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BEFORE THE HEARING BOARD OF THE SAN LUIS OBISPO COUNTY  
AIR POLLUTION CONTROL DISTRICT  
STATE OF CALIFORNIA

**In the Matter of**

SAN LUIS OBISPO COUNTY AIR  
POLLUTION CONTROL DISTRICT,

Petitioner,

v.

CALIFORNIA DEPARTMENT OF PARKS  
AND RECREATION OFF-HIGHWAY  
MOTOR VEHICLE RECREATION  
DIVISION,

Respondent.

Case No. 17-01

**[PROPOSED] STIPULATED ORDER  
OF ABATEMENT**

Health & Safety Code §41700 and  
District Rule 402

Hearing Date: April 30, 2018  
Time: 9:00 am  
Location: San Luis Obispo County  
Government Center, Board of Supervisors  
Chambers, 1055 Monterey Street, California

RECITALS

**WHEREAS**, on September 10, 2017, the San Luis Obispo County Air Pollution Control District (hereinafter referred to as “Petitioner,” the “District” or “APCD”) filed with this Hearing Board a Petition for Abatement Order (“Petition”), Case No. 17-01, pursuant to California Health and Safety Code section 42451, against respondents California Department of Parks and Recreation Off-Highway Motor Vehicle Recreation Division (hereinafter referred to as “Respondent,” “State Parks” or “OHMVR”) with regard to alleged nuisances defined

1 pursuant to District Rule 402 and California Health and Safety Code section 41700, beginning  
2 on or about May 20, 2010, and on certain occasions thereafter, as a result of particulate matter  
3 emissions from the Oceano Dunes State Vehicular Recreation Area (“ODSVRA”). Petitioner  
4 and Respondent are referred to collectively herein as the “Parties.”

5  
6 **PARTIES AND THE FACILITY**

7 1. The District was and is organized and exists pursuant to Division 26, Part 3 of  
8 the California Health and Safety Code, and is the sole and exclusive local agency with the  
9 responsibility for comprehensive air pollution control in San Luis Obispo County.

10 2. The Parties agree that State Parks is a California State Agency chartered with  
11 managing park units within California, including the Oceano Dunes State Vehicular Recreation  
12 Area (ODSVRA), which is managed by the Off-Highway Motor Vehicle Recreation Division  
13 (OHMVR), and that OHMVR is responsible for all activities that occur within the ODSVRA,  
14 including management and control of beach and dune riding areas, resource management  
15 including revegetation and erosion control, and public safety.

16 3. ODSVRA is located in the area known as the Oceano Dunes in southern San  
17 Luis Obispo County, three (3) miles south of Pismo Beach and west of Highway 1 (“facility”).  
18 The property on which the facility is located is comprised of five-and-one-half (5 ½) square  
19 miles of open beach and sand dunes, bordered on the west by the Pacific Ocean, and on the  
20 east, north and south by other privately held lands. A portion of the facility’s lands known as  
21 the LaGrande tract is owned by numerous owners, including fifty-two (52) privately-owned  
22 lots, four-thousand-two-hundred-sixteen (4,216) lots owned by the County of San Luis Obispo,  
23 and two-hundred-twenty-five (225) lots owned by State Parks. The facility is within the  
24 jurisdiction of the San Luis Obispo County Air Pollution Control District and subject to  
25 District Rules and Regulations. The Parties agree that numerous private homes, businesses,  
26 schools and other entities are located directly downwind of the ODSVRA facility.

27 4. ODSVRA is subject to California Health and Safety Code section 41700, which  
28 prohibits the discharge from any source whatsoever quantities of air contaminants or other

1 material that cause injury, detriment, nuisance, or annoyance to any considerable number of  
2 persons or to the public or that endanger the comfort, repose, health or safety of any of those  
3 persons or the public, or that cause or have a natural tendency to cause, injury or damage to  
4 business or property, and District Rule 402, Nuisance, (which contains language substantially  
5 similar to California Health and Safety Code section 41700).

6 **BACKGROUND/STATEMENTS OF THE PARTIES**

7 **WHEREAS**, following initiation of this action, the Parties agreed on the need for a  
8 comprehensive planning effort to effect a global solution to particulate matter emissions that  
9 addresses all the various interests, including: the surrounding and downwind communities, the  
10 ODSVRA user base, and the various regulatory and permitting agencies, as well as State  
11 Parks' mission to operate ODSVRA for a variety of recreational uses, including off-highway  
12 motor vehicle recreation.

13 **WHEREAS**, APCD endorses State Parks' strategy to develop and implement a Public  
14 Works Plan as the process for a comprehensive ODSVRA planning document that will affect  
15 the type and location of mitigation strategies.

16 **WHEREAS**, to that end, the Parties agree that State Parks shall develop and implement  
17 a Particulate Mitigation Plan (PMP), to address and resolve the allegations in the Petition. The  
18 PMP includes a restoration and emission reduction component that simulates the historic  
19 foredune complex, as determined by a 1930's aerial photograph of the dune complex (APCD  
20 Exhibit No. 23), and that will provide critical information to inform the development of the  
21 Public Works Plan and a redesigned park.

22 **WHEREAS**, State Parks also agrees to:

- 23 a. Work with ODSVRA user groups to enhance the camping experience in front of
- 24 the foredunes that will work in concert with the restoration of the foredunes; and
- 25 b. Additional monitoring within and downwind of the ODSVRA during the
- 26 stipulated timeframe to assist modeling the emissions reduction, as well as informing
- 27 State Park's Public Works Plan; and
- 28

- 1 c. Conduct an education campaign for the purposes of making the public aware of
- 2 the air quality issues at ODSVRA and how they can be a part of the solution; and
- 3 d. Continue crystalline silica testing downwind of the SVRA and publish results as
- 4 part of a comprehensive report on crystalline silica as it relates to Oceano Dunes
- 5 emissions; and
- 6 e. Consider disbursal of use appropriate as a method to reduce density-related
- 7 emissions which may include the need to open operational corridors; and
- 8 f. Consider a southern entrance and southern camping opportunities outside of the
- 9 dunes proper to replace any lost foredune camping; and
- 10 g. Optimize operational mitigations that prove to enhance the air quality mitigation
- 11 measures.

12 **PUBLIC HEARING**

13 **WHEREAS**, the Clerk assigned this matter Case No. 17-01, set a public hearing on the  
14 Petition for November 13, 2017, and provided public notice of the public hearing in  
15 accordance with the provisions of California Health and Safety Code section 40823. The  
16 Hearing Board commenced the hearing on November 13, 2017, which it continued to January  
17 30, 2018 and thereafter to March 21, 2018 and April 30, 2018, all of which continued hearings  
18 were similarly properly-noticed. A quorum of the Hearing Board was present on each day of  
19 the hearing. Except the initial day of the hearing, November 13, 2017, when Dr. Thomas  
20 Richards was absent, five (5) members of the Hearing Board were present: Dr. Yarrow  
21 Nelson, Acting Chair; Mr. Robert Carr; Mr. William Johnson; Dr. Thomas Richards; and Mr.  
22 Paul Ready. Petitioner District Air Pollution Control Officer was represented by District  
23 Counsel Raymond Biering. Respondent OHMVR was represented by Deputy Attorney  
24 General Mitchell Rishe. In advance of and throughout the hearing process, the Hearing Board  
25 provided the opportunity for the public to submit written comments. During the public  
26 hearing, the Hearing Board provided the opportunity for members of the public to submit oral  
27 comments and to testify. The Hearing Board's Acting Chair Yarrow Nelson swore in all those  
28 interested members of the public who sought to speak or testify. Each Party stipulated to the

1 other Party's proposed exhibits; the Hearing Board admitted all exhibits submitted by the  
2 Parties into the evidence and took those exhibits and the public's testimony and comments into  
3 consideration during its deliberations and in its decision.

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5 **WRITTEN EXPLANATION IN SUPPORT ITS DECISION/FINDINGS AND DECISION**  
6 **OF THE HEARING BOARD:**

7 Health and Safety Code Section 42451(b) provides that the Hearing Board may issue a  
8 stipulated conditional order for abatement without making the requisite findings set forth in  
9 Health and Safety Code Section 42451(a), but the Hearing Board must include a written  
10 explanation of its action to issue such an order. The Hearing Board issues the following  
11 determination of its action: The Hearing Board finds that GOOD CAUSE exists to approve this  
12 Stipulated Order for Abatement. This finding of good cause is based on the following:

13 1. The District reported that/from May 29, 2012 through October 19, 2017, the  
14 District received one-hundred-thirty-three (133) complaints from residents downwind of  
15 ODSVRA. (See APCD Ex. 7.)

16 2. The District monitors air quality throughout San Luis Obispo County, with  
17 multiple monitoring sites on the Nipomo Mesa located directly downwind of ODSVRA. These  
18 sites include CDF – Arroyo Grande; Mesa2 – Nipomo/Guadalupe Road; and NRP – Nipomo  
19 Regional Park. During the period between May 1, 2012 and March 31, 2017, there were three-  
20 hundred-sixty-three (363) days when the District observed violations of the State PM10  
21 standard at one or more of these sites. More specifically, the state standard was exceeded  
22 three-hundred-fifty-six (356) times at CDF, one-hundred-ninety (190) times at Mesa2, and  
23 fifty-nine (59) times at NRP measured during this period at monitoring sites downwind of  
24 ODSVRA riding areas. Seven (7) of the state standard exceedances recorded at CDF during  
25 this timeframe also exceeded the federal PM10 standard. The primary source of these  
26 exceedances and violations was determined by the District after examining the wind speed and  
27 wind direction under which they occurred, using data from the extensive air monitoring  
28 network located downwind of ODSVRA (APCD Exhibits 6 & 16). Recent computer modeling

1 of particulate matter emissions from ODSVRA by the California Air Resources Board supports  
2 the finding of excessive levels of particulate matter in areas where complaints originated  
3 (APCD Exhibit 24).

4 6. The Environmental Protection Agency and the California Air Resources Board  
5 (“CARB”) have set standards for particulate matter to protect human health and the  
6 environment (Title 40, Code of Federal Regulations, Part 50; and Title 17, California Code of  
7 Regulations, section 70200).

8 7. Numerous scientific studies and analyses conducted by APCD, State Parks, and  
9 CARB (APCD Exhibits 1, 2, 3, 4, 5 & 24) have documented emissions from ODSVRA off-  
10 highway vehicle riding areas upwind of the Nipomo Mesa as the main source of particulate  
11 matter causing the dust and air pollution that is the subject of the complaints received, and the  
12 associated public health concerns that are the subject of this proceeding. Those studies show  
13 the LeGrande tract, where most of the camping and a large portion of the riding activity occurs,  
14 contains some of the most emissive areas in ODSVRA and is a significant contributor to the  
15 particulate matter emissions impacting downwind residents. Like everywhere else in the  
16 county, the Nipomo Mesa is also impacted by other natural and manmade sources of  
17 particulate emissions, and those sources will always have some contribution to particulate  
18 concentrations. APCD, OHMVR and CARB will continue to refine all source contributions of  
19 emissions affecting the Nipomo Mesa.

20 8. The Parties agree that sand fencing closed to riding with an array of fencing  
21 within the perimeter has been used at ODSVRA with a demonstrated effectiveness in reducing  
22 dust generation of approximately seventy-five (75) percent. The Parties agree that there is  
23 scientific consensus that vegetation is the most effective in reducing dust generation with an  
24 effectiveness of nearly one hundred (100) percent within the vegetated area.

25 9. Based on findings of the Special Master as appointed pursuant to that certain  
26 agreement between the District and Respondent dated March 26, 2014 (State Parks’ Exhibit 4),  
27 who the Parties have retained to mediate certain disputes, and a report by the California  
28 Geological Society (APCD Exhibit 17), re-establishing a vegetative foredune area is a

1 preferred sustainable mitigation tool. In State Parks' Exhibit 73, (Mediation Report of the  
2 Special Master Dr. W. G. Nickling), Dr. Nickling stated:

3 "More 'natural' types of solutions are preferable to engineered solutions (e.g.  
4 fences and straw bales) given the areal extent of the problem. Engineered  
5 solutions are often unattractive and not in keeping with the Parks vision for  
6 maintaining the quality of the park experience. Natural solutions might include  
7 severely restricting rider activity, reducing the areal extent of rider activity,  
8 especially near the top of the tidal zone to allow the re-establishment of the  
9 foredunes that were formerly present at the site."

10 10. Respondent denies the allegations in the Petition. Respondent further denies  
11 that it is violating California Health & Safety Code section 41700, District Rule 402, or  
12 District Rule 1001.11. Nonetheless, in the interest of resolving this matter promptly and  
13 without resort to litigation, and to allow the Parties to immediately implement meaningful dust  
14 mitigation measures, the Parties hereby stipulate to issuance of this Order for Abatement  
15 pursuant to California Health & Safety Code section 42451.

16 12. It is in the public's interest to resolve this action promptly through a stipulated  
17 conditional order for abatement that will avoid the cost of litigation of complex issues and  
18 instead provide the Parties the opportunity to commence work to address the matters that are  
19 the subject of this action.

20 **CONCLUSIONS**

21 1. The issuance of this Order for Abatement will not constitute a taking of  
22 property without due process of law.

23 2. If the issuance of this Order for Abatement results in the closing or elimination  
24 of an otherwise lawful business, such closing would not be without a corresponding benefit in  
25 reducing air contaminants.

26 3. This Order for Abatement is not intended to be, nor does it have the effect of  
27 permitting, a variance.  
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**STIPULATED ORDER FOR ABATEMENT**

Pursuant to Health and Safety Code Sections 42451(b) and 42452, subject to the aforesaid statements and good cause appearing therein, the Hearing Board of the San Luis Obispo County Air Pollution Control District (District) hereby orders Respondent to immediately cease and desist from violating California Health & Safety Code section 41700 and District Rule 402, or in the alternative comply with the following conditions and increments of progress throughout the term of this Stipulated Order for Abatement (Stipulated Order):

- 1. Initial Particulate Matter Reduction Actions: As of the Effective Date of this Stipulated Order, Respondent shall undertake and complete all of the following actions by the specific deadlines herein, unless otherwise modified in accordance with the terms of this Stipulated Order, and in accordance with any otherwise-applicable requirements associated with undertaking such actions:
  - a. Respondent shall begin fencing off the foredune areas with a perimeter fence with an internal fence array as shown in **Map 1 of Attachment 1** no later than June 1, 2018 and finish as soon as possible, but no later than September 15, 2018. The fenced areas shall conform as closely as possible to diagrammed plots while considering public safety constraints. Riding, driving, and camping within those areas shall be prohibited;
  - b. All fencing shall remain in place and be maintained as internal fenced arrays until being replaced by vegetation or until the APCO approves alternate mitigation measures. Respondent shall prioritize the fenced areas as shown in **Map 1 of Attachment 1** for vegetation to increase the dust mitigation effectiveness in years after 2018.
  - c. By June 30, 2019, install an APCO-approved sand track out control devices at the Grand and Pier Avenue entrances to the Oceano Dunes State Vehicle Recreation Area (ODSVRA).



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2. Particulate Matter Reduction Plan: Respondent shall prepare a Particulate Matter Reduction Plan (Plan) that satisfies the following requirements:
- a. The term of the Plan shall be for four (4) years from the date of approval by the APCO;
  - b. The Plan shall be designed to achieve state and federal ambient PM<sub>10</sub> air quality standards;
  - c. To meet the objective of 2b, development of the Plan shall begin by establishing an initial target of reducing the maximum 24-hour PM<sub>10</sub> baseline emissions by fifty percent (50%), based on air quality modeling based on a modeling scenario for the period May 1 through August 31, 2013, and shall be carried out by the California Air Resources Board (CARB), or other modeling groups subject to the review of the Scientific Advisory Group (SAG), ), as defined in paragraph 3, below;
  - d. The estimate of emissions reductions identified in 2c may be modified based on air quality modeling conducted by CARB or other modeling subject to the review of the SAG required by 3a and 3b;
  - e. Subject to permitting agency approval, the Plan shall include feasibility and effectiveness analyses of alternative mitigation measures or mitigation-support measures including, but not limited to, construction of a continuous foredune structure within the ODSVRA near the high water line to reduce wind shear on downwind high-emissivity areas; the vegetation of exposed sand sheet to reduce sand flux by stabilizing the dune surface and support the development of biophysical sand crust formation; the introduction/reintroduction of straw bales or other roughness elements within the ODSVRA to reduce sand flux and downwind dust concentrations; and installation of temporary irrigation system(s) to ensure substantive plant growth and vigor in areas of the ODSVRA identified for revegetation and the application of liquid fertilizer through the irrigation water;

- 1 f. The Respondent shall use its best efforts to increase the current rate of native  
2 plant seed production, plant yield, dune planting, and take actions needed to  
3 maximize plant survival to the level needed to meet the rate of dune revegetation  
4 identified in the Plan (e.g. application of mulch, watering and fertilization;
- 5 g. A draft Plan demonstrating attainment of state and federal ambient PM<sub>10</sub> air  
6 quality standards as expeditiously as practicable shall be submitted to the APCO  
7 and the SAG by Respondent no later than February 1, 2019 for the APCO's  
8 approval;
- 9 h. The SAG will review the draft Plan and submit comments to the APCO on the  
10 completeness, adequacy, and efficacy of proposed control activities, and  
11 recommendations for modifications, additions, or deletions to proposed control  
12 activities no later than February 15, 2019;
- 13 i. The APCO shall publish a 30-day notice of public workshop no later than 10 days  
14 following receipt of SAG recommendations to announce the availability of the  
15 draft Work Plan and SAG recommendations, solicit public comments, and solicit  
16 public participation at a workshop to review the draft Plan and SAG  
17 recommendations.;
- 18 j. At the conclusion of the workshop, the APCO shall consider the SAG  
19 recommendations and all public comments, and either approve the Plan or return  
20 the Plan to Respondent with an itemization of specific deficiencies for correction  
21 and reconsideration.
- 22 k. If APCO's approval of the Plan precedes completion of the Public Works Plan  
23 (PWP) public review process, Respondent shall integrate elements of the Plan,  
24 upon approval by the APCO, into the PWP public review and comment process to  
25 facilitate public input on non-air quality impacts of the Plan;
- 26
- 27 3. Scientific Advisory Group: A Scientific Advisory Group (SAG) shall be created by  
28 mutual agreement of Respondent and the APCO, taking into advisement the

1 recommendations of the Special Master as designated in that certain agreement between  
2 the District and Respondent dated March 26, 2014. The SAG will evaluate, assess, and  
3 provide recommendations on the mitigation of windblown PM<sub>10</sub> emissions from  
4 ODSVRA and on the development of the Particulate Matter Reduction Plan (Plan) and  
5 annual Report and Work Plan (Report). The process for selection and responsibilities of  
6 the SRC shall include:

- 7 a. Respondent, APCO, and Special Master shall offer recommendations of experts in  
8 the fields of dune geomorphology; aolian erosion control; soil ecology; shoreline  
9 botany; biophysical sand crust formation; and air quality modeling, among other  
10 disciplines, to each other by June 1, 2018 for consideration of appointment to the  
11 SAG;
- 12 b. By consensus, Respondent and the APCO, with consultation with the Special  
13 Master, shall appoint members of the SAG no later than July 1, 2018;
- 14 c. The SAG will review scientific and technical issues related to the research,  
15 development and implementation of windblown PM<sub>10</sub> controls and prepare  
16 technical specifications and analyses of proposed mitigation measures.  
17 Respondent, APCO, and Special Master shall intend for the SAG to foster  
18 communication and understanding of the scientific and technical aspects of PM<sub>10</sub>  
19 emission control approaches, provide scientific analysis and recommendations to  
20 the Respondent for the development of the Plan, provide critical analyses of  
21 Respondent's Plan for APCO's use, provide critical analyses of Respondent's  
22 annual Reports and Work Plans for use by the APCO, and become a vehicle for  
23 increased cooperation and collaboration between the Respondent, APCO, and  
24 affected stakeholders;
- 25 d. The SAG will meet in person at least once annually to discuss the Plan and  
26 Reports including, but not limited to, increments of progress, timelines for  
27 increments of progress, and amendments to the Plan, and annual Reports based on  
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1 new learnings. The SAG may meet more often telephonically or by other  
2 networked conferencing means as needed.

3 e. The duties of the SAG are both administrative and advisory in nature and in no  
4 way alter the authority and responsibility of the Respondent, District, District  
5 Board, Hearing Board, APCO, or CARB. The SAG does not have any powers of  
6 the Respondent, District, District Board, Hearing Board, APCO, or CARB. As  
7 such, it is not a sub-committee of the Respondent, District, District Board,  
8 Hearing Board, or CARB.

9  
10 4. Annual Report and Work Plan: Respondent shall develop with assistance from the SAG,  
11 on an annual basis, a Report and Work Plan (Report or Work Plan) for each year of the 4-  
12 year term of the Particulate Matter Reduction Plan for APCO approval. Reports shall  
13 satisfy the following requirements:

14 a. Reports shall review the dust controls implemented over the previous year, and,  
15 using metrics specified in the approved Plan, compare achievements to increment  
16 of progress requirements approved in the previous Report.

17 b. Reports shall include increments of progress, using tracking metrics specified in  
18 the approved Plan, for each dust control and related action included in the  
19 proposals for mitigation to be undertaken in the upcoming year including, but not  
20 limited to foredune development, mitigation of foredune loss due to natural or  
21 anthropogenic impacts, quantities of seeds and plants produced on-site and by any  
22 contracted entities, the extent of new and replacement vegetation, plant survival  
23 rates, new and replacement fencing installed, quantities of other groundcover  
24 applied in new and replacement areas and the extent of areas covered;

25 c. Additional metrics to assess mitigation progress may be added each year with  
26 input from the SAG;

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- d. Reports shall propose dust control activities to be undertaken or completed in the next year together with analyses of expected outcomes, mitigation effectiveness, and potential emissions reductions;
- e. The SAG shall prepare and/or recommend and approve pertinent technical specifications of the mitigation techniques proposed in the annual Report, including the type, effectiveness, and geographical extent of applied mitigation. Mitigation will be considered both in riding and non-riding areas of the ODSVRA and in areas outside of the ODSVRA. The Respondent will obtain an evaluation by the SAG for all mitigation prior to seeking approval of each Report by the APCO;
- f. Each Report will estimate, using air quality modeling, the benefits downwind of the ODSVRA and, specifically, the anticipated reduction in PM<sub>10</sub> concentrations in populated areas due east of the ODSVRA on the Nipomo Mesa. These estimates will include a sensitivity analysis on emissions rates of increasing the level of effort for each mitigation technique in subsequent years;
- g. Budgetary considerations for development and implementation of the mitigations shall be described in the Report and shall detail the total funding for the one-year period, amount of funding assigned by mitigation type, the source of funding, and the availability of reserve funds in the event of cost increases prior to implementation of a given year's mitigation;
- h. Each Report shall include a detailed implementation schedule with deadlines associated with physical deployment of the mitigation, e.g., wind fencing set-up, emission measurements of the dune surface, in-situ mitigation, and replacement of any temporary mitigation;
- i. Failure to meet any increments of progress or deadlines associated with the physical deployment of the mitigation specified in approved Reports except under conditions specified in 6(d) or (e) shall constitute a violation of this Order.

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- j. Implementation schedules will also specify the duration for each mitigation activity and the anticipated impact on emission reductions. The SAG will review and advise on the schedule included in each annual Report;
- k. Annual Reports will include specific metrics and indicators to assess progress achieved toward planning objectives;
- l. Agencies involved in development and implementation of the annual mitigation plans will have the defined roles and responsibilities identified below:
  - i. District – Conduct public review processes and approve the Particulate Matter Reduction Plan and annual Work Plans; enforce increment of progress schedules and required action; evaluate and implement, as needed, emission controls on sources external to the ODSVRA that may impact PM<sub>10</sub> levels on the Nipomo Mesa; conduct all ambient monitoring at CDF, Oso Flaco, and other sites within the district outside ODSVRA.
  - ii. State Parks – Develop and, if necessary, revise annual Work Plans in collaboration with the SAG; implement near-term and future mitigation efforts within ODSVRA that are specified in this Order or approved Work Plans, including establishment of seed production targets to ensure continuous supply of vegetation; provide funding for implementation of approved mitigation and monitoring efforts including reasonable costs incurred by the District ; and conduct field emissions testing of dune surface as needed.
  - iii. California Coastal Commission – Review and approve proposed annual Work Plans before any mitigation may commence for each year, pursuant to Special Condition 2 of Coastal Development Permit 3-12-050, for proposed mitigation within the scope of that permit; and issue new or amended Coastal Development Permits for any work not within the scope of Coastal Development Permit 3-12-050.

- 1           5. Report Review: The APCO shall determine the approvability of the Annual Reports and  
2           Work Plans (Reports). The process by which the APCO considers Reports for approval  
3           will include the following:
- 4           a. Draft Reports shall be submitted by Respondent to the APCO and SAG by August  
5           1 of each year from 2019 through 2022;
  - 6           b. The SAG will review each annual Report and submit comments to the APCO on  
7           the completeness, adequacy, and efficacy of proposed control activities, and  
8           recommendations for modifications, additions, or deletions to proposed control  
9           activities no later than September 1 of each affective year;
  - 10          c. The APCO shall publish a 30-day notice of public workshop no later than 10 days  
11          following receipt of SAG recommendations to announce the availability of the  
12          draft Work Plan and SAG recommendations, solicit public comments, and solicit  
13          public participation at a workshop to review the draft Work Plan and SAG  
14          recommendations;
  - 15          d. Within 10 days of the conclusion of the public workshop, the APCO shall either  
16          approve the draft Work Plan or return the Work Plan to Respondent with an  
17          itemization of specific deficiencies for correction and reconsideration subsequent  
18          to the solicitation of public comments using the same public process described in  
19          5(c).
  - 20          e. If a disagreement arises between Respondent and the APCO regarding the  
21          approvability of the Report, the Respondent may request a hearing before the  
22          Hearing Board to resolve the disagreement.
  - 23          f. Upon approval of the Work Plan by the APCO, Respondent shall immediately  
24          commence implementation of the Work Plan.
  - 25          g. In October of each year from 2019 through 2022, the Hearing Board, upon  
26          request by the Chair or any two members, may convene a meeting to receive an  
27          informational update on the Report. If a hearing is also requested by Respondent  
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1 as set forth in section 5(e) above, this meeting shall also include that hearing.  
2

3 6. General Conditions:

- 4 a. The Hearing Board shall retain jurisdiction over this matter until December 1,  
5 2023, during which period either Respondent or the APCO may apply to modify  
6 the terms and conditions of this Stipulated Order, including this deadline, or to  
7 terminate this Stipulated Order. At the conclusion of this period, as it may be  
8 modified, this Stipulated Order shall expire.
- 9 b. This Stipulated Order for Abatement does not act as a variance, and Respondent is  
10 subject to all rules and regulations of the District, and with all applicable  
11 provisions of California law.
- 12 c. Nothing herein shall be deemed or construed to limit authority of the APCO to  
13 issue Notices of Violation or to seek civil penalties for the allegations alleged in  
14 the Petition, or to seek injunctive relief, or to initiate abatement actions or seek  
15 other administrative or judicial relief for violations that are not the subject of this  
16 proceeding.
- 17 d. Nothing herein constitutes a determination by the Hearing Board that ODSVRA  
18 constitutes a nuisance as defined by Health and Safety Code section 42451 or Air  
19 District Rule 402, which Respondent expressly denies.
- 20 e. Notwithstanding Condition 6(c) above, if any part of Respondent's failure to  
21 satisfy any increment of progress or deadline set forth in this Order results from  
22 force majeure, then that specific part only of Respondent's failure shall not be  
23 considered a violation. "Force Majeure" as used in this section means any of the  
24 following events that prevents the Respondent's performance of the specified act  
25 by the deadline set forth in this Order: (a) any act of God, war, fire, earthquake,  
26 windstorm, flood, severe drought that is declared as an official state of emergency  
27 by the Governor of the State of California, or natural catastrophe; (b) unexpected  
28 and unintended accidents (excluding those caused by Respondent or the



1 negligence of its agents or employees); civil disturbance, vandalism, sabotage or  
2 terrorism; (c) restraint by court order or public authority or agency; (d) action or  
3 non-action by, or inability to obtain the necessary authorizations or approvals  
4 from any governmental agency, provided that Respondent demonstrates it has  
5 made a timely and complete application to the agency and used its best efforts to  
6 obtain that approval; or (e) the inability to obtain private property owner access,  
7 provided that Respondent demonstrates it has made a timely and complete request  
8 to the owner, and used its best efforts to obtain that access. Force Majeure shall  
9 not include normal inclement weather, economic hardship or inability to pay.

10 f. Also notwithstanding Condition 6(c) above, and in addition to Condition 6(d)  
11 above, if Respondent cannot satisfy any increment of progress or deadline set  
12 forth in this Order due to any other circumstances beyond Respondent's control,  
13 Respondent may submit evidence to the APCO regarding the circumstances and  
14 explaining why they prevented Respondent from satisfying the increment of  
15 progress or deadline. The APCO shall have the authority to determine that either  
16 (i) the circumstances were beyond Respondent's control and excuse the failure to  
17 satisfy the increment of progress or deadline; or (ii) the circumstances were within  
18 Respondent's control, and do not excuse the failure to satisfy the increment of  
19 progress or deadline.

20 g. The Hearing Board, upon request by the Chair or any two members, may convene  
21 a public meeting to review the APCO's approval of any condition of this order or  
22 modification of a deadline. The Hearing Board may revoke the APCO approval  
23 of any condition or modification to a timeline.

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1 Moved By: \_\_\_\_\_

2 Seconded By: \_\_\_\_\_

3 Ayes: \_\_\_\_\_

4 Noes: \_\_\_\_\_

5 Abstentions: \_\_\_\_\_

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7 Dated this \_\_\_ day of \_\_\_\_\_ 2018.

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*Dr. Yarrow Nelson,*  
Vice-Chair  
San Luis Obispo County  
APCD Hearing Board

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# Attachment 1: Supplemental Information on the April 30, 2018, Draft Proposed Stipulated Order of Abatement, Case 17-01 2018, Mitigation Plan

## Introduction

The mitigation plan depicted in Map 1 is designed to mimic the foredunes that existed in the 1930's in the dune complex that is now Oceano Dunes State Vehicle Recreation Area (ODSVRA).<sup>1</sup> It also incorporates parts of the mitigation proposal that State Parks presented to the Hearing Board at its meetings on January 30, 2018,<sup>2</sup> and March 21, 2018, since elements of ~~that those~~ plans have already been completed or are currently being implemented.

The actions in this Draft Order of Abatement are designed to implement aspects of long-term solution recommended by the Special Master in his mediation report, while recognizing logistical constraints. According to the Special Master:

*More "natural" types of solutions are preferable to engineered solutions (e.g. fences and straw bales) given the areal extent of the problem. Engineered solutions are often unattractive and not in keeping with the Parks vision for maintaining the quality of the park experience. Natural solutions might include severely restricting rider activity, reducing the areal extent of rider activity, especially near the top of the tidal zone to allow the re-establishment of the foredunes that were formerly present at the site. Inoculation or fertilizing of sediment to foster biological crust development might also be considered as part of this suite of approaches. In my opinion, the most effective approach would be to extend the amount of vegetation cover at the site. As opposed the traditional approaches based on planting in blocks or rows, Parks might consider*

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<sup>1</sup> For information on changes in vegetation within the ODSVRA, see: APCD Exhibit 17, "Review of Vegetation Islands, Executive Summary, Oceano Dunes SVRA," memo from T.L. Bedrossian and J.P. Schlosser (California Geological Survey) to R. LeFlore (California State Parks), dated August 30, 2007; and State Parks' Exhibit 49, "In consider of Draft Rule 1001 proposed by the San Luis Obispo Air Pollution Control District [...]," memo from W.J. Harris (California Geological Survey) to D. Greene (California State Parks), dated November 1, 2011. Both exhibits are available on the Hearing Board website at <http://www.slocleanair.org/who/board/hearing-board.php>.

<sup>2</sup> "Dust Control Projects ODSVRA, 2018 (DRAFT)," J.A. Gillies, V. Etyemezian, G. Nikolich, January 19, 2018. Available on the Hearing Board website at <http://www.slocleanair.org/images/cms/upload/files/Dust%20Control%20Project%20ODSVRA%202018.pdf>.

*the planting of vegetation corridors that align with designated riding trails and enhance the visitor's experience.<sup>3</sup>*

Thus, to achieve the goal of abating the nuisance PM<sub>10</sub> emissions, the Draft Order of Abatement envisions reestablishing the foredunes that have been lost. Recognizing that State Parks' is constrained by the availability of suitable seed, the Draft Order of Abatement first defines the areas to be restored, then calls for them to be fenced off in 2018. Instead of planting vegetation this year, fence arrays are to be erected in these areas so that significant dust control can be realized. In subsequent years, these fencing arrays will be converted to vegetation islands as seed becomes available.

In order to ensure that steady progress is made toward mitigating nuisance PM<sub>10</sub> emissions, the **Draft Proposed Stipulated** Order of Abatement also requires additional emissions reductions after 2018. Specifically, **its overall target is a 50% reduction in emissions from the ODSRVA (from the 2013 baseline). This is to be achieved within 4 years after approval of the Particulate Matter Reduction Plan by the APCO, i.e. mid-2023.<sup>4</sup> emissions from the ODSRVA shall be reduced by an additional 5% each year.** It is envisioned that some of these additional mitigations will come from converting arrays of fences to vegetation.

## 2018 Revegetation

Depicted in Map 1 are two revegetation projects covering approximately 18 acres. These were proposed by State Parks in their January 30, 2018, presentation to the Hearing Board<sup>2</sup> and have already been planted. They are assumed to achieve 100% reduction in PM<sub>10</sub> emissions from the planted area.

## Fence Array Design and Effectiveness

The fence arrays in Map 1 and discussed below will be "7H arrays" consistent with the design specified in State Parks' original plan for 2018.<sup>2</sup> For similarly sized arrays erected previously on the ODSVRA, this design achieved a 75% reduction in PM<sub>10</sub> emissions, when averaged over the entire extent of the array. This is based on the published results of Gillies et al. (2017),<sup>5</sup> which calculated that the effectiveness of sand flux reduction afforded by 1.22 m high (4 ft.) spaced 7H distances apart (8.54 m, 28ft.) is 52% for distances <20H (24 m, 78.7 ft.) into the array and 87% for distances >20H (24 m, 78.7 ft., after the 3rd row). The mean sand flux reduction for 10 rows of fences (≈85.4 m, 280.2 ft.) would be 75%. Thus, for design purposes, a value of 75% will be used as the effectiveness for the closed-to-riding 7H sand fence array, assuming it is at least 10 rows in size. (For arrays that have more than 10 rows, the mean effectiveness should be higher. For

<sup>3</sup> State Parks' Exhibit 73: "Mediation Report of the Special Master (Dr. W. G. Nickling) regard the Notice of Violation between California Department of Parks and Recreation (OHMVRR Division) and the San Luis Obispo Air Pollution Control District," W.G. Nickling. Available on the Hearing Board website at <http://www.slocleanair.org/images/cms/upload/files/73%20Signed%20and%20Dated%20SM%20Mediation%20Report%2010-11-2017.pdf>.

<sup>4</sup> Section 2 (pages 9 & 10) of the Stipulated Order of Abatement Section of the [Proposed] Stipulated Order of Abatement prepared for the April 30 Hearing Board meeting. Available on the Hearing Board website at <http://www.slocleanair.org/images/cms/upload/files/Proposed%20SOA%20case%2017-01%20Apr-30-18%20with%20Attachment%201%20%28website%29.pdf>.

<sup>5</sup> Gillies, J.A., V. Etyemezian, G. Nikolich, R. Glick, P. Rowland, T. Pesce, M. Skinner (2017). "Effectiveness of an array of porous fences to reduce sand flux: Oceano Dunes, Oceano CA." Journal of Wind Engineering and Industrial Aerodynamics, 168: 247-259. Submitted as State Parks' Exhibit 68 and available on the Hearing Board website at [http://www.slocleanair.org/images/cms/upload/files/68%20gillies\\_et\\_al\\_jwe%26ia\\_2017.pdf](http://www.slocleanair.org/images/cms/upload/files/68%20gillies_et_al_jwe%26ia_2017.pdf).

example, a 20-row array would be expected to have a mean effectiveness of 82%.) The results of Gillies et al (2017)<sup>54</sup> were based on fence arrays that were much wider in the across-wind direction than the inter-fence spacing of “7H” (meaning 7 fence heights or about 30 ft). A few of the relatively narrow fence arrays that are described in the Draft Order of Abatement may not fully adhere to this description. In those cases, it is possible that control effectiveness would deviate from the 75% estimate (likely lower), but it is unknown by how much.

## 2018 Temporary Fence Array

The easternmost array shown in Map 1 is located in an area that was not historically vegetated, but it was part of State Parks’ original plan for 2018<sup>2</sup> and is already installed; thus, it has been incorporated into the plan for 2018. At this time, this array is not intended to be permanent nor to be an area for eventual revegetation, though mitigations in this same area are not precluded in the future.

## Permanent Fence Arrays/Vegetation Islands

The remaining elements in Map\_1 are islands of fence arrays, which cover a total of over 100 acres. As noted above, these arrays are roughly located in areas of bare sand that previously had been vegetated—they are designed to mimic foredunes which have been lost since the 1930s.

The ~~Draft-Proposed Stipulated~~ Order of Abatement prohibits OHV activity in these arrays and requires that the fencing is maintained indefinitely. These are not seasonal arrays; they are permanent (or until revegetated or until the Hearing Board decides they can be removed.) The ~~Draft Order of Abatement~~ Order requires that State Parks begins installing them by ~~March 31~~ June 1, but recognizing the substantial effort required to erect these arrays, sets the deadline for final completion as September ~~28~~ 15, 2018.

As previously discussed, the intent is that these islands of fence arrays could be incrementally converted to vegetation islands. This design preserves corridors in between islands, thus allowing for OHV activity in between islands and preserving the Sand Highway and access to the back-dune area.

State Parks’ original plan for 2018<sup>2</sup> placed mitigation elements in areas most likely to have a measurable effect on the CDF monitor. Furthermore, the CDF area had previously been shown to be the most impacted neighborhood downwind of the ODSVRA.<sup>6</sup> For these reasons, the strategy had the concurrence of the APCD and CARB, even though it was unlikely to have significant impacts on PM<sub>10</sub> levels at other receptor locations. The strategy was somewhat uncertain in the sense that it was based on a very narrow band of influence on CDF PM<sub>10</sub> levels as predicted by the CARB emissions model. If the predicted band of influence was in error by just a few hundred meters, then the areas mitigated would have been in the wrong place and would have had no real effect on CDF PM<sub>10</sub> levels. By spreading the fence arrays over a larger area, the present strategy “hedges its bets”, ensuring that some mitigated areas are upwind of CDF. Furthermore, it ensures that receptors other than CDF are provided some relief.

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<sup>6</sup> APCD Exhibit 3: “South County Community Monitoring Project,” San Luis Obispo County Air Pollution Control District, January 2013. Available on the Hearing Board website at <http://www.slocleanair.org/images/cms/upload/files/APCD%20Exhibit%203%20-%20SouthCountyCommunityMonitoringProject.pdf>.

## Preliminary Estimate of Emissions Reduction

Assuming that fencing arrays and revegetation result in 75% and 100% reductions, respectively, in PM<sub>10</sub> emissions from the areas that they cover, and using the CARB emissions model results for May 22, 2013,<sup>7</sup> (the day during the modeled period which had the highest measured PM<sub>10</sub> concentration at CDF), the APCD estimates that the mitigation plan for 2018 achieves an emissions reduction of approximately 35,000 kg/day for that particular day. To put this number into perspective, State Parks' original plan for 2018<sup>2</sup> is estimated to achieve an emissions reduction of about 16,000 kg/day, and Option (a) of APCD's original Proposed Order of Abatement<sup>8</sup> (fencing off the 100 most emissive acres) is estimated to achieve about 26,000 kg/day of emissions reduction. This assumes that a perimeter fence which excludes OHV activity but does not have an internal fence array results in a 50% reduction in emissions.

CARB also estimates that once fully implemented, the 2018 plan will result in a 12% reduction in wind event-associated PM<sub>10</sub> concentrations at CDF on the day with highest concentration during the modeling period (May 22, 2013). See the [attached Appendix to Attachment 1 by CARBAPCD Exhibit 24](#), "Assessment of the Impact of Emissions Controls from 2018 Wind Fencing and Vegetation as well as Additionally Proposed Fence Arrays (March 19, 2018)" for more details. ~~In subsequent years, as mitigations are improved and expanded to meet the requirement for additional 5% reductions, even greater reductions in downwind PM<sub>10</sub> concentrations are expected.~~<sup>9</sup>

<sup>7</sup> For a map of the CARB emissions model results see APCD Exhibit 25: "Cell-Level Emissions Totals for 5/22/13," California Air Resources Board, April, 2018. Available on the Hearing Board website at <http://www.slocleanair.org/images/cms/upload/files/Exhibit%2025%20ODSVRA-emissions-map.pdf>.

<sup>8</sup> "Proposed Order of Abatement", Case No. 17-01, Hearing Board of the San Luis Obispo County Air Pollution Control District. Available on the Hearing Board website <http://www.slocleanair.org/images/cms/upload/files/APCD%20Draft%20Abatement%20Order%282%29.pdf>.

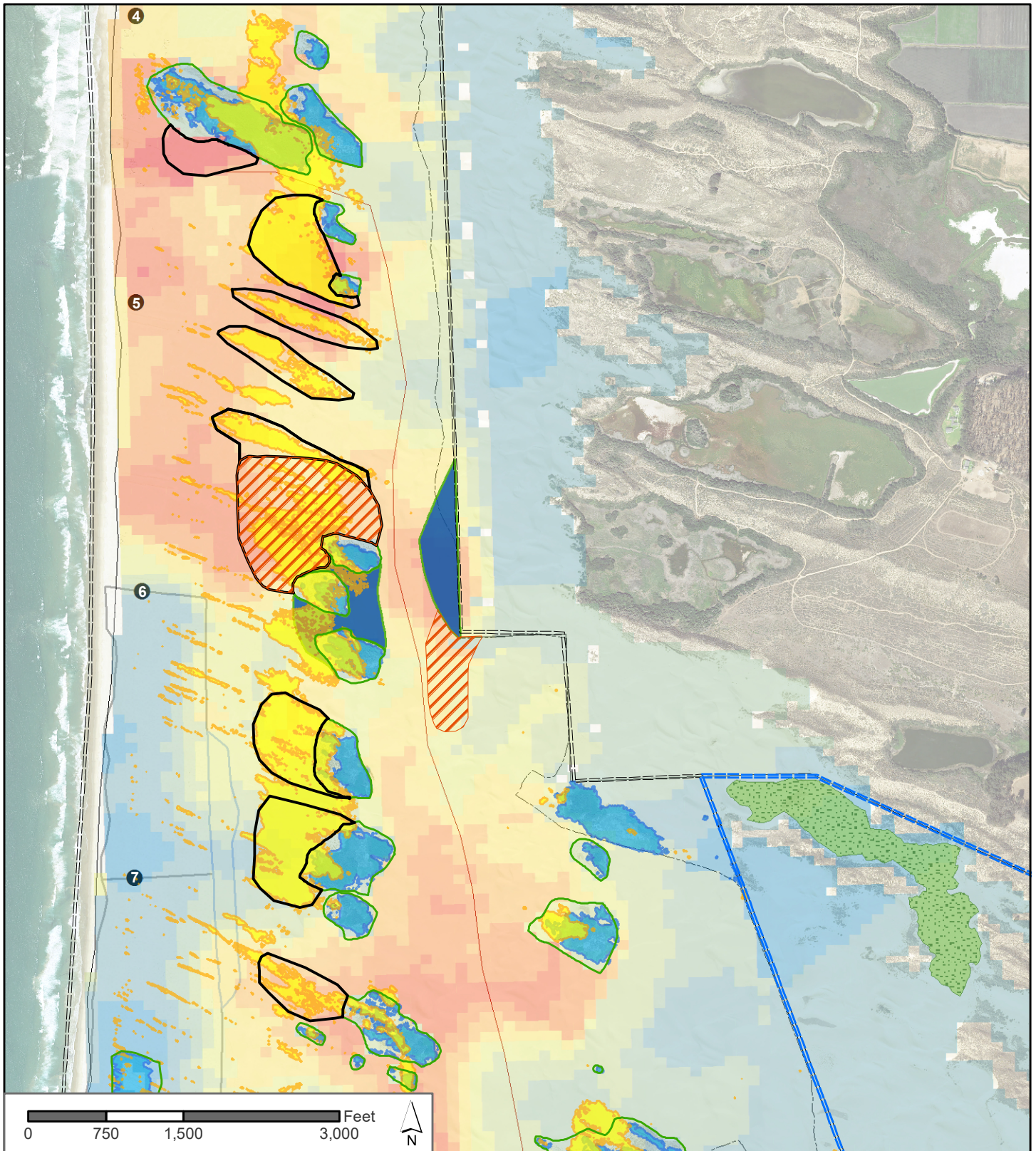
<sup>9</sup> APCD Exhibit 24: "Assessment of the Impact of Emissions Controls from 2018 Wind Fencing and Vegetation as well as Additionally Proposed Fence Arrays," California Air Resources Board, March 19, 2018. Available on the Hearing Board website at <http://www.slocleanair.org/images/cms/upload/files/Exhibit%2024%20ARB%20Modeling%20Results.pdf>.

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Source: CDP, Desert Research Institute, MIG, Inc

03/13/2018

- Vegetation installed in early 2018 (18.4 acres)
- 2018 Wind fencing projects (38 acres)
- 2014 restoration area 30 acres
- Proposed 1930s fence arrays (74 acres)
- 1930s vegetation (180 acres)
- Current vegetation existing (162 acres)
- Focal Portion of riding area
- Phillips 66 Lease area
- Existing fenced vegetation islands (186 acres)
- Sand Highway, approximately
- Marker post
- Boundary fence
- Nesting enclosure 2017
- Least tern buffer 2017



**Proposed Stipulated Abatement Order**  
*Oceano Dunes SVRA Dust Control Program*