

Central Valley Regional Water Quality Control Board

23 July 2015

FILE

Jim Allen, Facilities Operations Specialist  
United States Department of the Interior  
National Park Service, Yosemite National Park  
5083 Foresta Road  
El Portal, CA 95318

**NOTICE OF APPLICABILITY (NOA), STATE WATER RESOURCES CONTROL BOARD ORDER WQ 2014-0153-DWQ-R5188, GENERAL WASTE DISCHARGE REQUIREMENTS FOR SMALL DOMESTIC WASTEWATER TREATMENT SYSTEMS, UNITED STATES DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE, YOSEMITE NATIONAL PARK, LOWER MARIPOSA GROVE WASTEWATER TREATMENT FACILITY, MARIPOSA COUNTY**

On 15 May 2015, Laugenour and Meikle on behalf of the United States Department of the Interior, National Park Service, Yosemite National Park (hereafter "Discharger"), submitted a Report of Waste Discharge (RWD) for a new wastewater treatment system at its Lower Mariposa Grove area of the Mariposa Grove of Giant Sequoias in Yosemite National Park. Based on the information provided, the system treats and disposes of less than 100,000 gallons of wastewater per day, and is therefore eligible for coverage under the general and specific conditions of State Water Resources Control Board (State Water Board) Water Quality Order 2014-0153-DWQ *General Waste Discharge Requirements for Small Domestic Wastewater Treatment Systems* (General Order). This letter serves as formal notice that the General Order is applicable to your system and the wastewater discharge described below. You are hereby assigned General Order 2014-0153-DWQ-R5188 for your system.

You should familiarize yourself with the entire General Order and its attachments enclosed with this letter, which describe mandatory discharge and monitoring requirements. Sampling, monitoring, and reporting requirements applicable to your treatment and disposal methods must be completed in accordance with the appropriate treatment system sections of the General Order and the attached *Monitoring and Reporting Program* (MRP) No. 2014-0153-DWQ-R5188. This MRP was developed after consideration of your waste characterization and site conditions described in the attached memorandum.

## **DISCHARGE DESCRIPTION**

The Discharger is proposing restoration of the existing domestic wastewater system (vault toilets) at the lower Mariposa Grove area of the Mariposa Grove of Giant Sequoias in southern Yosemite. The lower Mariposa Grove is on Mariposa Grove Road, about two miles east of the South Entrance Station at Yosemite National Park in Section 18, Township 5 South, Range 22 East, Mount Diablo Base and Meridian in Mariposa County.

The Discharger proposes to replace the existing vault toilets at the Lower Mariposa Grove with a new comfort station equipped with 10 flush toilets, three waterless urinals, and nine low-flow sinks, and an onsite wastewater treatment facility (WWTF) consisting of a septic tank and pressure distribution leachfield. Two new vault toilets are proposed for winter use. The flush toilets will typically be operated from April through November, with vault toilets only in use during the remaining months when visitor usage sharply declines. The Discharger will truck vault toilet waste to its Wawona WWTF for treatment and disposal, which is the current practice for waste disposal.

The proposed WWTF will consist of a 20,000 gallon septic tank, effluent filters, a 7,400-gallon dosing tank, two duplex redundant pumping units, a pump control panel, and a 15,000 gallon emergency storage effluent septic tank. The proposed leachfield will cover about 0.4 acres and will consist of a pressure distribution leach trench constructed in two cells. Each cell is equipped with its own 5-outlet automatic, SCADA monitored distributing valve, and each cell consists of five zones typically with two laterals. Each leachfield cell will have an inspection port in each leachfield lateral for monitoring wastewater depth in the leach trenches. Two groundwater monitoring wells will be installed at the base of the leachfield to measure the depth to water below the leachfield area.

The anticipated average daily flow will be about 3,300 gallons per day during most of the summer season, with the average increasing on Memorial Day to 4,400 gpd. The peak daily flow or daily maximum is reported to be 7,360 gpd

## **FACILITY SPECIFIC REQUIREMENTS**

The Discharger will maintain exclusive control over the discharge, and shall comply with the terms and conditions of this NOA, General Order 2014-0153-DWQ-R5188, with all attachments, and MRP No. 2014-0153-DWQ-R5188.

In accordance with the requirements of the General Order, discharges without shallow groundwater and average flow rates less than 20,000 gpd are not required to meet a nitrogen effluent limitation.

The General Order states in Section B.1.i that the 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. For General Order 2014-0153-DWQ-R5188, the Discharger shall measure the depth to groundwater monthly as required in MRP No. 2014-0153-DWQ-R5188.

The General Order states in Section B.1.I that the Discharger shall comply with the setbacks as described in Table 3. This table summarizes different setback requirements for wastewater system equipment, activities, land application areas, and storage and/or treatment ponds from sensitive receptors and property lines where applicable. The Discharger shall comply with the applicable setback requirements, as summarized in the following table:

Site Specific Applicable Setback Requirements				
Equipment or Activity	Domestic Well	Flowing Stream <sup>1</sup>	Ephemeral Stream Drainage <sup>2</sup>	Property Line
Septic Tank <sup>3</sup>	150 ft. <sup>4</sup>	50 ft. <sup>5</sup>	50 ft.	5 ft. <sup>5</sup>
Leach Field <sup>6,7</sup>	100 ft.	100 ft. <sup>5</sup>	50 ft.	5 ft. <sup>5</sup>

1. 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.
2. 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.
3. Septic Tank addresses equipment located below ground or that impedes leak detection by routine visual inspection.
4. Setback established by Onsite Wastewater Treatment System Policy, section 7.5.6.
5. Setback established by California Plumbing Code, Table K-1.
6. Leach Field includes all subsurface dispersal systems, including mound systems except seepage pits.
7. California Well Standards, part II, section 8. Site-specific conditions may allow reduced setback or require an increased setback. See discussion in Well Standards.

The General Order states in Section B.2.d that the Discharger shall comply with the following septic tank requirements:

- 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.

The General Order states in Section B.6.a – h, that the Discharger shall comply with the following Subsurface Disposal Systems requirements:

- 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.

Failure to comply with the requirements in this NOA, General Order 2014-0153-DWQ-R5188, with all attachments, and MRP No. 2014-0153-DWQ-R5188 could result in an enforcement action as authorized by provisions of the California Water Code. Discharge of wastes other than those described in this NOA is prohibited. If the method of waste disposal changes from that described in this NOA, you must submit a new Report of Waste Discharge describing the new operation.

The required annual fee specified in the annual billing from the State Water Board shall be paid until this NOA is officially terminated. You must notify this office in writing if the discharge regulated by the General Order ceases, so that we may terminate coverage and avoid unnecessary billing.

The Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) has gone to a Paperless Office System. All regulatory documents, submissions, materials, data, monitoring reports, and correspondence should be converted to a searchable Portable Document Format (PDF) and submitted electronically. Documents that are less than 50MB should be emailed to: [centralvalleyfresno@waterboards.ca.gov](mailto:centralvalleyfresno@waterboards.ca.gov). Documents that are 50MB or larger should be transferred to a disk and mailed to the Central Valley Water Board office at 1685 E Street, Fresno, CA 93706. To ensure that your submittals are routed to the appropriate staff, the following information block should be included in any email used to transmit documents to this office: Program: Non-15, WDID: 5B22NC00011, Facility: Lower Mariposa Grove OWTS, Order: 2014-0153-DWQ-R5188.

In order to conserve paper and reduce mailing costs, a paper copy of the General Order has been sent only to the Discharger. Others are advised that the General Order is available on the State Water Board's web site at:

[http://www.waterboards.ca.gov/board\\_decisions/adopted\\_orders/water\\_quality/2014/wqo2014\\_0153\\_dwq.pdf](http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2014/wqo2014_0153_dwq.pdf)

If you have any questions regarding this matter, please contact Jeff Pyle by phone at (559) 445-5145, by email at [jpyle@waterboards.ca.gov](mailto:jpyle@waterboards.ca.gov).



*for* Pamela C. Creedon  
Executive Officer

Attachments: State Water Resources Control Board Order WQ 2014-0153-DWQ  
(Discharger Only)  
Monitoring and Reporting Program No. 2014-0153-DWQ-R5188  
Technical Memorandum of Yosemite National Park, Lower Mariposa  
Grove Wastewater Treatment Facility, Report of Waste Discharge

cc: Mr. Brian Hodge, Mariposa County Health Department, Environmental Health  
Services, 5100 Bullion Street, P.O. Box 5, Mariposa, CA 95338 (via email)

Thomas Horgan, Laugenour and Meikle, 608 Court Street,  
Woodland, CA 95695 (via email)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. 2014-0153-DWQ-R5188

FOR

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE, YOSEMITE NATIONAL PARK  
LOWER MARIPOSA GROVE WASTEWATER TREATMENT FACILITY  
MARIPOSA COUNTY

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, Central Valley Region (Central Valley Water Board) or Executive Officer.

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 United States Department of the Interior, National Park Service, Yosemite National Park, owns and operates the wastewater system that is subject to the Notice of Applicability (NOA) of Water Quality Order 2014-0153-DWQ-R5188. 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 Central Valley 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 Resources Control Board, 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.

If monitoring consistently shows no significant variation in magnitude of a constituent concentration or parameter after at least 12 months of monitoring, the Discharger may request this MRP be revised to reduce monitoring frequency. The proposal must include adequate technical justification for reduction in monitoring frequency.

### SEPTIC TANK MONITORING

Monitoring of septic tanks shall include the following:

<u>Parameter</u>	<u>Units</u>	<u>Sample Type</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow Rate	Gallons per day	Metered <sup>1</sup>	Continuous	Annually

<sup>1</sup>. 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.

<u>Parameter</u>	<u>Units</u>	<u>Measurement Type</u>	<u>Inspection/Reporting Frequency</u>
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 <sup>1</sup>	NA <sup>1</sup>	Annually

<sup>1</sup> NA = 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.

### SUBSURFACE DISPOSAL AREA

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. Monitoring shall include, at a minimum, the following:

<u>Constituent</u>	<u>Inspection Frequency</u>	<u>Reporting Frequency</u>
Pump Controllers, Automatic Valves, etc. <sup>1</sup>	Quarterly	Quarterly
Nuisance Odor Condition	Quarterly	Quarterly
Saturated Soil Conditions <sup>2</sup>	Quarterly	Quarterly
Plant Growth <sup>3</sup>	Quarterly	Quarterly
Vectors or Animal Burrowing <sup>4</sup>	Quarterly	Quarterly

1. All pump controllers and automatic distribution valves shall be inspected for proper operation as recommended by the manufacturer.
2. Inspect a disposal area for saturated conditions.
3. Shallow-rooted plants are generally desirable, deep-rooted plants such as trees shall be removed as necessary.
4. Evidence of animals burrowing shall be immediately investigated and burrowing animal populations controlled as necessary.

## GROUNDWATER MONITORING

The Discharger shall monitor the depth to groundwater as required by the NOA. Depth to groundwater shall be measured to the nearest 0.01 feet. 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 Mariposa County Health Department, Environmental Health Services staff for review and approval. Once installed, all monitoring wells designated as part of the monitoring network shall be monitored according to the schedule below.

<u>Constituent</u>	<u>Units</u>	<u>Sample Type</u>	<u>Sampling/Reporting Frequency</u>
Depth to Groundwater	0.01 feet	Measurement	Monthly/Quarterly

## 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.

The Central Valley Water Board has gone to a Paperless Office System. All regulatory documents, submissions, materials, data, monitoring reports, and correspondence should be converted to a searchable Portable Document Format (PDF) and submitted electronically. Documents that are less than 50MB should be emailed to: [centralvalleyfresno@waterboards.ca.gov](mailto:centralvalleyfresno@waterboards.ca.gov). Documents that are 50MB or larger should be transferred to a disk and mailed to the appropriate Regional Water Board office, in this case 1685 E Street, Fresno, CA 93706. To ensure that your submittals are routed to the appropriate staff, the following information block should be included in any email used to transmit documents to this office: Program: Non-15, WDID: 5B22NC00011, Facility Name: Lower Mariposa Grove OWTS, Order: 2014-0153-DWQ-R5188.

### 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 1<sup>st</sup>). 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, biochemical oxygen demand and total suspended solids 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 1<sup>st</sup> 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 system, 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. 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.
4. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program.
5. The name and contact information for the wastewater operator responsible for operation, maintenance, and system monitoring.

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:

*Clay L. Rodgers*  
for PAMELA C. CREEDON, Executive Officer  
7/23/15  
DATE

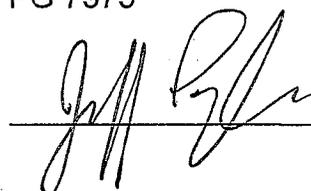
Central Valley Regional Water Quality Control Board

TECHNICAL MEMORANDUM

TO: Lonnie M. Wass  
Supervising Engineer 

Clay Rodgers  
Assistant Executive Officer

FROM: Jeff Pyle  
Engineering Geologist  
PG 7375



Scott Hatton  
Water Resource Control Engineer  
RCE 67889



DATE: 23 July 2015

**SUBJECT: APPLICABILITY OF COVERAGE UNDER STATE WATER RESOURCES CONTROL BOARD ORDER WQ 2014-0153-DWQ, GENERAL WASTE DISCHARGE REQUIREMENTS FOR SMALL DOMESTIC WASTEWATER TREATMENT SYSTEMS, UNITED STATES DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE, YOSEMITE NATIONAL PARK, LOWER MARIPOSA GROVE WASTEWATER TREATMENT FACILITY, MARIPOSA COUNTY**

On 15 May 2015, Central Valley Regional Water Quality Control Board staff (staff) received a Report of Waste Discharge (RWD) for a new wastewater treatment system at the Mariposa Grove of the Giant Sequoias, Lower Mariposa Grove in Yosemite National Park, Mariposa County. The RWD includes a Form 200, applicable filing fee, and a technical report certified by Thomas Horgan, a California registered professional civil engineer with Laugenour and Meikle. This memorandum provides a summary of staff's review of the RWD and the applicability of this discharge to be covered under

State Water Resources Control Board Order WQ 2014-0153-DWQ, General Waste Discharge Requirements for Small Domestic Wastewater Treatment Systems (General Order).

### **DESCRIPTION OF DISCHARGE**

The United States Department of the Interior, National Park Service, Yosemite National Park (Yosemite or Discharger) is proposing restoration of the existing domestic wastewater system at the lower Mariposa Grove area of the Mariposa Grove of Giant Sequoias in southern Yosemite. The Lower Mariposa Grove site is about two-miles east of the Southern Entrance Station (Highway 41 entrance into Yosemite) on Mariposa Grove Road. The existing domestic wastewater system at the Lower Mariposa Grove area consists of vault toilets.

The proposed improvements at the Lower Mariposa Grove are to be done in two phases, with the construction of an onsite domestic wastewater treatment facility (WWTF) proposed for the Lower Mariposa Grove in the summer of 2015, and the construction of a proposed comfort station for the Lower Mariposa Grove in 2016 or 2017.

The Discharger proposes to replace the existing vault toilets at the Lower Mariposa Grove with a new comfort station equipped with 10 flush toilets, three waterless urinals, nine low-flow sinks, and an onsite WWTF consisting of a septic tank and pressure distribution leachfield. Two new vault toilets are proposed for winter use. The flush toilets will typically be operated from April through November, with vault toilets only in use during the remaining months when visitor usage sharply declines. The Discharger will truck vault toilet waste to its Wawona WWTF for treatment and disposal, which is the current practice for waste disposal from the existing vault toilets. There will be no RV waste collection facilities.

### **POTENTIAL THREAT TO WATER QUALITY**

The proposed onsite WWTF will consist of a 20,000 gallon, two-chambered septic tank with effluent filters; a 7,400-gallon dosing tank with two duplex, redundant pumping units, pump control panel, timed-dose controls, and radio frequency based SCADA; a 15,000 gallon septic tank effluent emergency storage tank with a duplex, redundant pump unit located in a nearby pump basin for controlled drainage of the tank contents back into the dosing pump tank. The Discharger is also considering, as an alternative to this aforementioned emergency storage, a 4,000 gallon storage tank that would be emptied by pumper truck. That 4,000 gallon emergency storage tank satisfies the minimum emergency storage requirement of the County EHS. The storage system will be SCADA monitored.

The proposed leachfield will consist of 2,040 lineal feet of pressure distribution leach trench. The 0.4-acre leachfield is constructed in two cells, each cell with its own 5-outlet automatic, SCADA monitored distributing valve. Each cell consists of five zones and each zone typically has two laterals. Each leachfield cell will have an inspection port in each leachfield lateral for monitoring wastewater depth in the leach trenches.

Additionally, two groundwater monitoring wells, with groundwater elevation level-loggers will be installed at the base of each leachfield cell to measure depth to groundwater fluctuations. The leachfield will be on the gently sloping hillside north of the comfort station and parking areas. A small "V" shaped ditch will intercept uphill storm water runoff and direct it around the sides of the leachfield.

The RWD indicates the anticipated average daily flow will be about 3,300 gallons per day during most of the season, with the average increasing on Memorial Day to 4,400 gpd. The peak daily flow will be 7,360 gpd. In accordance with the requirements of the General Order, discharges with flow rates less than 20,000 gpd are not required to meet a nitrogen effluent limitation.

In May 2013, six soil borings were advanced to depths of up to 31.5 feet, and piezometers were installed in borings B-2 and B-6. The depth to water in the two piezometers was monitored quarterly for one year (May 2014). B-2 was installed to a depth of 26 feet about 110 feet south of the leachfield, and about 15 feet in elevation lower than the base of the leachfield. Groundwater was first encountered in B-2 at 13 feet bgs in B-2, but subsequently dropped to about 15.5 feet bgs. B-6 was installed in the center of the proposed leachfield to a depth of 26 feet and was monitored for the presence of groundwater quarterly for a year. Groundwater was not encountered in B-6 in the year it was monitored.

Six test pits (P-3, P-4, and P-9 through P-12) were excavated within the leachfield area and percolation tests were conducted in each. Percolation rates ranged from 1.2 to 5.0 minutes per inch (min/in). According to *Table 5: Minimum Depth to Groundwater and Minimum Soil Depth from the Bottom of Dispersal System* of the General Order, the minimum depth to groundwater requirement for percolation rates between 1 and 5 min/in is 20 feet bgs. While groundwater was not encountered in B-6 (installed in the proposed leachfield to a depth of 26 feet bgs), the Discharger will install two-groundwater monitoring wells at the base of the proposed leachfield to measure groundwater levels and to ensure the discharge meets the required setback.

### **MONITORING REQUIREMENTS**

Monitoring requirements included in the following sections from Attachment C of the General Order are appropriate for this discharge:

- Septic Tank Monitoring,
- Subsurface Disposal Area,
- Depth to Groundwater Measurements,
- Reporting.