condition of pollution, contamination, or nuisance as defined in Water Code section 13050.
4. The discharge of wastewater other than domestic wastewater is prohibited.
5. Bypass or overflow of treated or untreated waste is prohibited.
6. The discharge of waste to land not owned, operated, or controlled by the Discharger is prohibited. An exception to this prohibition is when recycled water is used as described in a title 22 Engineering Report approved by DDW.
7. The discharge of waste classified as hazardous (Cal. Code Regs., tit. 23, § 2521(a)), or designated (Wat. Code, § 13173) is prohibited.
8. The discharge of waste in violation of, or not consistent with, the applicable Regional Water Board's Basin Plan is prohibited.
9. A physical connection between a recycled water system and a potable water system is prohibited.
10. The use of recycled water in a manner different than described in the DDW approved title 22 engineering report is prohibited.
11. Use of equipment used to convey recycled water (e.g. tanks, piping, valves,) also used for potable water supply, is prohibited.

## B. Requirements by Wastewater System Type

### 1. All Wastewater Systems

a. The Discharger shall not discharge wastewater in excess of the flow limit(s) specified in the NOA. In no case shall the flow rate of wastewater discharged to the headworks exceed 100,000 gpd as a monthly average. Headworks are defined as the facilities where wastewater enters a wastewater treatment plant. Headworks may include bar screens, comminutors, a wet well, and pumps. Dischargers that store wastewater and apply it to an LAA during irrigation season may land apply more than 100,000 gallons per day of treated wastewater to an LAA during the irrigation season as allowed by the NOA.

b. Treatment and disposal of wastewater must demonstrate BPTC for domestic wastewater. BPTC shall be demonstrated by compliance with all of the following:

   i. Compliance with this General Order.

   ii. Compliance with effluent limitations included in this General Order.

   iii. Compliance with the NOA, which will specify the following (at a minimum):

      1. Site-specific flow limit(s).

      2. Site-specific wastewater system treatment and disposal methods provided in Section B.2 through B.8 of this General Order.

      3. Applicable Basin Plan groundwater and/or surface water limitations in addition to those provided in Section C of this General Order.

      4. Applicable effluent limitations from Section D of this General Order. For flow rates greater than 20,000 gpd, the discharge must be evaluated as described in Attachment 1 to determine if nitrogen effluent limits are required.

      5. Requirements for operation of the wastewater treatment system and disinfection requirements provided by the DDW approved title 22 Engineering Report.

      6. Water quality related mitigation measures from an approved site-specific CEQA document (if one is prepared).

c. Wastewater systems located within the geographic area[7] of an APMP are not eligible for coverage under this General Order unless the Regional Water Board's Executive Officer determines the discharge is acceptable based on site-specific conditions, the level of wastewater treatment, and/or TMDL implementation plan requirements.

[7] The geographic area of an APMP is established (in order of hierarchy) by an approved TMDL, an approved local agency defined APMP, or 600 feet from the water bodies listed on Table 5 or Table 6 of OWTS Policy Attachment 2.

d. The siting, design, construction, operation, maintenance, and monitoring of the wastewater system shall comply with the requirements of the applicable Regional Water Board's Basin Plan.

e. Nuisance odors shall not be perceivable beyond the property line of the wastewater treatment facility.

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

g. For systems with a design flow rate greater than 3,500 gpd, the technical report required as part of the ROWD shall be prepared by a California licensed professional civil engineer. For systems with a design flow rate less than 3,500 gpd, the technical report shall be prepared by a California licensed professional engineer or other appropriately licensed professional (e.g., a California licensed professional geologist or California registered environmental health specialist).

h. For new or expanding Small Domestic Systems within or nearby the boundaries of a centralized wastewater district or regional service area, the Discharger must demonstrate a good faith effort to connect to the centralized system when feasible and practicable, and provide evidence that connection to the system was not approved.

i. A Regional Water Board Executive Officer may require additional investigations or monitoring to demonstrate beneficial uses of water are protected and antidegradation requirements are satisfied. Acceptable methods may include, but not be limited to, evaluation of the wastewater system's treatment performance, groundwater monitoring, or additional sampling to characterize the wastewater discharge.

j. The Discharger shall comply with any water quality related mitigation measures adopted in a CEQA document addressing the facility.

k. When producing or using recycled water, the Discharger shall comply with the provisions of the DDW approved title 22 Engineering Report.

l. The Discharger shall comply with the setbacks described in Table 3. However, some existing sites may not comply with the setbacks provided herein. Such noncomplying sites may be permitted under this General Order if nuisance conditions do not result from the noncompliance. Expansion of a noncomplying wastewater system shall trigger further evaluation of the setbacks. In some cases, more than one setback standard exists. The following procedure shall be implemented when determining the appropriate setback:

    i. When the setback requirement comes from title 22, approval of a variance must be obtained from DDW.

ii. When the setback comes from the California Well Standards, a reduced setback may be allowed based on site-specific conditions; review the California Well Standards for clarification.

iii. When the setback comes from the OWTS Policy, the Regional Water Board Executive Officer may allow a reduced setback based upon site-specific conditions (e.g. annular seal in a well, groundwater flow direction near water bodies, treatment/disinfection level of wastewater, etc.).

iv. When the setback comes from the California Plumbing Code, the Regional Water Board Executive Officer may not reduce the setback.

v. Setbacks that are not referenced to a requirement listed above are based on professional judgment and may be revised by the Regional Water Board Executive Officer based on site-specific conditions.

**Table 3: Summary of Wastewater System Setbacks**

| Equipment or Activity | Domestic Well | Flowing Stream [a] | Ephemeral Stream Drainage [b] | Property Line | Lake or Reservoir [d] |
|---|---|---|---|---|---|
| Septic Tank, Aerobic Treatment Unit, Treatment System, or Collection System [e] | 150 ft. [y]<br>100 ft. [o]<br>50 ft. [c] | 50 ft. [c] | 50 ft. | 5 ft. [c] | 200 ft. [w]<br>50 ft. [c] |
| Leach Field [f] | 100 ft. [o,c] | 100 ft. [c] | 50 ft. | 5 ft. [c] | 200 ft. [w]<br>100 ft. [c] |
| Seepage Pit | 150 ft. [o,c] | 150 ft. [c] | 50 ft. | 8 ft. [c] | 200 ft. [w]<br>150 ft. [c] |
| *LAND APPLICATION AREA REQUIREMENTS* | | | | | |
| LAA (disinfected tertiary recycled water) [g] | 50 ft. [m] | 25 ft. | 50 ft. | 25 ft. | 200 ft. |
| LAA (disinfected sec-2.2 or sec-23 recycled water) [h] | 100 ft. [r] | 50 ft. | 50 ft. | 100 ft. [x]<br>50 ft. [p] | 200 ft. |
| LAA (undisinfected secondary recycled water) [i] | 150 ft. [s] | 100 ft. | 100 ft. | 100 ft. [x]<br>50 ft. [p] | 200 ft. |
| Spray Irrigation (disinfected tertiary recycled water) [k] | No spray irrigation of any recycled water, other than disinfected tertiary recycled water, shall take place within 100 feet of a residence or a place where public exposure could be similar to that of a park, playground, or school yard. | | | | |
| *WASTEWATER STORAGE AND/OR TREATMENT PONDS* | | | | | |
| Impoundment (disinfected tertiary recycled water) [g] | 100 ft. [t] | 100 ft. | 100 ft. | 50 ft. | 200 ft. |
| Impoundment (disinfected sec-2.2 or sec-23 recycled water) [h] | 100 ft. [r] | 100 ft. | 100 ft. | 50 ft. | 200 ft. |
| Impoundment (undisinfected secondary recycled water) [i] | 150 ft. [s] | 150 ft. | 150 ft. | 50 ft. | 200 ft. |

LAA denotes Land Application Area. Sec denotes secondary.

[a] A flowing stream shall be measured from the ordinary high water mark established by fluctuations of water elevation and indicated by characteristics such as shelving, changes in soil character, vegetation type, presence of litter or debris, or other appropriate means.

[b] Ephemeral Stream Drainage denotes a surface water drainage feature that flows only after rain or snow-melt and does not have sufficient groundwater seepage (baseflow) to maintain a condition of flowing surface water. The drainage shall be measured from a line that defines the limit of the ordinary high water mark (described in "a" above). Irrigation canals are not considered ephemeral streams drainage

features. The ephemeral stream shall be a "losing stream" (discharging surface water to groundwater) at the proposed wastewater system site.

[c] Setback established by California Plumbing Code, Table K-1.

[d] Lake or reservoir boundary measured from the high water line.

[e] Septic Tank, Aerobic Treatment Unit, Treatment System, or Collection System addresses equipment located below ground or that impedes leak detection by routine visual inspection.

[f] Leach Field includes all subsurface dispersal systems, including mound systems except seepage pits.

[g] Disinfected tertiary recycled water is defined in California Code of Regulations, title 22, section 60301.230.

[h] Disinfected secondary-2.2 recycled water is defined in California Code of Regulations, title 22, section 60301.220. Disinfected secondary-23 recycled water is defined in California Code of Regulations, title 22, section 60301.225.

[i] Undisinfected secondary recycled water is defined in California Code of Regulations, title 22, section 60301.900.

[k] Additional restrictions for spray irrigation of recycled water are contained in California Code of Regulations, title 22, section 60310(f)

[m] Setback established by California Code of Regulations, title 22, section 60310(a). A reduced setback is allowed as described in California Code of Regulations, title 22, section 60310(a) if all the conditions in the section are met and compliance is documented in the ROWD and NOA.

[o] California Well Standards, part II, section 8. Site-specific conditions may allow reduced setback or require an increased setback. See discussion in Well Standards.

[p] Setback for drip or flood application methods. Spray irrigation is subject to additional setbacks and restrictions. (See footnote k.)

[r] Setback established by California Code of Regulations, title 22, section 60310(c).

[s] Setback established by California Code of Regulations, title 22, section 60310(d).

[t] Setback established by California Code of Regulations, title 22, section 60310(b).

[w] Setback established by the Onsite Wastewater Treatment System Policy, section 7.5.5.

[x] Setback established by California Code of Regulations, title 22, section 60310(f).

[y] Setback established by Onsite Wastewater Treatment System Policy, section 7.5.6.

## 2. Septic Systems

a. Gauging and limited repairs may be performed by homeowners or contractors as allowed by the Business and Professions Code (Bus. & Prof. Code, section 7044 and/or section 7048). With certain exceptions, anyone performing construction work in California must be licensed by the California Contractors' State License Board. Septic tank and/or leach field service (repairs, pumping, etc.) shall be performed only by a California licensed General Engineering (A), Plumbing (C-36), or Sanitation System (C-42) contractor. The Discharger shall maintain a record of all septic service activities for a minimum of five years. At a minimum, the record shall include the date, nature of service, service company name, and service company state contractor license number.

   Health and Safety Code sections 117400 - 117450 require septic tank pumping to be registered by the jurisdiction where work is performed. Such service providers may be exempt from the state contractor's licensing requirements if meeting the exceptions described in the Business & Professions Code section 7044 and/or 7048.

b. Owners and/or operators of wastewater systems that accept wastes from RVs or other mobile waste systems must ensure that such wastes do not deleteriously affect the wastewater system or adversely affect beneficial uses of groundwater

with holding tank additives that may contain, among other chemicals, formaldehyde, zinc, and/or phenol.

Use of holding tank chemicals shall be discouraged by the wastewater system owner/operator. Education of visitors can be accomplished by providing an information sheet upon check-in. Information on holding tank chemicals is provided in Attachment B2. The sale or provision of such additives by the Discharger to operators of RVs served by the Discharger's wastewater facility may be determined to be evidence of noncompliance with this section.

c. To the maximum extent possible, RV, portable toilet, or similar wastes shall not be discharged to a septic tank or functionally equivalent system (e.g. Imhoff tank) without subsequent additional treatment (e.g., aerated pond, recirculating sand filter, etc.) prior to disposal.

d. Septic tanks shall be pumped when any one of the following conditions exists:

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

   ii. The scum layer is within 3 inches of the outlet device.

   iii. The sludge layer is within 8 inches of the outlet device.

e. Septage is the liquid, solid, and semisolid material that results from wastewater treatment in a septic tank, which must be pumped, hauled, treated, and disposed of properly. (40 C.F.R. § 503.) Septage disposal shall only be to a legal disposal site that has been issued WDRs by a Regional Water Board allowing septage disposal. Septage shall be handled in such a manner as to prevent its reaching surface waters or watercourses.

**3. Aerobic Treatment Units**

a. Within **90 days** of the issuance of an NOA, the Discharger shall submit a Sludge Management Plan consistent with the requirements of Provision E.1.c of this General Order. The Discharger must obtain written approval from the Regional Water Board's Executive Officer prior to any disposal of sludge. The Executive Officer shall be notified of any changes in an approved Sludge Management Plan at least **90 days** in advance of the proposed change.

b. Modifications to a Sludge Management Plan deemed part of an emergency action shall be noticed to the Regional Water Board Executive Officer within **five days** of disposal with a rationale for the emergency modification.

c. Gauging and limited repairs may be performed by homeowners or contractors as allowed by the Business and Professions Code (Bus. & Prof. Code, §§ 7044, 7048). With certain exceptions, anyone performing construction work in California must be licensed by the California Contractors' State License Board. Septic tank, aerobic treatment unit, and/or leach field service (repairs, pumping, etc.) shall be performed only by a California licensed General Engineering (A), Plumbing (C-36), or Sanitation System (C-42) contractor. The Discharger shall maintain a record of all service activities for a minimum of five years. At a minimum, the record shall

include the date, nature of service, service company name, and service company state contractor license number.

Health and Safety Code sections 117400 - 117450 require septic tank pumping to be registered by the jurisdiction where work is performed. Such service providers may be exempt from the state contractor's licensing requirements if meeting the exceptions described in the Business & Professions Code section 7044 and/or 7048.

d. Owners and/or operators of wastewater systems that accept wastes from RVs or other mobile waste systems must ensure that such wastes do not deleteriously affect the wastewater system or adversely affect beneficial uses of groundwater with holding tank additives that may contain, among other chemicals, formaldehyde, zinc, and/or phenol.

   Use of holding tank chemicals shall be discouraged by the wastewater system owner/operator. Education of visitors can be accomplished by providing an information sheet upon check-in. Information on holding tank chemicals is provided in Attachment B2. The sale or provision of such additives by the Discharger to operators of RVs served by the Discharger's wastewater facility may be determined to be evidence of noncompliance with this section.

e. Aerobic treatment units shall be pumped when any one of the following conditions exists :

   i. The combined thickness of sludge and scum exceeds one-third of the tank depth of the final settling tank or interferes with the operation of the system (mixed liquor[8] aerator solids shall not exceed the manufacturer's recommendation).

   ii. The scum layer is within 3 inches of the outlet device.

   iii. The sludge layer is within 8 inches of the outlet device.

f. Septic tanks (a septic tank may be used as a pretreatment step to minimize the amount of solids discharged to an aerobic treatment unit) shall be pumped when any one of the following conditions exists:

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

   ii. The scum layer is within 3 inches of the outlet device.

   iii. The sludge layer is within 8 inches of the outlet device.

g. Septage is the liquid, solid, and semisolid material that results from wastewater treatment in a septic tank, which must be pumped, hauled, treated, and disposed

[8] When the activated sludge in an aeration tank is mixed with primary effluent or raw wastewater and return sludge, this mixture is referred to as mixed liquor when it is in the aeration tank.

of properly. (40 C.F.R. § 503.) Septage disposal shall only be to a legal disposal site that has been issued WDRs by a Regional Water Board allowing septage disposal. Septage shall be handled in such a manner as to prevent its reaching surface waters or watercourses.

**4. Activated Sludge Systems**

a. Within **90 days** of the issuance of an NOA, the Discharger shall submit a Sludge Management Plan consistent with the requirements of Provision E.1.c of this General Order. The Discharger must obtain written approval from the Regional Water Board's Executive Officer prior to any disposal of sludge. The Executive Officer shall be notified of any changes in an approved Sludge Management Plan at least **90 days** in advance of the proposed change.

b. Modifications to a Sludge Management Plan deemed part of an emergency action shall be noticed to the Regional Water Board's Executive Officer within **five days** of disposal with a rationale for the emergency modification.

**5. Pond Systems**

a. Sufficient freeboard shall be maintained at all times in ponds to provide adequate storage capacity and prevent wastewater spills. Freeboard shall be measured vertically from the lowest elevation of the pond berm to the pond water surface. If freeboard is less than one foot, the discharger shall immediately implement the contingency plan contained in the *Spill Prevention and Emergency Response Plan* (Provision E.1.a).

b. Pond systems shall have sufficient capacity to accommodate wastewater, design seasonal precipitation, ancillary I/I, and wind driven waves. Design seasonal precipitation shall be based on the following precipitation criteria:

   i. If wastewater spills do not occur, existing pond systems may continue to operate at their present size if they are covered under individual WDRs, a general order issued by a Regional Water Board, or by WQO 97-10-DWQ. If wastewater spills do occur, the Executive Officer may require the pond size requirement to be consistent with the specification defined in Pond Systems 5.b.ii (below).

   ii. For new or expanding pond systems covered under this General Order, seasonal precipitation used in the pond sizing water balance calculations shall be based on the following:

      a. The 100-year return annual total precipitation value distributed monthly in accordance with average (mean) precipitation values. The calculations shall demonstrate adequate capacity to maintain two feet of freeboard in the pond(s).

      b. The Executive Officer may allow a lower standard for the return annual total precipitation value, with approval of a technical report describing how operation of the wastewater system will not result in wastewater spills. In no case shall the Executive Officer allow less than a 50-year

return annual total precipitation value. If the Discharger seeks relief from the 100-year return annual total precipitation value, the Discharger shall certify that the *Spill Prevention and Emergency Response Plan* (Provision E.1.a) has been prepared, and is adequate to respond to forecast conditions using the 100-year return annual total precipitation value distributed monthly in accordance with average (mean) precipitation values. The calculations shall demonstrate adequate capacity to maintain two feet of freeboard in the pond(s).

c. All ponds shall be managed to mitigate breeding of mosquitoes including, but not limited to the following:

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

   ii. Weeds shall be minimized through control of water depth, a shoreline synthetic liner, harvesting, or herbicides.

   iii. Dead algae, vegetation, and debris shall be removed from the water surface.

   iv. Coordination with the local mosquito abatement or vector control district to supplement the measures described above in cases where other methods are infeasible.

d. Objectionable odors shall not create nuisance conditions beyond the limits of the wastewater treatment facility. A dissolved oxygen concentration less than 1.0 mg/L in the upper one foot of any wastewater pond shall be evidence of the potential to generate objectionable odors.

e. Burrowing animals active in areas that may compromise the integrity of a pond containment shall be promptly controlled and repairs to the containment completed as soon as possible.

f. Prior to any removal, drying, treatment, or disposal of sludge for pond maintenance, the Discharger shall submit a Sludge Management Plan consistent with the requirements of Provision E.1.c and obtain written approval from the Regional Water Board's Executive Officer. The Executive Officer shall be notified of any changes in an approved Sludge Management Plan at least **90 days** in advance of the proposed change.

**6. Subsurface Disposal Systems**

a. Wastewater shall not surface in any location of the disposal area.

b. Subsurface disposal systems shall hold in reserve sufficient land area for possible future 100-percent replacement of the subsurface disposal system, or establish an equivalent contingency that is approved by the Regional Water Board's Executive Officer and described in the NOA. If less than 100-percent replacement area was previously permitted under existing individual WDRs, WQO 97-10-DWQ, or a local agency permit, the minimum reserve area previously permitted shall be maintained.

c. No part of the disposal system(s) shall extend to a depth where waste may pollute groundwater.

d. All new or rehabilitated disposal areas associated with effluent pressure distribution systems (pressure-dosed systems) shall be equipped with cleanouts or a flushing system to allow solids to be removed from distribution pipes and orifices when needed.

e. Deep rooted plants such as trees or shrubs shall be removed as needed from a subsurface disposal system area to prevent damage to the dispersal system by roots.

f. Burrowing animals active in areas that may result in wastewater leakage from an at-grade or above grade (mound) disposal system shall be promptly controlled and repairs to the disposal system completed as soon as possible.

g. Subsurface disposal systems including leach fields and seepage pits, must comply with USEPA Underground Injection Control requirements when classified as a Class V well. Subsurface disposal systems with at least one of the following characteristics are classified as Class V wells:

   i. The system has the capacity to serve 20 or more persons per day.

   ii. The system receives wastewater other than domestic wastewater such as that generated by manufacturing, chemical processing, industrial fluid disposal, automotive repair, or recycling.

   iii. The system receives sewage containing biological agents (such as wastewater from recreational vehicles or portable toilets).

   Disposal systems that are classified as Class V wells must be registered with USEPA either by completing the online form at: http://www.epa.gov/region09/water/groundwater/injection-wells-register.html , or by completing and submitting Form 7520-16: Inventory of Injection Wells. Form 7520-16 is available at: http://epa.gov/region09/water/groundwater/uic-pdfs/7520-16.pdf .

h. Limited repairs may be performed by homeowners or contractors as allowed by the Business and Professions Code (Bus. & Prof. Code, §§ 7044, 7048). With certain exceptions, anyone performing construction work in California must be licensed by the California Contractors' State License Board. Leach field repairs shall be performed only by a California licensed General Engineering (A), Plumbing (C-36), or Sanitation System (C-42) contractor. The Discharger shall maintain a record of all repair activities for a minimum of five years. At a minimum, the record shall include the date, nature of repair, service company name, and service company state contractor license number.

## 7. Land Application and/or Recycled Water Systems

a. Wastewater shall not be applied to an LAA within 24 hours of forecasted precipitation with a greater than 50-percent probability of occurring, during precipitation events, or when the LAA surface soil is saturated.

b. Spray irrigation with treated wastewater is prohibited when wind speed (including gusts) exceeds 30 miles per hour. Wind speed may be measured onsite or at a nearby weather station operated by a governmental organization.

c. Discharge of wastewater from an LAA is prohibited.

d. If undisinfected wastewater is applied to an LAA, storm water runoff from the LAA is prohibited.

e. If storm water is allowed to runoff from an LAA (during the time of year wastewater is not applied), all applied wastewater shall meet disinfection requirements at a level equivalent to disinfected secondary-23 recycled water. (Cal. Code Regs., title 22, § 60301.225.) Land application of more highly treated water is acceptable. Alternatively, a Discharger may submit a technical report, for Executive Officer approval, describing how the LAA will be operated to prevent pathogens from migrating off the LAA with stormwater.

f. If recycled water is applied, it shall comply with the title 22 water recycling criteria, this General Order, the NOA, a title 22 Engineering Report, and any DDW approval conditions.

g. Public contact with wastewater/recycled water shall be precluded through use of fences, signs, and/or other appropriate means. All public use areas where recycled water is used shall be posted with signs that are visible, in a size no less than 4 inches by 8 inches and include the following wording, “Recycled Water – Do Not Drink.” (Cal. Code Regs., tit. 22, § 60310(g).)

h. Land application areas shall be managed to mitigate breeding of mosquitoes including, but not limited to the following:

   i. There shall be no standing water 48 hours after application of wastewater.

   ii. Tailwater ditches must be maintained essentially free of emergent, marginal, or floating vegetation.

   iii. Low-pressure and unpressurized pipelines and ditches accessible to mosquitoes shall not be used to store wastewater or recycled water.

   iv. Coordination with the local mosquito abatement or vector control district to supplement the measures described above in cases where other methods are infeasible.

## 8. Sludge/Solids/Biosolids Disposal

a. Sludge means the solid, semisolid, and liquid residues removed during primary, secondary, or other wastewater treatment processes. Solid waste refers to grit and screenings generated during preliminary treatment. Residual sludge means

sludge that will not be subject to further treatment at the wastewater system. Biosolids refers to sludge that has undergone sufficient treatment and testing to qualify for reuse pursuant to the USEPA Part 503 Biosolids Rule. (40 C.F.R. § 503.)

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

c. Treatment and storage of sludge shall be confined to the wastewater system property, and shall be conducted in a manner that precludes infiltration of waste constituents into soil in a mass or at concentrations that will violate the groundwater limitations of this General Order.

d. Any storage of residual sludge, solid waste, or biosolids at the wastewater system shall be temporary, and the waste shall be controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or at concentrations that will violate the groundwater limitations of this General Order.

e. Residual sludge, and solid waste shall be disposed of in a manner approved by the appropriate Regional Water Board's Executive Officer and consistent with the Consolidated Requirements for Treatment, Storage, Processing, or Disposal of Solid Waste. (Cal. Code Regs., tit. 27 div. 2.) Removal for further treatment, disposal, or reuse at disposal sites operated in accordance with valid WDRs issued by the State Water Board or Regional Water Board will satisfy this specification.

f. Use and disposal of biosolids shall comply with the USEPA Part 503 Biosolids Rule. (40 C.F.R. § 503.)

## C. Groundwater and Surface Water Limitations

### 1. The discharge shall not

a. Pollute groundwater or surface waters.

b. Adversely affect beneficial uses of groundwater or cause an exceedance of any applicable Basin Plan water quality objectives for groundwater or surface water.

## D. Effluent Limitations

### 1. The discharge shall not:

a. Exceed any of the applicable effluent limitations presented in Table 4. Effluent limitation selection is a two-step process. Step one is based upon the treatment technology employed; step two applies only to systems with a flow rate greater than 20,000 gpd and is based upon an evaluation of the need for a nitrogen effluent limit (as described in Attachment 1). Low and high threat are defined in Attachment 1. The limits presented below are average monthly limits unless otherwise specified.

**Table 4: Effluent Limitations for Wastewater Treatment Systems**

| **Step 1 - Effluent Limitations Based on Technology Performance** | | |
|---|---|---|
| Activated Sludge, MBR, or similar (not including residential aerobic treatment units) | | |
| Constituent | Units | Limit |
| BOD | mg/L | 30 (monthly average), 45 (7-day average) |
| TSS | mg/L | 30 (monthly average), 45 (7-day average) |
| Wastewater Pond or Trickling Filter [1] (not including residential recirculating sand filters) | | |
| Constituent | Units | Limit |
| BOD | mg/L | 90 [2] |
| TSS | -- | Not Applicable |

| **Step 2 - Effluent Limits Based on Low/High Threat Situation (flow rate >20,000 gpd)** | | |
|---|---|---|
| Constituent | Units | Limit |
| Total N | mg/L | -- |
| Low Threat | mg/L | 50 % [3] |
| High Threat | mg/L | 10 |

BOD denotes biochemical oxygen demand; TSS denotes total suspended solids; MBR denotes membrane biological reactor. Residential denotes a single family home, property caretaker's home, a home with an associated residence (e.g. mother in law unit), or similar, with a flow rate less than 400 gpd. "—" denotes not applicable.

1. Limit applies when treated wastewater is applied to an LAA or to a subsurface disposal system.
2. The limit is based on a 65-percent reduction of incoming BOD. An incoming BOD of 250 mg/L was used to calculate the value.
3. The value represents the minimum percent reduction compared to the untreated wastewater value. Reduction shall be calculated on an annual basis. In no case shall the reduction result in an effluent limit lower than 10 mg/L total nitrogen.

## E. Provisions

### 1. Technical Report Preparation Requirements

a. **Within 90 days** of the issuance of an NOA, aside from residential septic tanks serving four or fewer residences, the Discharger shall prepare and implement a *Spill Prevention and Emergency Response Plan* (Response Plan) that describes operation and maintenance activities to prevent accidental releases of wastewater, and to effectively respond to such releases, minimizing the environmental impact. At a minimum, the Response Plan shall address the following:

i. Operation and Control of Wastewater Treatment - A description of the wastewater treatment equipment, operational controls, flow measurement and calibration procedures, and treatment system schematic including valve/gate locations.

ii. Sludge Handling - A description of the sludge handling equipment, operational controls, and disposal procedures.

iii. Collection System Maintenance - A description of collection system cleaning and maintenance, equipment tests, and alarm functionality tests to minimize the potential for wastewater spills originating in the collection system or headworks. For collection systems subject to State Water Board Order No. 2006-0003-DWQ, reports prepared to comply with the State Water Board Order No. 2006-0003-DWQ satisfy this requirement.

iv. Emergency Response - A description of emergency response procedures including for emergencies such as power outage, severe weather, flooding, or inadequate freeboard (for systems with wastewater or recycled water ponds). An equipment and telephone list for contractors/consultants, emergency personnel, and equipment vendors.

v. Notification Procedures - Coordination procedures with fire, police, Governor's Office of Emergency Services (CalOES), Regional Water Board, and local county health department personnel.

The Response Plan shall be maintained at the treatment facility and shall be presented to the Regional Water Board staff upon request.

b. **Within 90 days** of the issuance of an NOA containing an MRP, the Discharger shall prepare and implement a written sampling and analysis plan (SAP) sufficient to assure compliance with the terms of this General Order and the NOA. Anyone performing sampling on behalf of the Discharger shall be familiar with the SAP. SAPs shall address the need for sample filtration and how filtration will be accomplished. When sampling groundwater or liquid waste, the chemical constituents available to migrate shall be considered. In general, dissolved waste constituents can migrate through soil to groundwater or surface water. In cases where the waste only threatens groundwater, samples shall be filtered prior to chemical preservation, digestion, or analysis for some analytes. If overland flow of liquid waste to surface water is possible, the total constituent concentrations may be available for movement and analyses shall be conducted on unfiltered samples.

At a minimum, the SAP shall describe the following:

i. Sample chain-of-custody procedures and documentation.

ii. Sampling locations.

iii. Sampling frequencies.

iv. Sample handling/preservation procedures.

v. Analytical methods.

vi. Sample containers, preservatives, and holding times.

vii. For groundwater monitoring, well purging and field methods.

The SAP shall be maintained at the treatment facility and shall be presented to the Regional Water Board staff upon request or as required by the NOA.

c. **Within 90 days** of the issuance of an NOA directing preparation, the Discharger shall submit and implement a Sludge Management Plan. At a minimum, the plan shall describe the following:

   i. Estimate the amount of sludge and scum that will be generated.

   ii. Describe how sludge, scum, and supernatant will be stored and disposed of to protect groundwater quality.

   iii. If sludge will be subject to further treatment, describe the treatment and storage requirements.

   iv. Describe cleaning of digesters or storage vessels and the treatment and disposal of the residuals. If drying of residuals is planned, describe how that will be performed to prevent nuisance odors, prevent vectors, and protect groundwater quality.

   The Sludge Management Plan shall be maintained at the treatment facility and shall be presented to the Regional Water Board staff upon request or as required by the NOA.

d. If directed by the Regional Water Board Executive Officer pursuant to Water Code section 13267, a discharger shall prepare and submit a Salt and Nutrient Management Plan, to ensure that the overall impact of treated wastewater and/or water recycling projects does not degrade groundwater resources. Unless otherwise directed by the Regional Water Board Executive Officer, in lieu of developing an individual Salt and Nutrient Management Plan the discharger shall participate in a Regional Water Board's existing salt and nutrient management planning effort to meet the requirements of this provision.

**2. For All Wastewater Systems:**

a. Bypass (the intentional diversion of waste streams from any portion of a treatment facility) is prohibited. The Regional Water Board and/or the Executive Officer may take enforcement action against the Discharger for bypass unless:

   i. Unavoidable and/or Unscheduled Bypass

      1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage. (Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production), and

2. There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities or retention of untreated waste. This condition is not satisfied if adequate backup equipment or wastewater storage facilities should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that would otherwise occur during normal periods of equipment downtime or preventive maintenance; or

ii. Scheduled Bypass

1. Bypass is required for essential maintenance to assure efficient operation,
2. Neither effluent nor groundwater limitations are exceeded,
3. The Discharger notifies the Regional Water Board's Executive Officer **10 days** in advance, and
4. The prohibition against discharge to surface water is not violated.

b. A Discharger that wishes to establish the affirmative defense of an upset (see definition in Provision E.5.a) in an action brought for noncompliance shall demonstrate, through properly signed, contemporaneous operating logs, or other evidence, that all of the following is true:

i. An upset occurred and the cause(s) can be identified.

ii. The permitted facility was being properly operated at the time of the upset.

iii. The Discharger submitted notice of the upset as required in Provision E.3.a.

iv. The Discharger complied with any remedial measures required by this General Order, the NOA, or direction from the Regional Water Board's Executive Officer. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof.

c. A Discharger whose wastewater flow rate has been increasing, or is projected to increase, shall estimate when the flow rate will reach hydraulic and treatment capacities of its treatment, collection, and disposal facilities. The projections shall be made in January, based on the last 3 years average dry weather flow rates, peak wet weather flow rates, and total annual flow rates, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in 4 years, the Discharger shall notify the Regional Water Board's Executive Officer by March 1st. Providing the notification in an annual report is acceptable.

d. The requirements prescribed herein do not authorize the commission of any act causing damage to the property of another, or protect the Discharger from liabilities under federal, state, or local laws. This General Order does not convey any property rights or exclusive privileges and does not create a vested right to continue to discharge wastewater.

e. This General Order does not relieve the Discharger from responsibility to obtain other necessary local, state, or federal permits to construct facilities necessary for compliance with this General Order, nor does this General Order prevent imposition of additional standards, requirements, or conditions by any other agency.

f. The prohibitions, requirements, limitations, and provisions of this General Order are severable. If any provision of this General Order is held invalid, the remainder of this General Order shall not be affected.

g. To the maximum extent possible, the wastewater system shall be sited and/or designed to prevent flood or surface water from inundating wastewater ponds or otherwise render the wastewater system inoperable. For design purposes, the most recent Federal Emergency Management Agency (FEMA) approved 100-year base flood elevations shall be used.

h. The Discharger shall ensure that all site operating personnel are familiar with the contents of the wastewater system NOA, this General Order, and the title 22 Engineering Report (for recycled water uses when applicable). A copy of this General Order, the NOA, and technical reports required by this General Order (not including previously submitted monitoring reports) shall be kept at the wastewater treatment facility for reference by operating personnel.

i. Access to the wastewater system shall be limited to authorized persons.

j. The Discharger shall comply with all of the conditions of this General Order. Any noncompliance with this General Order constitutes a violation of the Porter-Cologne Water Quality Control Act and/or appropriate Regional Water Board's Basin Plan and may be grounds for an enforcement action.

k. Wastewater facilities shall be supervised and operated by persons possessing a wastewater treatment operator certificate of the appropriate grade. (Cal. Code Regs., tit. 23, div. 3, ch. 26.) The definition of wastewater treatment plant in the wastewater treatment plant classification, operator certification, and contract operator registration regulations excludes treatment systems that use subsurface disposal.

l. The State Water Board will review this General Order periodically and will revise requirements when necessary.

m. After notice and opportunity for a hearing, coverage of this General Order may be terminated or modified for cause including, but not limited to, any of the following:

    i. Violation of any of the terms or conditions contained in this General Order.

    ii. Obtaining this General Order by misrepresentation, or failure to disclose fully all relevant facts.

    iii. A change in any condition that results in either a temporary or permanent need to reduce or eliminate the authorized discharge.

iv. A material change in the character, location, or volume of discharge.

n. Before making a material change in the character, location, or volume of discharge, the Discharger shall notify the Regional Water Board Executive Officer. A material change includes, but is not limited to, any of the following:

i. An increase in area or depth used for waste disposal beyond that specified in the NOA.

ii. A significant change in disposal method, location, or volume (e.g., change from land application to percolation pond).

The Regional Water Board's Executive Officer may require that an ROWD be submitted.

o. At least **90 days** prior to termination or expiration of any lease, contract, or agreement involving disposal or recycling areas or off-site reuse of effluent, used to justify the capacity authorized herein and assure compliance with this General Order, the Discharger shall notify the Regional Water Board's Executive Officer in writing of the situation and of what measures have been taken or are being taken to assure full compliance with this General Order and the NOA.

p. Except for material determined to be confidential in accordance with California law, all reports prepared in accordance with terms of this General Order shall be available for public inspection at the offices of the Regional Water Board. Data on waste discharges, water quality, geology, and hydrogeology are not confidential.

q. The Discharger shall take all reasonable steps to minimize any adverse impact to waters of the state resulting from noncompliance with this General Order. Such steps shall include accelerated or additional monitoring as necessary to determine the nature and impact of the noncompliance.

r. The Discharger shall maintain in good working order, and operate as efficiently as possible any facility, control system, or monitoring device installed to achieve compliance with this General Order and the NOA.

s. The Discharger shall permit representatives of the Regional Water Board and/or the State Water Board, upon presentation of credentials, to:

i. Enter premises where wastes are treated, stored, or disposed of, and facilities in which any records are kept.

ii. Copy any records required under terms and conditions of this General Order.

iii. Inspect at reasonable hours, monitoring equipment required by this General Order.

iv. Sample, photograph, and/or video record any discharge, waste material, waste treatment system, or monitoring device.

t. For any electrically operated equipment at the site, the failure of which would cause loss of control or containment of waste materials, or violation of this General Order, the Discharger shall employ safeguards to prevent loss of control over wastes. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means.

u. The fact that it would have been necessary to halt or reduce the permitted activity to maintain compliance with this General Order shall not be a defense for the Discharger's violations of the General Order.

v. The discharge shall remain within the disposal area designated in the NOA at all times. (With the exception of activities allowed in an approved title 22 Engineering Report.)

w. In the event of any change in control or ownership of the facility or wastewater disposal areas, the Discharger must notify the succeeding owner or operator of the existence of this General Order by letter, a copy of which shall be immediately forwarded to the Regional Water Board's Executive Officer.

x. The Discharger shall pay an annual fee to the State Water Board in accordance with the fee schedule for each fiscal year. (Cal. Code Regs., tit. 23, § 2200.) Fees are based on threat to water quality and complexity ratings, will be determined based on information in the ROWD, and are subject to revision by the State Water Board. Annual invoices are issued by the State Water Board for the state fiscal year (July 1 to June 30).

**3. General Reporting Requirements:**

a. If the Discharger does not comply, or will be unable to comply, with a limit related to effluent quality, pond freeboard, flow rate, the title 22 engineering report requirements, or bypass or overflow issues, the Discharger shall notify the Regional Water Board staff by telephone. Current phone numbers for Regional Water Board offices may be found on the NOA or on the Internet at:

http://www.waterboards.ca.gov/about_us/contact_us/docs/rwqcbs_directory.pdf

Notification shall occur as soon as the Discharger or its agents have knowledge of such noncompliance or potential for noncompliance, and the Discharger shall confirm this notification in writing within **10 days**. The written notification shall state the date, time, nature, cause of noncompliance, immediate response action, and a schedule for corrective actions.

b. In the event of a wastewater containment failure, the Discharger shall immediately notify CalOES. Notification shall be provided as soon as possible and when the notice can be provided without substantially impeding cleanup or other emergency measures. (Wat. Code, § 13271.) A written report to the Regional Water Board's Executive Officer shall be submitted within **10 days** of the failure describing the cause of the failure and how a recurrence will be prevented. Such a failure shall be promptly corrected in accordance with the requirements of this General Order.

c. All reports submitted in response to this General Order, including monitoring reports, shall be signed by a person identified below:

i. For a private residence: by the property owner of the residence.

ii. For a corporation: by a principal executive officer of at least the level of senior vice-president.

iii. For a partnership or sole proprietorship: by a general partner or the proprietor.

iv. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected or appointed official.

v. A duly authorized representative of a person described above if all of the following are completed:

1) The authorization is made in writing by a person described above.

2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a waste management unit, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

3) The written authorization is submitted to the Regional Water Board.

Any person signing a document under this section shall make the following certification:

> "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 those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

d. The Discharger shall mail a copy of each monitoring report and any other reports required by this General Order to the appropriate Regional Water Board or provide electronic submittals of reports or data as specified by the Regional Water Board. Contact and mail address information is available on the NOA or at:

http://www.waterboards.ca.gov/about_us/contact_us/docs/rwqcbs_directory.pdf

## 4. Monitoring Requirements

a. The Discharger shall comply with the MRP issued with the NOA, and any future revisions, as specified by the appropriate Regional Water Board's Executive Officer. A model MRP is provided as Attachment C. However, the Executive Officer may modify or replace the MRP for site-specific treatment and disposal conditions when issuing the NOA, or revise the MRP when deemed necessary.

b. Unless otherwise approved by the Regional Water Board's Executive Officer, all analyses shall be conducted at a laboratory certified for the analyses by the DDW Environmental Laboratory Accreditation Program. If a certified laboratory is not available to the Discharger, analyses performed by a noncertified laboratory will be accepted provided an acceptable Quality Assurance/Quality Control Program is instituted by the laboratory. A manual containing the steps followed in this program must be kept in the laboratory and shall be available for inspection by Regional Water Board staff. The Quality Assurance/Quality Control Program must conform to USEPA guidelines or to procedures approved by the Regional Water Board.

c. The results of any monitoring done more frequently than required by an MRP shall be reported in the next regularly scheduled monitoring report. Values obtained through additional monitoring shall be used in calculations as appropriate.

d. Treated wastewater samples shall be collected downstream of all treatment works where a sample representative of the discharge can be obtained prior to disposal. In some cases, it may be necessary to collect samples for different analyses from different sampling locations (e.g. immediately downstream of a disinfection system for pathogens).

e. The Discharger shall furnish, within a reasonable time, any information the Regional Water Board's staff may request to determine whether cause exists for modifying, revoking, reissuing, or terminating the Discharger's coverage under this General Order. The Discharger shall also furnish to the Regional Water Board's staff upon request, copies of records required to be kept by this General Order.

f. All noncompliance issues shall be reported with the next regularly scheduled monitoring report in addition to any other reporting requirements.

g. The Discharger shall retain records of all monitoring information, including all calibration and maintenance records, all original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by this General Order, and records of all data used to complete the application for this General Order. Records shall be maintained for a minimum of **3 years** from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Water Board's Executive Officer.

h. All monitoring and analysis instruments and devices used by the Discharger to fulfill the prescribed MRP shall be properly maintained and calibrated as recommended by the manufacturer to ensure their continued accuracy.

i. The Discharger shall construct all groundwater monitoring wells to meet or exceed the standards stated in Department of Water Resources' Bulletins 74-81, 74-90, and subsequent revisions unless deviation is approved by the Regional Water Board's staff or local well construction enforcing agency, and shall comply with the reporting provisions for wells. (Wat. Code, § 13751.)

## 5. Definitions

a. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper action.

b. The monthly average flow rate is the total discharge by volume during a calendar month divided by the number of days in the month that the facility was discharging. This number shall be reported in gpd or million gallons per day.

c. The monthly average concentration is the arithmetic mean of measurements recorded during a calendar month. If only one sample is collected in a calendar month, then that sample measurement is the monthly average concentration.

d. The daily maximum concentration is the highest measurement recorded for any grab or composite sample collected during a day in a calendar month.

e. The 7-day median total coliform organism value shall be calculated as the median concentration of the results for the last 7 calendar days. If only one sample is collected within a 7-day period, then that one sample becomes the 7-day median value.

f. A grab sample is an individual sample collected in less than 15 minutes.

g. Unless otherwise specified, a composite sample is a combination of individual samples collected over the specified sampling period. The method of compositing shall be reported with the results.

h. A time-weighted sample is collected at equal time intervals, with a maximum interval of one hour.

i. A flow-weighted sample is collected at varying time intervals (average interval one hour or less) so that each sample represents an equal portion of the cumulative flow. The duration of the sampling period shall be specified in the MRP.

j. A day is the mean solar day of 24 hours beginning at mean midnight. All references to day in this General Order are calendar days.

## CERTIFICATION

I, Jeanine Townsend, Clerk to the Board, do hereby certify that this General Order with all attachments is a full, true, and correct copy of a General Order adopted by the State Water Board, on September 23, 2014.

| | |
|---|---|
| AYE: | Chair Felicia Marcus<br>Vice Chair Frances Spivy-Weber<br>Board Member Tam M. Doduc<br>Board Member Steven Moore<br>Board Member Dorene D'Adamo |
| NAY: | None |
| ABSENT: | None |
| ABSTAIN: | None |

Jeanine Townsend
Clerk to the Board

ATTACHMENT 1
NITROGEN EFFLUENT LIMIT EVALUATION
ORDER WQ 2014-0153-DWQ
GENERAL WASTE DISCHARGE REQUIREMENTS
FOR SMALL DOMESTIC WASTEWATER TREATMENT SYSTEMS

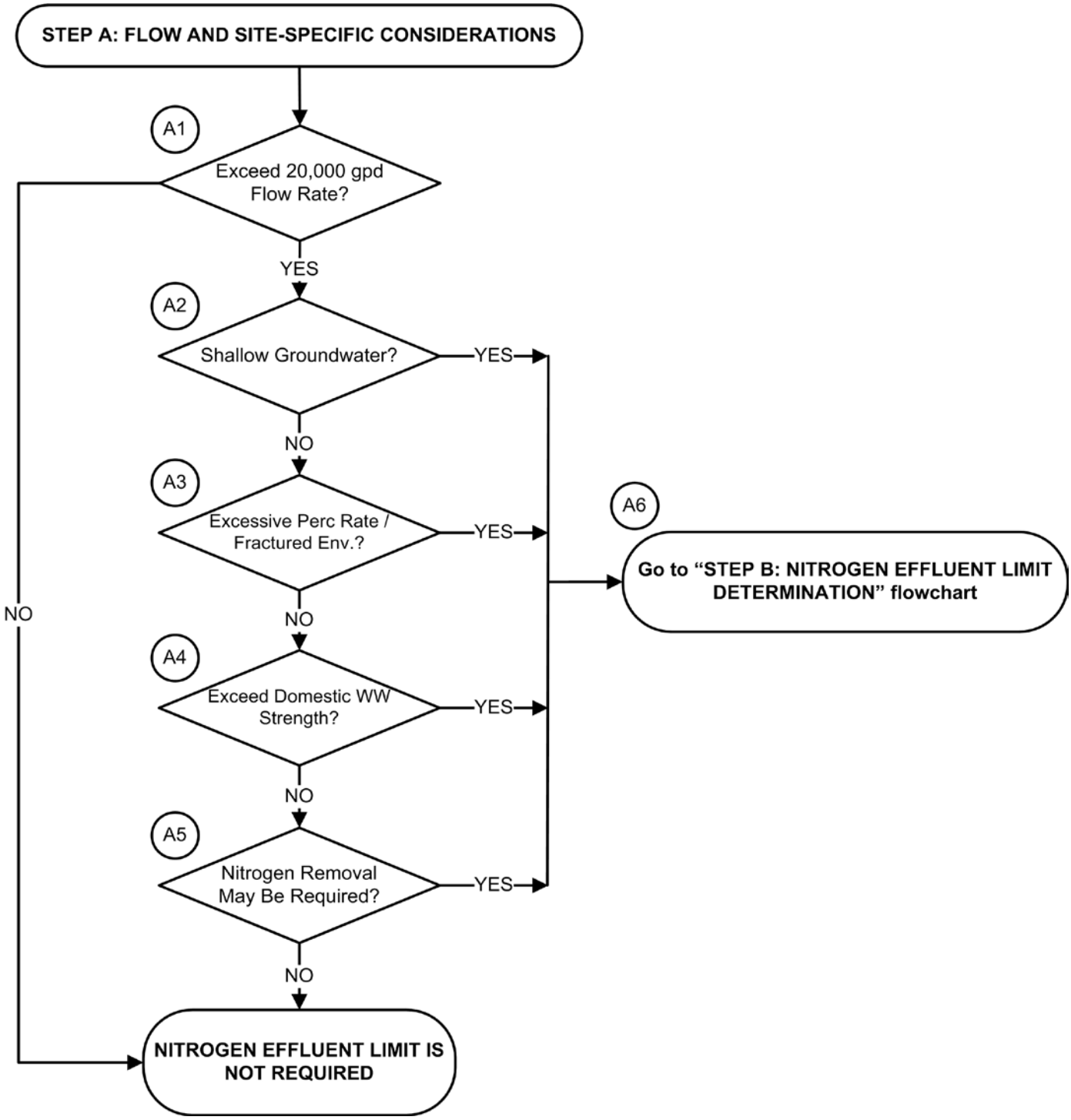
## Introduction

The nitrogen effluent limit will only be imposed where required to protect beneficial uses of groundwater and surface water and shall not be selected as a default to add water quality protection where the added expense of nitrogen control is not required. It is the discharger's responsibility to provide adequate information to allow the evaluation of the need for additional treatment.

Each of the five site-specific considerations listed below shall be considered when evaluating a discharge and the need for nitrogen control. The site-specific conditions are further discussed on the explanation sheets. If each of the site-specific considerations is favorable (as discussed individually below), the facility is not required to meet an effluent limit for nitrogen.

The attached flow charts provide a method to evaluate the discharge and the receiving environment to determine the applicability of a nitrogen effluent limit. Evaluation of the need for a nitrogen effluent limit is a two-step process. In the first step, applicability of a nitrogen effluent limit is determined based on the flow rate and site-specific characteristics of the receiving environment; in the second step effluent limits are selected based on further evaluation of level of threat related to the site-specific characteristics of the discharge and the receiving environment.

To begin the evaluation start at "Step A: Flow and Site-Specific Considerations," on the following page.


STEP A: FLOW AND SITE-SPECIFIC CONSIDERATIONS
A1
Exceed 20,000 gpd Flow Rate?
YES
A2
Shallow Groundwater?
YES
NO
A3
Excessive Perc Rate / Fractured Env.?
YES
NO
A4
Exceed Domestic WW Strength?
YES
NO
A5
Nitrogen Removal May Be Required?
YES
NO
NO
A6
Go to "STEP B: NITROGEN EFFLUENT LIMIT DETERMINATION" flowchart
NITROGEN EFFLUENT LIMIT IS NOT REQUIRED

## Step A – Flow and Site-Specific Considerations

The following considerations shall be evaluated to determine if a nitrogen effluent limit is appropriate.

A1 *Exceed 20,000 gpd Flow Rate?* The General Order allows a flow rate up to 100,000 gpd. However, discharges with flow rates less than 20,000 gpd are not required to meet a nitrogen effluent limit.

A2 Shallow Groundwater? Shallow groundwater conditions are defined by the OWTS Policy Table 2, *Minimum Depth to Groundwater and Minimum Soil Depth from the Bottom of the Dispersal System* (reproduced as Table 5 below).

**Table 5: Minimum Depth to Groundwater and Minimum Soil Depth from the Bottom of Dispersal System**

| Percolation Rate [a] | Depth to Groundwater [b] |
|---|---|
| Perc Rate ≤ 1 MPI | Additional Treatment Required |
| 1 MPI ≤ Perc Rate ≤ 5 MPI | 20 Feet |
| 5 MPI ≤ Perc Rate ≤ 30 MPI | 8 Feet |
| 30 MPI ≤ Perc Rate ≤ 120 MPI | 5 Feet |
| Perc Rate ≥ 120 MPI | Engineered Disposal Required |

a. Perc Rate denotes percolation rate. MPI denotes minutes per inch.

b. The minimum depth to groundwater is measured from the base of the infiltration surface to the seasonally high groundwater table or first saturated interval.

A3 *Excessive Percolation Rate / Fractured Environment?* An excessive percolation rate is defined as a combination of percolation rate and depth to groundwater that does not comply with the conditions presented in Table 5.

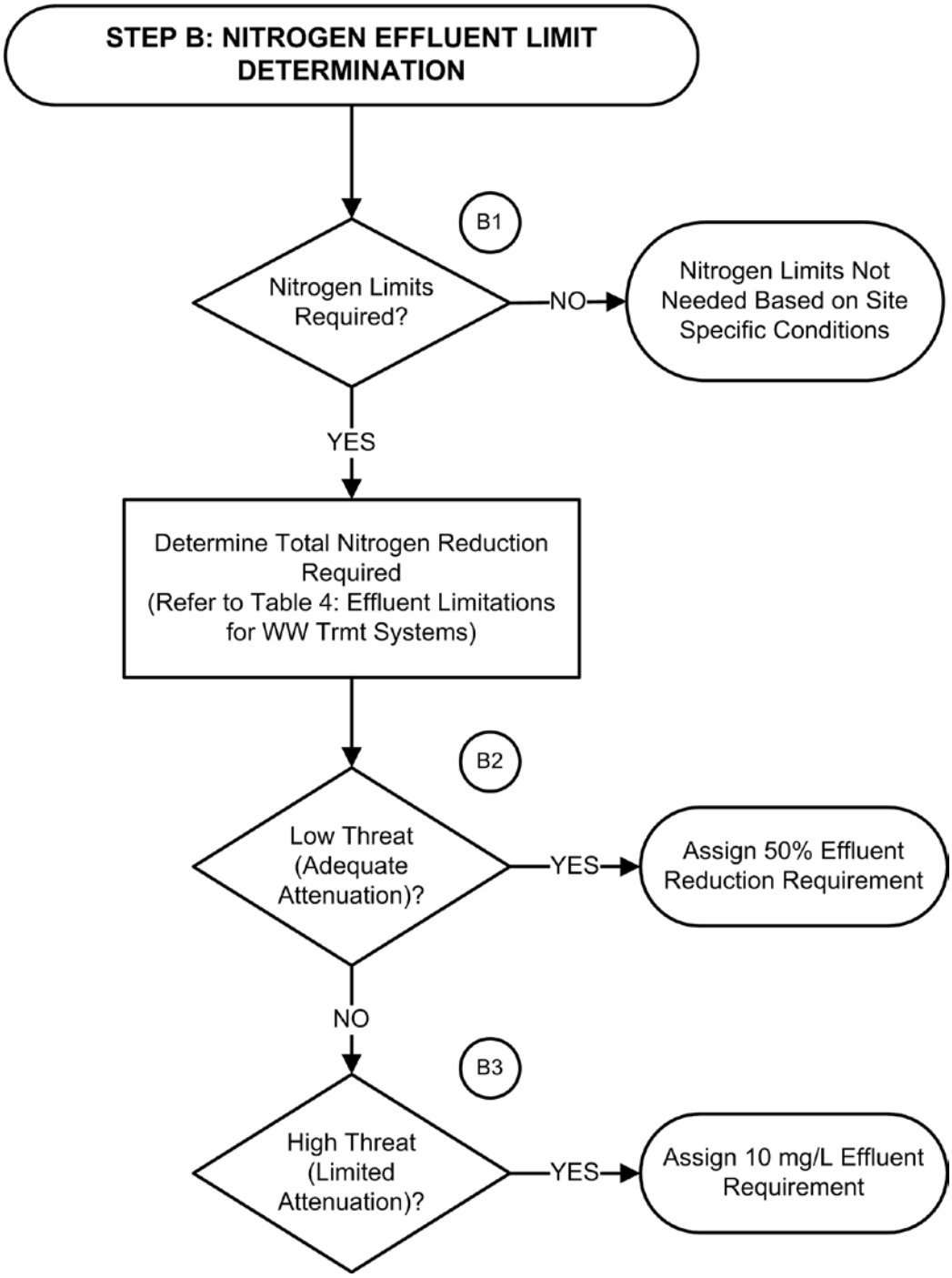
A fractured environment is defined as less permeable rock with porosity resulting from fractures that allows groundwater to flow through the fractures and has either of the following: a) No unconsolidated soil cover, or b) Unconsolidated soil cover that possesses an excessive percolation rate (that does not comply with the conditions defined in Table 5.

A4 *Exceed Domestic Wastewater Strength?* Typical domestic wastewater strength is presented in Finding 8 of the General Order. Alternative domestic wastewater strengths may be based upon other per capita flow rate assumptions. The data presented in the General Order may be used; alternative characterizations from textbook and/or governmental organizations (e.g. U.S. Environmental Protection Agency) may be acceptable at the discretion of Regional Water Quality Control Board (Regional Water Board) staff.

Some domestic wastewater streams (domestic wastewater originating in factory or warehouse situations) may exceed the typical municipal wastewater strengths due to a lack of diluting flows from showers, dishwashers, etc. Such flows are not excluded from coverage by the General Order; however, the discharge shall be evaluated to determine if nitrogen effluent limits are appropriate.

A5 *Nitrogen Removal May Be Required?* If the Regional Water Board Basin Plan or groundwater studies indicate that nitrogen is a constituent of concern, then nitrogen reduction may be required. The appropriate limit shall be based on site conditions as evaluated in Step B.

A6 *Go to "NITROGEN EFFLUENT LIMIT DETERMINATION" flowchart:* If the preliminary evaluation (Step A) indicates a nitrogen effluent limit may be required, proceed to the Nitrogen Effluent Limit Determination flowchart to determine if an effluent limit for nitrogen is required.


STEP B: NITROGEN EFFLUENT LIMIT DETERMINATION
B1
Nitrogen Limits Required?
NO
Nitrogen Limits Not Needed Based on Site Specific Conditions
YES
Determine Total Nitrogen Reduction Required (Refer to Table 4: Effluent Limitations for WW Trmt Systems)
B2
Low Threat (Adequate Attenuation)?
YES
Assign 50% Effluent Reduction Requirement
NO
B3
High Threat (Limited Attenuation)?
YES
Assign 10 mg/L Effluent Requirement

## Step B – Nitrogen Effluent Limit Evaluation

If a Regional Water Board's Basin Plan addresses the area where the site is located, the nitrogen control measures shall be consistent with the Basin Plan.

If the Step A evaluation indicated additional treatment for nitrogen control may be necessary, continue the evaluation at "Step B, Nitrogen Effluent Limit Determination."

B1 *Nitrogen Limits Required?* The initial evaluation of the need for nitrogen control (discussed in Item A5) shall include comparison of the wastewater effluent quality to groundwater quality and the potential for the wastewater discharge to cause or contribute to a condition of pollution or nuisance. The benefits of nitrogen control should be balanced with the cost of implementing nitrogen control.

Measures implemented to protect groundwater quality (e.g. equipping a pond with a synthetic or low permeability liner to reduce infiltration, using supplemental water to reduce LAA loading rates, or agronomic application of nitrogen) should be considered when determining the need for nitrogen effluent limits.

B2 *Low-Threat (Adequate Attenuation)?* In low-threat situations, the 50 percent nitrogen removal (in effluent prior to discharge) is appropriate. Low-threat situations are those where additional nitrogen removal will occur in the dispersal area (e.g. land application crop uptake, denitrification, shallow dispersal area, etc.) or where adequate attenuation exists based on other conditions such as depth to groundwater.

B3 *High-Threat (Limited Attenuation)?* In high-threat situations, the 10 milligrams per liter (mg/L) effluent limit is appropriate. High-threat situations are those where limited nitrogen removal will occur in the dispersal area or in limited attenuation situations (e.g. shallow depth to groundwater, fractured aquifer, potential for groundwater to migrate to surface water bodies with limited attenuation, etc.).

# INFORMATION SHEET SUMMARY
# STATE WATER RESOURCES CONTROL BOARD
# ORDER WQ 2014-0153-DWQ
# GENERAL WASTE DISCHARGE REQUIREMENTS
# FOR SMALL DOMESTIC WASTEWATER TREATMENT SYSTEMS

The attachments to this Information Sheet will help Dischargers understand the process of obtaining coverage under these *General Waste Discharge Requirements for Discharges to Land by Small Domestic Systems* (General Order). The attachments describe the permitting process and the information needed by Regional Water Quality Control Board (Regional Water Board) staff to prepare a Notice of Applicability (NOA), which provides the Discharger coverage under the General Order. Although not required, organization of the technical report described in Attachment B1 in the format presented in the attachment will allow streamlined review of the facility information and may reduce the time required to prepare an NOA. Some Regional Water Boards have implemented procedures for electronic submittal of technical reports and monitoring data. The Dischargers shall comply with those submittal requirements when applicable.

The Discharger is encouraged to contact the Regional Water Board staff early in the process to discuss their conceptual wastewater plan. Attachment A shows the generalized permitting process; it is recommended each of the items in the box labeled “Contact Regional Water Board to Discuss” be listed on a meeting agenda so that they are adequately discussed.

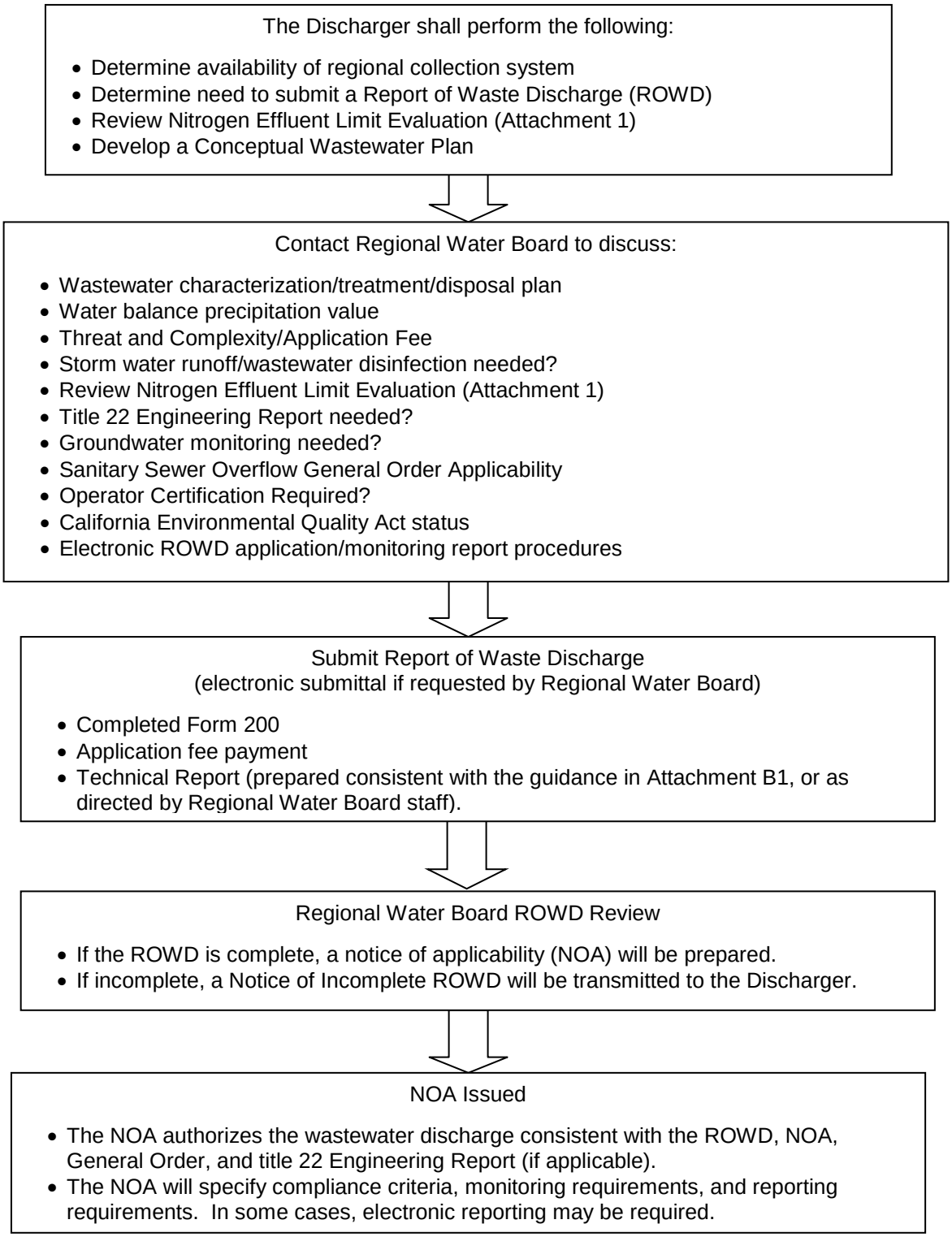
The *Conceptual Wastewater Plan* listed on Attachment A shall be complete enough for a meaningful discussion with the Regional Water Board staff so that any significant issues can be identified early in the process. However, the details of the *Conceptual Wastewater Plan* are unlikely to be finalized at this stage of the process. Determinations regarding the *Conceptual Wastewater Plan* may require additional investigation by the Discharger before the Regional Water Board staff can provide definitive answers to questions about the *Conceptual Wastewater Plan*.

Questions the Discharger may have regarding any of the attachments (such as the report requirements described in Attachment B1) should also be discussed at the meeting. At the conclusion of the meeting, the Discharger should understand how their system will be evaluated using the General Order Attachment 1, *Nitrogen Effluent Limit Evaluation*, and if any additional investigations are required to provide a complete Report of Waste Discharge.

The attachments included in this Information Sheet consist of the following:

| Name | Title |
|---|---|
| Attachment A | Generalized Permit Application Process Summary |
| Attachment B1 | Recommended Report of Waste Discharge Format |
| Attachment B2 | Safe Wastewater Disposal for Recreational Vehicles |
| Attachment C | Model Monitoring and Reporting Program |

# ATTACHMENT A - INFORMATION SHEET
# GENERALIZED PERMIT APPLICATION PROCESS SUMMARY
# STATE WATER RESOURCES CONTROL BOARD
# ORDER WQ 2014-0153-DWQ
# GENERAL WASTE DISCHARGE REQUIREMENTS
# FOR SMALL DOMESTIC WASTEWATER TREATMENT SYSTEMS



# ATTACHMENT B1 – INFORMATION SHEET
# RECOMMENDED REPORT OF WASTE DISCHARGE FORMAT
# STATE WATER RESOURCES CONTROL BOARD
# ORDER WQ 2014-0153-DWQ
# GENERAL WASTE DISCHARGE REQUIREMENTS FOR SMALL DOMESTIC WASTEWATER TREATMENT SYSTEMS
# GENERAL INFORMATION FOR DISCHARGER

*The information presented in the Report of Waste Discharge (ROWD) is relied upon by staff to prepare the Notice of Applicability (NOA) for coverage by this General Waste Discharge Requirements for Order (General Order). The Discharger shall ensure that the information presented in the ROWD is accurate. Misstatements, errors, or omissions that exist in the ROWD may be included in the NOA and become enforceable.*

*Waste Discharge Requirements (WDRs) are generally updated at 10 or 15 year intervals depending on the waste's potential to impact water quality. The ROWD shall state realistic growth projections. Underestimating growth may result in additional or more frequent permitting requirements. Overestimating growth will result in the need for the Discharger to prepare more treatment, storage, and disposal capacity than might otherwise be immediately required.*

*The ROWD outline presented below is intended to provide general guidance for Dischargers and consultants. Submitting an ROWD consistent with the format will help the Discharger include all of the information that Regional Water Quality Control Board (Regional Water Board) staff need and will expedite review of the document and speed the permitting process. Contacting your Regional Water Board representative to discuss the project before preparing the ROWD is recommended.*

1. BACKGROUND

   1.1. Wastewater system description

      1.1.1. Briefly, describe what the wastewater system is and how wastewater is generated.

      1.1.2. Provide a site location map and a site plan.

      1.1.3. Provide information on the location of wastewater system buildings, wastewater treatment system components, groundwater wells, and surface water bodies.

      1.1.4. Provide the Assessor's Parcel Number(s), section number(s), and Township and Range.

      1.1.5. Describe the water supply to the residence(s), business(es), and/or other facilities being served by the wastewater system.

   1.2. Service area description

      1.2.1. Describe the proximity of the wastewater system to an existing regional collection system; if nearby, discuss why connection to the regional system cannot be accomplished. If located within a regional system service area, or in close proximity to a collection system, provide written documentation that a good faith effort to connect to the regional system was made and that the request was not approved.

1.2.2. Wastewater collection system (describe the following). For collection systems subject to State Water Board Order No. 2006-0003-DWQ, reports prepared to comply with the State Water Board Order No. 2006-0003-DWQ satisfies this requirement and may be submitted as part of the ROWD technical report.

1.2.2.1. Age and condition of collection system.

1.2.2.2. Piping construction and layout (show on map).

1.2.2.3. Lift stations and backup pumping systems.

1.2.2.4. Failure warning system.

1.2.2.5. Inflow and infiltration (I/I) estimates (and any control that is necessary).

1.2.2.6. Maintenance of collection system and spill response.

1.2.3. Storm water collection system

1.2.3.1. Storm water collection area (show on map).

1.2.3.2. Storm water disposal area in relation to wastewater disposal area.

1.2.3.3. Storm water disposal permit (if needed).

2. WASTEWATER CHARACTERIZATION AND TREATMENT

2.1. Domestic wastewater characterization (untreated wastewater).

2.1.1. Describe the generation of wastewater (retirees, families, recreational vehicle [RV], institution, etc.).[9] If RV waste is allowed, describe educational and institutional controls in place to minimize the potential for deleterious RV waste constituents to be discharged to the wastewater system.

2.1.2. Domestic wastewater flow rate (describe how determined). Describe any special events or seasonal variations that cause high wastewater flow rates or other sources of wastewater (e.g. swimming pool filter, potable water treatment backwash water, well attended festivals, etc.).

2.1.3. Characterize domestic wastewater for Biochemical Oxygen Demand (BOD), Total Suspended Solids (TSS), electrical conductivity, nitrogen, sodium, chloride, and specific constituents of concern as needed based on site activities. Characterize wastewater for holding tank chemicals identified in the General Order (and others as appropriate) if RV waste is discharged to the system.

2.2. Wastewater treatment system

2.2.1. Provide a wastewater treatment schematic.

[9] Recreational vehicle (RV) holding tank connections, RV waste dump stations, etc. create special conditions for treatment and monitoring. Please refer to the General Order for more information.

2.2.2. Describe wastewater pretreatment components.

2.2.2.1. Domestic wastewater pretreatment systems (e.g. septic tank effluent pump system, grease traps, etc.).

2.2.2.2. Describe storage, treatment, and disposal of pretreatment residuals.

2.2.3. Describe preliminary treatment activities (e.g., screening, comminution, grit removal).

2.2.3.1. Describe storage, treatment, and disposal of preliminary treatment residuals.

2.2.4. Describe primary treatment activities (remove settleable/flotable matter)

2.2.4.1. Describe storage, treatment, and disposal of primary treatment residuals.

2.2.5. Describe treatment technology (e.g., activated sludge, membrane biological reactor, aerated lagoon, oxidation ditch, Imhoff tank, septic tank, etc.) include engineered design capacity in description.

2.2.5.1. Describe storage, treatment, and disposal of treatment residuals (e.g. sludge, septage, etc.).

2.2.6. Size and location of treatment equipment (e.g. septic tank volume, package treatment plant, membrane biological reactor, pond size include acreage and storage capacity, pond liners, and number and horsepower of aerators, etc.).

2.2.7. Disinfection system equipment

2.2.8. Storage facilities

2.2.8.1. If wastewater will be stored prior to disposal, describe the size and location of wastewater storage ponds, include a map showing all the ponds and describe them as lined or not. Describe the materials, age, and condition of any liners.

2.2.9. Predicted wastewater effluent quality

2.2.9.1. Characterize the wastewater for TSS, BOD, total coliform organisms (if needed), and specific constituents of concern as needed. If RV waste is discharged to the system, characterize for holding tank chemicals identified in the General Order (and others as appropriate).

2.2.10. Treated effluent disposal method

2.2.10.1. Describe how treated wastewater will be dispersed (land application area, leach field, percolation pond).

2.2.10.2. Describe the proposed disposal area (and the 100-percent replacement area when needed, such as for a leach field disposal system) include acreage, surrounding land use, depth to groundwater, and the proximity of drainage ways, surface waters, and municipal, industrial, or agricultural wells.

2.2.10.2.1. If land application is proposed, describe how storm water that falls on the land application area (LAA) is handled. If storm water is allowed to run off the LAA, contact your Regional Water Board representative to discuss wastewater disinfection requirements.

2.2.10.2.2. Provide a water balance that demonstrates adequate storage/disposal capacity. Identify the safety factors used in the calculations. Please contact your Regional Water Board representative to determine the precipitation values to be included in the water balance. Typically, the 100-year return annual total precipitation value, distributed monthly in accordance with average (mean) precipitation values monthly is required. Some exemptions for existing ponds or sites that develop an acceptable *Spill Prevention and Emergency Response Plan* may apply. Rainfall depth duration frequency data is available on the Department of Water Resources Internet web page at:

<http://www.water.ca.gov/floodmgmt/hafoo/hb/csm/engineering/>

2.2.10.2.3. Support the assumptions and calculations in the water balance with adequate information. Information may include published infiltration values, site-specific percolation tests, application rates, or other sources. Cite the information source used; if a site-specific investigation, provide a copy of the report.

2.2.10.2.4. The use of subsurface disposal including leach fields and/or seepage pits serving more than 20 people, or systems that accept non-sanitary waste (generated by manufacturing, contains biocidal agents such as RV or portable toilets, etc.) must comply with the United States Environmental Protection Agency Underground Injection Control requirements. Please refer to General Order Requirement B.6.g and http://www.epa.gov/region9/ water/groundwater/uic.html to determine if federal requirements apply to the proposed project. If registration is required, documentation of registration shall be provided in the ROWD.

2.3. Recycled Water Projects

2.3.1. If treated wastewater will be applied for beneficial uses (such as those described in title 22 water recycling criteria), provide a title 22 Engineering Report and the State Water Board Division of Drinking Water (DDW) (formerly the California Department of Public Health (CDPH) review/approval letter. Guidance for preparation of a title 22 Engineering Report is available on the Internet at: http://www.cdph.ca.gov/certlic/drinkingwater/Documents/Recharge/ERGUIDE2001.PDF

2.3.1.1. Describe how any DDW requirements will be implemented in the project.

2.3.1.2. If needed, describe the disinfection requirements for the planned reuse.

2.4. Operation and Maintenance

2.4.1. Describe routine operation and maintenance procedures

2.4.2. Treatment operator training and qualifications requirements

2.4.3. Contingency plans for repairs/spills/treatment issues

3. GROUNDWATER QUALITY

3.1. Depending upon the threat to groundwater quality, groundwater monitoring may be required. Please contact your Regional Water Board representative to determine if groundwater monitoring is required.

4. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

4.1. Some existing Small Domestic Systems will be determined to be categorically exempt from the California Environmental Quality Act (CEQA) under Title 14, section 15301 (ongoing or existing projects), section 15302 (replacement or reconstruction of existing utility systems), and section 15303 (new construction or conversion of small structures). The potential for categorical exemptions shall be examined and discussed with the Regional Water Board representative prior to submitting an ROWD.

4.2. New or expanding Small Domestic Systems will likely require CEQA evaluation that should be performed by local agencies. The CEQA evaluation shall be submitted with the ROWD. At a minimum, the evaluation shall include the Initial Study, a list of any adopted mitigation measures related to water quality, and the Notice of Determination.

4.2.1. The ROWD must include a description of how any water quality related mitigation measures will be implemented.

5. ADDITIONAL TECHNICAL REPORTS

5.1. If required by the General Order, a *Sludge Management Plan* shall be submitted with the ROWD.

5.1.1. Estimate the amount of sludge and scum that will be generated.

5.1.1.1. Describe how sludge, scum, and supernatant will be stored and disposed of to protect groundwater quality.

5.1.1.2. If sludge will be subject to further treatment, describe the treatment and storage requirements.

5.1.1.3. Describe cleaning of digesters or storage vessels and the treatment and disposal of the residuals. If drying of residuals is planned, describe how that will be performed to prevent nuisance odors, prevent vectors, and protect groundwater quality.

ATTACHMENT B2 – INFORMATION SHEET
SAFE WASTEWATER DISPOSAL FOR RECREATIONAL VEHICLES
STATE WATER RESOURCES CONTROL BOARD
ORDER WQ 2014-0153-DWQ
GENERAL WASTE DISCHARGE REQUIREMENTS
FOR SMALL DOMESTIC WASTEWATER TREATMENT SYSTEMS

EPA

United States Environmental Protection Agency | Region 9 Ground Water Office (WTR-9) | EPA 909-F-99-002 JULY 1999

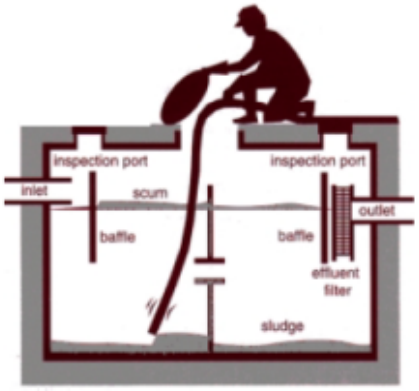
# ALERT FOR RV, BOAT AND MOBILE HOME OWNERS AND PARK OPERATORS
# ABOUT SAFE WASTEWATER DISPOSAL

If you spend any time in a recreational vehicle (RV) or boat, you probably know of the problem of odors from sewage holding tanks. There are a number of commercial products available to control those odors. Some of those products contain chemicals which may pollute water resources. If you use those chemicals and then empty your holding tank into a septic system (or other onsite wastewater treatment system) or dispose of holding tank waste illegally, you may be creating health and environmental hazards. These chemicals and their by-products may pass through onsite wastewater treatment systems, flowing to soil, ground water, and possibly nearby surface waters. They may also corrode treatment system parts, creating a safety hazard.

**How septic systems work.** A typical septic system contains two major components: a septic tank and an absorption field, also known as a drainfield or leachfield. These systems use natural processes to treat wastewater onsite, as opposed to offsite at a municipal wastewater treatment plant. The purpose of the septic tank is to separate solids from the liquid waste, and to promote partial breakdown of contaminants by microorganisms (bacteria) naturally present in wastewater. The leachfield also treats the wastewater through physical, biological and chemical processes in the soil.

**Mixing chemicals with waste in sewage holding tanks or septic systems may produce toxic fumes, corrode pipelines and tanks, and pollute soil and ground water when discharged.**

When chemicals, such as formaldehyde, are added to septic systems, they can cause bacteria in the system to die. When this happens, the septic system cannot treat waste adequately. Solids that are allowed to pass from the septic tank, due to inadequate or incomplete treatment, may clog the leachfield. Furthermore, clogged systems may send inadequately or incompletely treated sewage to the surface, threatening the health of people or pets who come into contact with it. Or it may percolate to ground water, where the chemicals and untreated wastewater could contaminate nearby drinking water wells, rivers and streams. Please ***read labels carefully*** to identify any hazardous ingredients.




NATIONAL SMALL FLOWS CLEARINGHOUSE

The restoration of contaminated ground water is extremely costly and can take years. To prevent problems, RV and mobile home parks, as well as dump station operators, may take measures to control hazardous chemical disposal into their waste treatment systems. If they do not, and their system causes contamination, they may be forced to **close the dump station or the park** until the problem can be corrected.

**DO NOT USE CHEMICALS WHICH HARM SEPTIC SYSTEMS**

Formaldehyde: active ingredient in some deodorizers, also called Formalin. Formaldehyde is an EPA-recognized probable carcinogen (i.e., causes cancer).

Para-dichlorobenzene: Known carcinogen and drinking water contaminant. Common ingredient in mothballs, urinal cakes and bowl fresheners.

OTHER CHEMICALS TO BEWARE OF INCLUDE heavy metals (such as Zinc), benzene, toluene, xylene, ethylene glycol (anti-freeze), methylene chloride, 1,1,1-trichloroethane (TCA), trichlorethylene (TCE) and perchloroethylene (PCE). Strong acids and bases, such as sulfuric acid or caustic soda, can destroy biological activity and damage tanks and pipes.

$ A healthy, well-maintained and appropriately sized septic tank will generally require less pumping over its service life, saving time and money.

**REPORT SEWAGE SPILLS and other health hazards to the local health department. Keep People and Pets Away!**

**PARK OPERATORS**:

*The United States Department of Health, Education and Welfare said in 1957 that "... there are no known chemicals, yeasts, bacteria, enzymes or other substances capable of eliminating or reducing the solids and scum in a septic tank"* and according to EPA, this is still true. No products have been verified by EPA to eliminate the need for routine maintenance, and some may actually accelerate system failure by allowing solids to clog the dispersal system; while the products may claim to "remove" sludge, they may just "move" sludge. Tanks should be checked routinely (see photo) for solids and scum buildup. Sludge Removal (pumpouts) may be needed more often for RV, Mobile Home and Boat waste systems than for single-family septic systems, especially if your tanks are undersized and/or your residents are conservative with water. Oversizing your tanks, or adding additional tanks, may allow greater waste stabilization. Consult a wastewater professional.

**X Cloggers**
diapers, cat litter, cigarette filters, coffee grounds, grease, etc.

**X Killers**
household chemicals, gasoline, motor oil, pesticides, antifreeze, paint, etc.

RVers CAN HELP... Here's How:

- Minimize your need of holding tank deodorizers by using rest stop facilities when you can.

- If you must use a holding tank deodorizer, read the label carefully. **Biodegradable** (enzyme and citrus-based) products are available. Whichever product you choose, **follow label directions** and add no more than recommended amounts.

- Some products that claim to be flushable, such as some types of cat litter, may clog hoses and septic tanks; use toilets for waste and toilet paper only.

- Ask questions of your park manager about drinking water and wastewater management. Sanitation costs can be minimal, but not free.

- Educate other RVers. Don't be shy about health.

## FREE HOTLINES!

Septic System Care: The National Small Flows Clearinghouse, (800) 624-8301, EST, or *www.nsfc.wvu.edu*
The Safe Drinking Water Act Hotline, US EPA: (800) 426-4791, EST, or *www.epa.gov/ogwdw*

U.S. EPA, Region 9, WTR-9
Ground Water Office
75 Hawthorne Street
San Francisco, CA 94105-3109

ATTACHMENT C – INFORMATION SHEET
MODEL MONITORING AND REPORTING PROGRAM
STATE WATER RESOURCES CONTROL BOARD
ORDER WQ 2014-0153-DWQ
GENERAL WASTE DISCHARGE REQUIREMENTS
FOR SMALL DOMESTIC WASTEWATER SYSTEMS

This Monitoring and Reporting Program (MRP) describes requirements for monitoring a wastewater treatment system. This MRP is issued pursuant to Water Code section 13267. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Regional Water Quality Control Board (Regional Water Board) Executive Officer.

The State Water Resources Control Board (State Water Board) and Regional Water Boards are transitioning to the paperless office system. In some regions, Dischargers will be directed to submit reports (both technical and monitoring reports) to the State Water Board's GeoTracker database over the Internet in portable document format (pdf). In addition, analytical data shall be uploaded to the GeoTracker database under a site-specific global identification number. Information on the GeoTracker database is provided on the Internet at:

<http://www.waterboards.ca.gov/ust/electronic_submittal/index.shtml>

Water Code section 13267 states, in part:

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

Water Code section 13268 states, in part:

> "(a) Any person failing or refusing to furnish technical or monitoring program reports as required by subdivision (b) of section 13267, or failing or refusing to furnish a statement of compliance as required by subdivision (b) of section 13399.2, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in accordance with subdivision (b).
>
> (b)(1) Civil liability may be administratively imposed by a regional board in accordance with article 2.5 (commencing with section 13323) of chapter 5 for a violation of subdivision (a) in an amount which shall not exceed one thousand dollars ($1,000) for each day in which the violation occurs."

The Discharger owns and operates the wastewater system that is subject to the Notice of Applicability (NOA) of Water Quality Order 2014-0153-DWQ. The reports are necessary to ensure that the Discharger complies with the NOA and General Order. Pursuant to Water Code section 13267, the Discharger shall implement this MRP and shall submit the monitoring reports described herein.

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. The name of the sampler, sample type (grab or composite), time, date, location, bottle type, and any preservative used for each sample shall be recorded on the sample chain of custody form. The chain of custody form must also contain all custody information including date, time, and to whom samples were relinquished. If composite samples are collected, the basis for sampling (time or flow weighted) shall be approved by Regional Water Board staff.

Field test instruments (such as those used to test pH, dissolved oxygen, and electrical conductivity) may be used provided that they are used by a State Water Board California Environmental Laboratory Accreditation Program certified laboratory, or:

1. The user is trained in proper use and maintenance of the instruments;
2. The instruments are field calibrated prior to monitoring events at the frequency recommended by the manufacturer;
3. Instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and
4. Field calibration reports are maintained and available for at least three years.

## SEPTIC TANK MONITORING

Monitoring of septic tank shall include the following:

| Parameter | Units | Sample Type | Sampling Frequency | Reporting Frequency |
|---|---|---|---|---|
| Flow Rate | gpd | Metered [a] | Continuous | Annually |

gpd denotes gallons per day.

a. Flow rate may be metered or estimated based on potable water supply meter readings or other approved method.

Septic tanks shall be inspected and/or pumped at least as frequently as described below. Inspections of sludge and scum depth are not required if the tanks are pumped at least annually.

| Parameter | Units | Measurement Type | Inspection/Reporting Frequency |
|---|---|---|---|
| Sludge depth and scum thickness in each compartment of each tank | Feet | Staff Gauge | Annually |
| Distance between bottom of scum layer and bottom of outlet device | Inches | Staff Gauge | Annually |
| Distance between top of sludge layer and bottom of outlet device | Inches | Staff Gauge | Annually |
| Effluent filter condition (if equipped, clean as needed) | NA | NA | Annually |

NA denotes not applicable.

Septic tanks shall be pumped when any one of the following conditions exists:

1. The combined thickness of sludge and scum exceeds one-third of the tank depth of the first compartment.
2. The scum layer is within 3 inches of the outlet device.
3. The sludge layer is within 8 inches of the outlet device.

If a septic tank is pumped during the year, the pumping report shall be submitted with the annual report. All pumping reports shall be submitted with the next regularly scheduled monitoring report. At a minimum, the record shall include the date, nature of service, service company name, and service company license number.

## AEROBIC TREATMENT UNIT MONITORING [10]

### Influent Monitoring

Influent samples shall be taken from a location that provides representative samples of the wastewater quality. At a minimum, influent monitoring shall consist of the following:

| Constituent | Units | Sample Type | Sample Frequency | Reporting Frequency |
|---|---|---|---|---|
| Total Nitrogen [a] | mg/L | Grab | Monthly | Quarterly |

mg/L denotes milligrams per liter.

a. When needed for 50% reduction effluent limit calculations. .

[10] Determine the need for monitoring based on the flow rate and Attachment 1. Biochemical oxygen demand limits apply with flow rates above 400 gpd; nitrogen limits may apply at flow rates above 20,000 gpd. (See General Order Section D, Effluent Limits and Attachment 1, Nitrogen Effluent Limit Evaluation.)

## Effluent Monitoring

Samples of effluent shall be taken at an area that represents the effluent quality distributed to the disposal area. At a minimum, effluent monitoring shall consist of the following:

| Parameter | Units | Sample Type | Sampling Frequency | Reporting Frequency |
|---|---|---|---|---|
| Flow Rate | gpd | Metered [a] | Continuous | Quarterly |
| Biochemical Oxygen Demand | mg/L | Grab | Monthly | Quarterly |
| Total Nitrogen [b] | mg/L | Grab | Monthly | Quarterly |

gpd denotes gallons per day. mg/L denotes milligrams per liter.

a. Flow rate may be metered or estimated based on potable water supply meter readings or other approved method. Flow rates may be measured as influent or effluent flow.

b. Include nitrogen monitoring when a nitrogen effluent limit is imposed.

Aerobic treatment units may be integrated in a treatment train and all components shall be inspected to verify operational status. It is highly recommended that a service agreement with a qualified service provider/vendor be required by the Regional Water Board's Executive Officer. Because aerobic treatment units generate more biosolids than septic systems (similar to the activated sludge process), systems shall be inspected and/or pumped at least as frequently as described below. Depending upon the amount of solids removed from the aerobic treatment unit, less frequent inspections may be allowed by the Regional Water Board's Executive Officer. Inspections of sludge and scum depth are not required if the tanks are pumped at least annually.

| Parameter | Units | Measurement Type | Inspection/Reporting Frequency |
|---|---|---|---|
| Sludge depth and scum thickness in each compartment of each tank | Feet | Staff Gauge | Quarterly |
| Distance between bottom of scum layer and bottom of outlet device | Inches | Staff Gauge | Quarterly |
| Distance between top of sludge layer and bottom of outlet device | Inches | Staff Gauge | Quarterly |
| Effluent filter condition (if equipped, clean as needed) | NA | NA | Quarterly |

NA denotes not applicable.

Aerobic treatment units shall be pumped when any one of the following conditions exists:

1. The combined thickness of sludge and scum exceeds one-third of the tank depth of the final settling tank or interferes with the operation of the system (mixed liquor aerator solids shall not exceed the manufacturer's recommendation).
2. The scum layer is within 3 inches of the outlet device.
3. The sludge layer is within 8 inches of the outlet device.

All pumping reports shall be submitted with the next regularly scheduled monitoring report. At a minimum, the record shall include the date, nature of service, service company name, and service company license number.

## ACTIVATED SLUDGE MONITORING [11]

### Influent Monitoring

Influent samples shall be taken from a location that provides representative samples of the wastewater quality. At a minimum, influent monitoring shall consist of the following:

| Constituent | Units | Sample Type | Sample Frequency | Reporting Frequency |
|---|---|---|---|---|
| Total Nitrogen [a] | mg/L | Grab | Monthly | Quarterly |

mg/L denotes milligrams per liter.

a. When needed for 50% reduction effluent limit calculation.

### Effluent Monitoring

Samples of effluent shall be taken at an area that represents the effluent quality distributed to the disposal area. At a minimum, effluent monitoring shall consist of the following:

| Constituent | Units | Sample Type | Sample Frequency | Reporting Frequency |
|---|---|---|---|---|
| Flow Rate [a] | gpd | Meter | Continuous | Quarterly |
| Biochemical Oxygen Demand | mg/L | Grab | Monthly | Quarterly |
| Total Suspended Solids | mg/L | Grab | Monthly | Quarterly |
| Total Nitrogen [b] | mg/L | Grab | Monthly | Quarterly |

gpd denotes gallons per day.

a. At a minimum, the total flow shall be measured monthly to calculate the average daily flow for the month. Flow rates may be measured on influent or effluent flow.

b. Include nitrogen monitoring when a nitrogen effluent limit is imposed.

[11] Determine the need for monitoring based on the flow rate and Attachment 1. Biochemical oxygen demand limits apply with flow rates above 400 gpd; nitrogen limits may apply at flow rates above 20,000 gpd. (See General Order Section D, Effluent Limits and Attachment 1, Nitrogen Effluent Limit Evaluation.)

## POND SYSTEM MONITORING [12]

### Influent Monitoring

Influent samples shall be taken from a location that provides representative samples of the wastewater and flow rate. At a minimum, influent monitoring shall consist of the following:

| Constituent | Units | Sample Type | Sample Frequency | Reporting Frequency |
|---|---|---|---|---|
| Flow Rate [a] | gpd | Meter | Continuous | Quarterly |
| Total Nitrogen [b] | mg/L | Grab | Monthly | Quarterly |

gpd denotes gallons per day. mg/L denotes milligrams per liter.

a. At a minimum, the total flow shall be measured monthly to calculate the average daily flow for the month. If wastewater is stored and applied to land, flow rate measurement may also be needed on the effluent flow.

b. When needed for 50% reduction effluent limit calculation.

### Wastewater Pond Monitoring

All wastewater and treated wastewater storage ponds (lined and unlined) shall be monitored as specified below:

| Constituent | Units | Sample Type | Sample Frequency | Reporting Frequency |
|---|---|---|---|---|
| Dissolved Oxygen | mg/L | Grab | Monthly | Quarterly |
| Freeboard | 0.1 feet | Measurement | Monthly | Quarterly |
| Odors | -- | Observation | Monthly | Quarterly |
| Berm condition | -- | Observation | Monthly | Quarterly |

mg/L denotes milligrams per liter.

### Effluent Monitoring

Effluent samples shall be taken from a location that provides representative samples of the wastewater. At a minimum, effluent monitoring shall consist of the following:

| Constituent | Units | Sample Type | Sample Frequency | Reporting Frequency |
|---|---|---|---|---|
| Biochemical Oxygen Demand | mg/L | Grab | Monthly | Quarterly |

[12] Determine the need for monitoring based on the flow rate and Attachment 1. Biochemical oxygen demand limits apply with flow rates above 400 gpd; nitrogen limits may apply at flow rates above 20,000 gpd. (See General Order Section D, Effluent Limits and Attachment 1, Nitrogen Effluent Limit Evaluation.)

| Constituent | Units | Sample Type | Sample Frequency | Reporting Frequency |
|---|---|---|---|---|
| Total Nitrogen [a] | mg/L | Grab | Monthly | Quarterly |

mg/L denotes milligrams per liter.

a. Include nitrogen monitoring when a nitrogen effluent limit is imposed.

## DISINFECTION SYSTEM MONITORING

If disinfection is performed, samples shall be collected from immediately downstream of the disinfection system. Depending upon the level of disinfection and wastewater disposal, monitoring requirements vary. Disinfection monitoring shall be customized to the site-specific conditions from the following:

| Constituent | Units | Sample Type | Sample Frequency | Reporting Frequency |
|---|---|---|---|---|
| Total Coliform Organisms | MPN/100 mL | Grab | TBD [a] | Quarterly |
| Turbidity | NTU | Grab/Meter | TBD [a] | Quarterly |

MPN/100 mL denotes most probable number per 100 mL sample. NTU denotes nephelometric turbidity unit.

a. TBD (to be determined) shall be specified in the NOA or as required by California Code of Regulations, title 22 section 60321.

## RECREATIONAL VEHICLE DISCHARGE MONITORING

Any wastewater system that has accepted recreational vehicle, portable toilet, or similar waste in the previous 12 months shall perform the following additional monitoring. Samples shall be collected to characterize effluent that is stored in wastewater ponds or that will be applied to a disposal area. Wastewater shall be monitored as specified below:

| Constituent | Units | Sample Type | Sample Frequency | Reporting Frequency |
|---|---|---|---|---|
| Zinc | mg/L | Grab | Quarterly | Quarterly |
| Phenol | mg/L | Grab | Quarterly | Quarterly |
| Formaldehyde | mg/L | Grab | Quarterly | Quarterly |

mg/L denotes milligrams per liter.

## SUBSURFACE DISPOSAL AREA

Subsurface disposal areas may be configured many different ways (e.g. traditional leach field, pressure-dosed, drip system, mound/at grade, gravel less, etc.). In general, monitoring shall be sufficient to determine if wastewater is evenly applied, the disposal area is not saturated, burrowing animals and/or deep rooted plants are not present, and odors are not present. Inspection of dosing pump controllers, automatic distribution valves, etc. is required to maintain optimum treatment in the disposal area (and any sand or media filter if present). Monitoring shall include, at a minimum, the following:

| Constituent | Inspection Frequency | Reporting Frequency |
|---|---|---|
| Pump Controllers, Automatic Valves, etc. [a] | Quarterly | Quarterly |
| Nuisance Odor Condition | Quarterly | Quarterly |
| Saturated Soil Conditions [b] | Quarterly | Quarterly |
| Plant Growth [c] | Quarterly | Quarterly |
| Vectors or Animal Burrowing [d] | Quarterly | Quarterly |
| Seepage Pit Condition [e] | Quarterly | Quarterly |

a. All pump controllers and automatic distribution valves shall be inspected for proper operation as recommended by the manufacturer.

b. Inspect a disposal area for saturated conditions. If a mound system is used, inspect perimeter base for signs of wastewater seepage or saturated soil conditions.

c. Shallow-rooted plants are generally desirable, deep-rooted plants such as trees shall be removed as necessary.

d. Evidence of animals burrowing shall be immediately investigated and burrowing animal populations controlled as necessary.

e. Seepage pits shall be inspected to ensure they are allowing wastewater to infiltrate as designed. Visual inspection of the water level in the seepage pit is adequate.

## RECYCLED WATER MONITORING

If recycled water is used for irrigation of landscape areas,[13] priority pollutant monitoring is required at the production facility. Sampling shall be consistent with the following:

| Constituent | Sampling Frequency | Reporting Frequency |
|---|---|---|
| Priority Pollutants | 5 years | The next annual report. |

mgd denotes million gallons per day.

## LAND APPLICATION AREA MONITORING

The Discharger shall monitor LAAs when wastewater and/or supplemental irrigation water is applied. If wastewater/supplemental irrigation water is not applied during a reporting period, the monitoring report shall so state. LAA monitoring shall include the following:

[13] Landscape areas are defined as parks; greenbelts, playgrounds; school yards; athletic fields; golf courses; cemeteries; residential landscaping; common areas; commercial landscaping (except eating areas); industrial landscaping (except eating areas); freeway, highway, and street landscaping

| Constituent | Units | Sample Type | Sampling Frequency | Reporting Frequency |
|---|---|---|---|---|
| Supplemental Irrigation | gpd | Meter [a] | Monthly | Quarterly |
| Wastewater Flow [a] | gpd | Meter [a] | Monthly | Quarterly |
| Local Rainfall | Inches | Weather Station [b] | Monthly | Quarterly |
| Acreage Applied [c] | Acres | Calculated | Monthly | Quarterly |
| Application Rate | gal/acre/mo | Calculated | Monthly | Quarterly |
| Soil Erosion Evidence | -- | observation | Monthly | Quarterly |
| Containment Berm Condition | -- | observation | Monthly | Quarterly |
| Soil Saturation/Ponding | -- | observation | Monthly | Quarterly |
| Nuisance Odors/Vectors | -- | observation | Monthly | Quarterly |
| Discharge Off-Site | -- | observation | Monthly | Quarterly |

gpd denotes gallons per day.

a. Meter requires meter reading, a pump run time meter, or other approved method.
b. Weather station may be site-specific station or nearby governmental weather reporting station.
c. Acreage applied denotes the acreage to which wastewater is applied.
d. Application rate may also be reported as inch/acre/month.

## SOLIDS DISPOSAL MONITORING

The Discharger shall report the handling and disposal of all solids (e.g., screenings, grit, sludge, biosolids, etc.) generated at the wastewater system. Records shall include the name/contact information for the hauling company, the type and amount of waste transported, the date removed from the wastewater system, the disposal facility name and address, and copies of analytical data required by the entity accepting the waste. These records shall be submitted as part of the annual monitoring report.

## GROUNDWATER MONITORING

The Discharger shall monitor groundwater quality if required by the NOA. Consistent with the Business and Professions Code, groundwater monitoring reports, well construction workplans, etc. shall be prepared under the supervision of a California licensed civil engineer or geologist. Prior to construction of any groundwater monitoring wells, the Discharger shall submit plans and specifications to the Regional Water Board's staff for review and approval. Once installed, all monitoring wells designated as part of the monitoring network shall be sampled and analyzed according to the schedule below.

The data from routine groundwater monitoring events shall be submitted quarterly. Analysis of the data and groundwater flow directions shall be performed at least annually and shall be performed under the supervision of a California licensed professional (as described above). The Discharger may request a reduced monitoring and reporting schedule once adequate data has been collected to characterize the site. (Typically two years of quarterly sampling is required for adequate characterization.)

Prior to sampling, groundwater elevations shall be measured and the wells shall be purged of at least three well volumes and until pH and electrical conductivity have stabilized. No-purge, low-flow, or other sampling techniques are acceptable if they are described in an approved Sampling and Analysis Plan. Depth to groundwater shall be measured to the nearest 0.01 feet. Groundwater elevations shall be calculated. Samples shall be collected using approved USEPA methods. Groundwater monitoring shall include, at a minimum, the following:

| Constituent | Units | Sample Type | Sampling/Reporting Frequency [c,d] |
|---|---|---|---|
| Groundwater Elevation [a] | 0.01 Feet | Calculated | Quarterly |
| Depth to Groundwater | 0.01 Feet | Measurement | Quarterly |
| Gradient | Feet/Feet | Calculated | Quarterly |
| Gradient Direction | degrees | Calculated | Quarterly |
| pH | Std. Units | Grab | Quarterly |
| Total Dissolved Solids | mg/L | Grab | Quarterly |
| Nitrate as Nitrogen | mg/L | Grab | Quarterly |
| Sodium | mg/L | Grab | Quarterly |
| Chloride | mg/L | Grab | Quarterly |
| Total Coliform Organisms [b] | MPN/100 mL | Grab | Quarterly |
| Zinc [c] | mg/L | Grab | Quarterly |
| Phenol [c] | mg/L | Grab | Quarterly |
| Formaldehyde [c] | mg/L | Grab | Quarterly |

MPN/100 mL denotes most probable number per 100 mL sample. Std. Units denotes standard units. mg/L denotes milligrams per liter.

a. Groundwater elevation shall be based on depth to water using a surveyed measuring point elevation on the well and a surveyed reference elevation.

b. Using a minimum of 15 tubes or three dilutions.

c. Monitoring of the constituents zinc, phenol, and formaldehyde are required only when recreational vehicles were allowed to discharge to the wastewater system in the previous 12 months.

d. Analysis of data by a California licensed professional is required at least annually,

## SURFACE WATER MONITORING

Because of the difficulty in monitoring bacteria in surface water, sample collection procedures must be described in a *Sampling and Analysis Plan*. Natural bacteria levels can vary significantly, and may be correlated with rainfall. When possible, surface water bacteria samples should be collected under dry weather conditions. It is critical when monitoring bacteria that all containers and surfaces a sample contacts are sterile. Sample containers must be autoclaved or manufactured to maintain sterility; use of screw top bottles, Whirl-pak® bags, or similar containers is acceptable. The sample hold time for bacteria samples is typically no more than six hours. Monitoring shall include, at a minimum, the following:

| Constituent | Units | Weather (Rain/Dry) | Sampling Frequency | Reporting Frequency |
|---|---|---|---|---|
| *Escherichia coli* (E. coli)[a] | MPN/100 mL | Observation | Quarterly | Quarterly |
| Enterococci [b] | MPN/100 mL | Observation | Quarterly | Quarterly |

MPN/100 mL denotes most probable number per 100 mL sample

a. Analysis by USEPA Method 1603 or equivalent.

b. Analysis by USEPA Method 1600 or equivalent.

## REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., effluent, solids, etc.), and reported analytical or visual inspection results are readily discernible. The data shall be summarized to clearly illustrate compliance with the General Order and NOA as applicable. The results of any monitoring done more frequently than required at the locations specified in the MRP shall be reported in the next regularly scheduled monitoring report and shall be included in calculations as appropriate.

During the life of this General Order, the State Water Board or Regional Water Board may require the Discharger to electronically submit monitoring reports using the State Water Board's California Integrated Water Quality System (CIWQS) program Internet web site or alternative database. Electronic submittal procedures will be provided when directed to begin electronic submittals. Until directed to electronically submit monitoring reports, the Discharger shall submit hard copy monitoring reports.

### A. Quarterly Monitoring Reports

Quarterly reports shall be submitted to the Regional Water Board on the **first day of the second month after the quarter ends** (e.g. the January-March Quarterly Report is due by May 1st). The reports shall bear the certification and signature of the Discharger's authorized representative. At a minimum, the quarterly reports shall include:

1. Results of all required monitoring.
2. A comparison of monitoring data to the discharge specifications, applicable effluent limits, disclosure of any violations of the NOA and/or General Order, and an explanation of any violation of those requirements. (Data shall be presented in tabular format.)
3. If requested by staff, copies of laboratory analytical report(s) and chain of custody form(s).

### B. Annual Report

Annual Reports shall be submitted to the Regional Water Board by **March 1st following the monitoring year**. The Annual Report shall include the following:

1. Tabular and graphical summaries of all monitoring data collected during the year.

2. An evaluation of the performance of the wastewater treatment facility, including discussion of capacity issues, nuisance conditions, system problems, and a forecast of the flows anticipated in the next year. A flow rate evaluation as described in the General Order (Provision E.2.c) shall also be submitted.
3. If disinfection with ultraviolet light is performed, describe disinfection system maintenance activities performed in the calendar year. The description shall address inspections performed, lamp bulb replacement, lamp sleeve cleaning, and manufacturer recommended maintenance activities.
4. A discussion of compliance and the corrective action taken, as well as any planned or proposed actions needed to bring the discharge into compliance with the NOA and/or General Order.
5. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program.
6. The name and contact information for the wastewater operator responsible for operation, maintenance, and system monitoring.
7. A groundwater monitoring report prepared by a California licensed professional. This report may be prepared separately from the rest of the Annual Report. The report shall contain an analysis of groundwater data collected during the year. The analysis shall include a description of the sample events, copies of the field logs, purge method and volume, groundwater elevation and trend, a groundwater elevation map for each sample event, summary tables showing results for parameters measured, comparison of groundwater quality parameters to standards in the NOA, chain-of-custody forms, calibration logs for field equipment used, and a general evaluation of any impacts the wastewater discharge is having on groundwater quality.

A letter transmitting the monitoring reports shall accompany each report. The letter shall report violations found during the reporting period, and actions taken or planned to correct the violations and prevent future violations. The transmittal letter shall contain the following penalty of perjury statement and shall be signed 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 that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

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

Ordered by:

NAME, Executive Officer

DATE

# San Francisco Bay Regional Water Quality Control Board
# Recycled Water Spill Notification

**<u>For any unauthorized discharge of more than 50,000 gallons</u> of recycled water, once you know this has occurred, the Site Supervisor or designated agency contact identified in the Recycled Water Program must take the following steps:**

- As soon as emergency response measures are completed, but no later than **24 hours** after the discharge, notify the San Francisco Bay Regional Water Quality Control Board and the Division of Drinking Water via the email addresses listed below.
- Notify the Regional Water Board Spill Line via telephone or email.
- Provide written confirmation via email to the Regional Water Board and the Division of Drinking Water within 15 calendar days from the date of notification using the form below or by providing similar information in a letter or memo.

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**<u>For any spills or other releases of recycled water</u> that discharge to a surface waterbody, drainage ditch, or storm drain, once you know this has occurred, the Site Supervisor or designated agency contact identified in the Recycled Water Program must take the following steps:**

- As soon as emergency response measures are completed, but no later than 24 hours after the discharge, notify the Regional Water Quality Control Board via email and telephone.
- Notify the Regional Water Board Spill Line via telephone or email. Staff may advise to contact the California Office of Emergency Services.
- Provide written confirmation via email to the Regional Water Board within 15 calendar days from the date of notification using the form below or by providing similar information in a letter or memo.
- For spills of recycled water greater than **50,000 gallons** that have **not been dechlorinated** and discharge to a **surface waterbody**, water quality samples shall be collected as follows:
  - Use a field water quality meter/sensor to measure pH, dissolved oxygen, temperature, and conductivity at each sample location. Confirm with Regional Water Board staff the sampling locations but at a minimum, (a) upstream of the point of discharge, (b) at the point of discharge, and (c) prior to confluence with another surface waterbody if encountered up to 0.5 mile downstream of the spill location.
  - Collect a water quality sample for chlorine residual analysis at each location, if chlorine is used in the disinfection process.

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**Provide the following information when you notify the agencies:**

a. Date and time the spill began and ended
b. Location of the spill
c. If the spill entered a storm drain or receiving water
d. Estimated volume of the spill or flow if the spill is ongoing
e. Estimated time of repair
f. Cause of the spill
g. Agencies involved with the response actions
h. Corrective actions taken or plans for corrective action
i. Whether adverse impacts related to the spill were observed such as excessive sedimentation or a fish kill.
j. Photograph(s) of the spill location. Provide with the Spill Reporting Form if available.

## Spill Contact Information

**San Francisco Bay Regional Water Quality Control Board**

Phone: (510) 622-2390 or (510) 622-2305

Contact: Melissa Gunter or Blair Allen

Email: Melissa.Gunter@waterboards.ca.gov
Blair.Allen@waterboards.ca.gov

**San Francisco Bay Regional Water Quality Control Board Spill Line**

Phone: (510) 622-2369

Email: RB2spillreports@waterboards.ca.gov

**State Water Resources Control Board Division of Drinking Water**

Phone: (707) 576-2734

Contact: Sheri Miller

Email: Sheri.Miller@waterboards.ca.gov

**California Office of Emergency Services**

Phone: (916) 845-8911

**San Francisco Bay Regional Water Quality Control Board**

**Recycled Water Spill Reporting Form**

| | |
|---|---|
| Name: | Phone: |
| Agency: | |
| Site Name: | |
| Location: | |
| Date: | |
| Contact for Follow-up (Name/Phone): | |

| **INFORMATION ON SPILL OR UNAUTHORIZED DISCHARGE** |
|---|
| Date/time spill or discharge began: |
| Date/time spill or discharge ended: |
| Location of spill or discharge: |
| Did the recycled water enter or will it enter storm drains or receiving waters (e.g., rivers, creeks, lakes, or ocean); if so identify. |
| Estimated volume of spill or discharge (gallons): |
| Estimated time of repair: |
| If still ongoing, estimate flow rate (gallons/minute): |
| Agencies/entities involved with repair and/or clean-up: |
| Cause of the spill or discharge: |
| Corrective actions taken and when, or plan to correct spill/discharge: |

WEST YOST ASSOCIATES
Consulting Engineers

# TECHNICAL MEMORANDUM

DATE: May 4, 2018 Project No.: 750-18-17-01
SENT VIA: EMAIL

TO: Cori Resha, JD, Ascent Environmental, Inc.

FROM: Charles Hardy, PE, RCE #71015

REVIEWED BY: Kathryn Gies, PE, RCE #65022

SUBJECT: Peer Review of Onsite Wastewater Treatment System for Proposed Oak Knolls Hotel Project in Napa County, California

Ascent Environmental, Inc. (Ascent) is assisting Napa County with preparing a Project Environmental Impact Report (EIR) for the proposed Oak Knolls Hotel development (Project), based on preliminary design calculations and conceptual design plans. Ascent has asked West Yost Associates (West Yost) to provide a peer review of the proposed Onsite Wastewater Treatment System (OWTS) for the Project, specifically focused on the feasibility of implementing and permitting the OWTS.[1]

This Technical Memorandum (TM) provides our peer review, focused on the following topics:

- Documents Provided for Review
- Understanding of Project OWTS
- Review of Design Criteria and Calculations
- Comments on Feasibility of Implementing and Permitting the OWTS
- Additional Comments on the Project

## DOCUMENTS PROVIDED FOR REVIEW

To support this peer review, Ascent has provided West Yost with the following project documents:

- *Revised Draft Report of Waste Discharge* (ROWD), prepared by Fall Creek Engineering (FCE), the Project's design engineer, dated October 2015
- Cover letter of the ROWD

[1] The term "OWTS" in this TM is used to refer to both the wastewater treatment and recycled water distribution/disposal facilities. Where further specification is helpful, it is provided.

- Letter from Melissa Gunter with the Regional Board to Alex Hill at FCE, Subject: Draft Report of Waste Discharge Review, dated December 30, 2015
- Preliminary Site Plan of Wastewater Recycling System (one page), prepared by FCE, dated June 17, 2015
- Project Site Plan (one page), prepared by Signum Architecture, LLP, dated June 17, 2018
- Letter dated April 16, 2018, and tables with preliminary design criteria and engineering calculations for the proposed OWTS
- Responds to Peer Review Comments, submitted via email April 16, 2018

The layout of the OWTS facilities on the Preliminary Site Plan is noted as being consistent with the description in the ROWD. Further discussion of the site plans is not needed in this TM.

## UNDERSTANDING OF PROJECT OWTS

The ROWD notes the following background information relevant to the OWTS:

- The 3.54-acre Project site is outside the sphere of influence of the Napa Sanitation District, therefore requiring wastewater generated onsite to managed onsite.
- The Project will entail a 50-room hotel, with a full-service restaurant and bar, fitness studio and spa, conference room, retail store, and "lush landscaping."
- An onsite laundry facility may also be installed with a closed-loop water recycling system.
- Thirty (30) full-time employees are expected to be needed during peak season.
- Historically, the site has been used for a variety of commercial businesses with wastewater managed with several standard septic tank systems.
- The peak daily flow into the OWTS at full hotel occupancy is about 10,000 gallons per day (gpd), including kitchen waste, domestic wastewater, and shower/bath/sink wash water.
- The primary disposal method of the treated effluent from the OWTS will be irrigation of the onsite landscaping, but a shallow pressure dosed leachfield will also be installed for use during the winter (when irrigation needs are low) and during rainfall events or when the landscape area soils are saturated.
- To preserve the aesthetics of the site and maximize use of the site, most of the OWTS and leachfields are proposed to be buried below the hotel parking lot.

The ROWD describes that wastewater will flow by gravity and/or pumped line to a biological treatment system, consisting of a combination of aerobic and anaerobic unit processes as follows (in order):

- A 20,000-gallon anaerobic baffled reactor
- A three-stage trickling filter system with three 10,000-gallon tanks (Acqualogic Biofilters)
- A 2,500-gallon aerobic nitrification basin
- A 10,000-gallon denitrification bioreactor that includes a carbonaceous substrate (e.g. wood chips)

Recirculation will occur from the denitrification tank back to the beginning of the treatment train. Effluent from the biological treatment system will ultimate be conveyed to a two-stage, multi-media filtration system and then an ozone disinfection process. Sizing of the filtration and disinfection processes was not provided.

Tertiary treated effluent will be collected in underground storage tanks, and used for toilet flushing, landscape irrigation and fire suppression needs. Of the daily 10,000 gpd peak daily flow, 2,000 gpd is estimated to be needed for internal reuse for toilet flushing, with the remaining 8,000 gpd used for landscape irrigation.

The treated water storage consists of one 30,000-gallon fiberglass storage tank for treated water followed by two, 40,000-gallon fiberglass storage tanks (70,000 gallons for fire protection, remaining 10,000 gallons for irrigation storage).

## REVIEW OF DESIGN CRITERIA AND CALCULATIONS

The estimated peak daily flow at full hotel occupancy of 10,000 gpd is consistent with typical values (Metcalf & Eddy|AECOM, 2013 and USEPA, 2002).

The biological treatment system is designed for removal of Biochemical Oxygen Demand (BOD), Total Suspended Solids, and Total Nitrogen (TN) to achieve specified effluent levels of these analytes. The ROWD design calculations rely on assumed influent BOD and TSS concentrations of 450 mg/L, and an assumed influent Total Kjeldahl Nitrogen (TKN) of 80 mg/L. TKN in raw wastewater is essentially equivalent to TN, so influent TN is also 80 mg/L. These values are consistent with “high strength” domestic wastewater (Metcalf & Eddy|AECOM, 2013), likely accounting for restaurant wastewater, and thus appropriate.

The ROWD indicates a TN of 40 mg/L, whereas the preliminary design calculations indicate the design is actually based on a TN of 80 mg/L. The final ROWD should be consistent wtih the preliminary design calculations to show influent TN as 80 mg/L.

The ROWD specifies that effluent BOD, TSS, and TN will be less than 10 mg/L each. The preliminary design calculations demonstrate that the treatment unit sizing presented in the ROWD should be adequate for meeting these treatment levels. The Project proponent has substantial experience in designing and operating similar treatment systems, and thus it is expected that the assumption applied in developing the preliminary design calculations are appropriate.

## COMMENTS ON FEASIBILITY OF IMPLEMENTING AND PERMITTING THE OWTS

As noted above, this peer review focuses on the feasibility of implementing and permitting the proposed OWTS. In general, the proposed recycled water uses (toilet flushing, landscape irrigation, fire suppression) and method of landscape irrigation with recycled water (drip or spray) are consistent with allowed uses under Title 22 for tertiary treated effluent. Similarly, the proposed leachfield design consisting of 100 linear foot maximum lengths, with 30-inch sidewall depths and 5 square feet per linear feet of effective area meets the minimum standards for a rock/pipe dispersal system.

West Yost does have the following concerns regarding the feasibility, based on the materials provided, and supported by the detailed explanations that follow:

- The proposed leachfield location may not be acceptable to the Regional Board.
- The water balance may need to be revised to meet Regional Board standards
- A Title 22 Engineering Report is needed to confirm compliance with Title 22 Recycled Water requirements.
- The estimated percolation/infiltration rate for the leachfields cannot be confirmed.
- Revise nitrogen loading estimate.

### The Proposed Leachfield Location May Not be Acceptable to the Regional Board

The proposed Project includes placing leachfield lines underneath a parking lot. The Project proponent is seeking a discharge permit from the Regional Board for the treatment and disposal facilities. The Regional Board would be expected to defer to existing policy in developing a permit for the project. In this case, the applicable policies that would be referenced are expected to include the State Water Board OWTS Policy (State Water Board, 2012) and Title 22 recycled water requirements. The State Water Board OWTS Policy includes a restriction regarding covering of dispersal systems (e.g. leachfields) "by an impermeable surface, such as paving…or any other material that prevents oxygen transfer to the soil." Assuming the Regional Board does defer to the OWTS Policy, they will likely restrict the Project from having a leachfield covered by a parking lot.

The Project proponent has stated that the Regional Board has indicated their acceptance of the leachfield location based on the effluent being highly treated, and soil treatment in the disposal system not being relied upon. Ultimately, Regional Board acceptance of the treatment and disposal system design, and issuance of a discharge permit for the Project, will confirm the appropriate environmental protections are in place.

### The Water Balance May Need to be Revised to Meet Regional Board Standards

The water balance provided in the ROWD is based on disposal of treated effluent over a given area using a maximum hydraulic loading rate method, as controlled by soil permeability (infiltration), evapotranspiration and precipitation. Thus, the project does not assume irrigation water will be applied at rates that meet only the agronomic demands of vegetation being irrigated.

Upon development of the permit for the Project, the Regional Board may require the irrigation water application rates be reduced to minimize infiltration. The Project proponent has indicated that flow limitations will be developed if required by the Regional Board. Ultimately, Regional Board acceptance of the disposal system, and issuance of a discharge permit for the Project, will confirm the appropriate environmental protections are in place.

There are other potential changes to the water balance that may be requested by the Regional Board to provide consistency with typical requirements. However, none of these changes would impact the sizing of the disposal facilities. These changes are as follows:

- The water balance appears to be based on average precipitation values. Regional Board typically requires that water balances be based on a 100-year annual precipitation.
- "Effective precipitation," defined as 30 percent of the precipitation in any month, is used in estimating landscape irrigation demands. Typically, the full precipitation values are used to support water balance calculations.

### A Title 22 Engineering Report is Needed to Confirm Compliance with Title 22 Recycled Water Requirements

The documents provided do not include a Title 22 Engineering Report. A Title 22 Engineering Report documents how a recycled project complies with the State's Title 22 recycled water requirements, and must be approved by the State Water Board's Division of Drinking Water (DDW) prior to the use of recycled water from a reclamation (wastewater treatment) facility. Once approved, the Title 22 Engineering Report also becomes a guide for production and use of recycled water. Any changes to the production and use of recycled water must also be documented through submittal of revised Title 22 Engineer Report (or report sections). Approval of these changes must be received from DDW before they can be implemented.

The Project proponent has indicated that a Title 22 will be prepared after the environmental review process has been completed. Therefore, West Yost cannot confirm that the Project complies with the Title 22 requirements. Nevertheless, DDW approval of a Title 22 Report is necessary before the system can be operated. Therefore, this regulatory process will ensure that the appropriate public safety protections are in place.

### The Estimated Percolation/Infiltration Rate for the Leachfields Cannot be Confirmed

The ROWD indicates that the required length of leachfield rows is calculated based on an infiltration rate of 0.6 gpd per square foot (gpd/sf). As described in the ROWD, this infiltration rate is recommended by geotechnical/soil engineers, Delta Consulting and Engineering, Inc. based on onsite soil testing that include eleven (11) test pits to characterize soils and key soil properties including: texture, percent rock, structure, consistency of sidewall, ped, wetness, porosity, root presence and mottling. The only additional information provided in the ROWD regarding the testing results is that it was determined that the onsite soils are predominantly sandy clay loam and silty clay loam.

The State Water Board's OWTS Policy lists design soil application rates ranging from 0.2 to 0.4 gpd/sf for these types of soils, referencing the USEPA's OWTS Manual (USEPA, 2002). A review of the USEPA OWTS Manual reveals these sandy clay loam and silty clay loam soil application rates are applicable to effluent with a BOD of 150 mg/L. However, the USEPA manual lists slightly higher suggested soil application rates for an effluent BOD of 30 mg/L. These higher application rates are 0.3 gpd/sf if the soil has a weak structure or 0.6 gpd/sf if the soil has a moderate or strong texture. The ROWD indicates that the Project effluent BOD will be 10 mg/l or less. Therefore, a higher application rate may be justified.

The ROWD does not provide the full results of the Delta Consulting and Engineering, Inc. evaluation, which presumably includes a description of the parameters used to recommend the 0.6 gpd/sf rate. Therefore, there is not enough information available to confirm that the most applicable rate has been applied. The final ROWD should include the full results from the Delta Consulting and Engineering, Inc. evaluation to support the 0.6 gpd/sf recommendation.

### Revise Nitrogen Loading Estimate

The ROWD includes an estimate of nitrogen loading as 80 pounds per acre per year (lb N/ac/year), based on an irrigation demand of 3.8 acre-feet per year and a nitrogen concentration of 10 mg/L. Also presented is a State Water Board recognized agronomic nitrogen demand for turf grass of 174 lb N/ac/year, which is noted in the ROWD as being above the estimated applied nitrogen.

The 3.8 acre-feet per year agrees with the water balance estimate of 39.97 inches of irrigation demand for 50,000 square foot of landscaping. However, 3.8 acre-feet per year multiplied by 10 mg/L of nitrogen equals about 100 lb N/ac/year, not 80 lb N/ac/year. The 100 lb N/ac/year is still below the recommended agronomic rate of 174 lb N/ac/year.

The Project proponent has acknowledged this discrepancy. The final ROWD should include the nitrogen loading estimate of 100 lb N/ac/year.

## ADDITIONAL COMMENTS ON THE PROJECT

The remaining comments on the Project identify concerns related to getting approval of the Project. It is assumed that these activities are planned, but have not been clearly documented to date. These comments are as follows:

- The planned denitrification tank is noted as having a "carbonaceous substrate" such as wood chips to serve as the carbon source for the denitrification process. Separate from the ROWD, the Project proponent has indicated that:
  - Typical wood chip bioreactors have an expected life of 20 years, but it can be conservatively assumed the Project's wood chips would need to be replaced every 10 years.
  - The wood chip bed could be monitored annually to assess the integrity of the wood chips and whether they are in need of replacement.

  The above information be included in the Project documents to ensure adequate long-term operation of the denitrification process.

- An ozonation process is noted as being used for disinfection, without a specific ozonation technology specified. Verification/pilot testing of the ozonation system under conditions like Project conditions will need to be provided for DDW acceptance as conforming to Title 22 disinfection requirements for recycled water. This verification/pilot testing process is extensive, and the DDW staff responsible for approving verification/pilot tests are different from the staff responsible for approving Title 22 Engineering Reports. As a first step, a verification testing work plan will need to be submitted to DDW for approval. Then, a report summarizing the findings will then need to be submitted to DDW for approval. Typically, these steps occur ahead of completing the Title 22 Engineering Report, and the information from the verification process is summarized in the Title 22 Engineering Report with adequate details for the reviewer to confirm the appropriate steps had been taken.
- An anti-degradation analysis is provided, focused on salinity and sodicity (sodium levels), and nitrogen loading. Impacts to irrigated plants and underlying groundwater are assessed. The conclusion of the anti-degradation analysis is that the "use of recycled water…is a suitable use of this water." An anti-degradation analysis focused on impacts to groundwater is relevant to the Regional Board. However, discussion of the suitability of the recycled water for the irrigated plants is not needed. This information could be removed from the final ROWD if desired.
- A final ROWD will need to be submitted to the Regional Board as a formal application for a discharge permit, as noted in the Regional Board's letter reviewing the draft ROWD. Given that this Project contains components of both recycled water (under Title 22) and leachfield disposal (under the State Water Board's OWTS Policy), it is unclear whether the Project can be covered under a general permit issued through these programs. If not, the project will be permitted under a site-specific order. The Project proponent should have further discussions with Regional Board staff regarding the preferred permitting approach, as the different types of permits have different application requirements.

## References

Metcalf & Eddy|AECOM, George Tchobanoglous, and H. David Stensel, 2013, *Wastewater Engineering: Treatment and Resource Recovery*, Fifth Edition.

State Water Board, 2012, *OWTS Policy: Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems*, June 19, 2012

USEPA, Office of Research and Development, Office of Water, 2002, *Onsite Wastewater Treatment Systems Manual*, EPA/625/R-00/008, February 2002.