SETTLEMENT AGREEMENT

This Settlement Agreement (Agreement) is entered into between the Great Basin Unified Air Pollution Control District (District) and the City of Los Angeles by and through its Department of Water and Power (collectively "City") (the City and District to be referred to as the "Parties") to resolve the City's challenge to the District's Supplemental Control Requirement (SCR) determination for the Owens Lake bed issued on December 21, 2005, and modified on April 4, 2006.

RECITALS

WHEREAS:

- A. Owens Lake is located in Inyo County in eastern California, south of the town of Lone Pine and north of the town of Olancha.
- B. Large portions of the Owens Lake bed are comprised primarily of dry saline soils and crusts.
- C. The lake bed soils and crusts are a source of wind-borne dust during significant wind events, and contribute to elevated concentrations of particulate matter less than 10 microns in diameter (PM₁₀).
- D. PM_{10} is a criteria pollutant regulated by the federal Clean Air Act, 42 U.S.C. Section 7401 *et seq.*, as amended (CAA).
- E. Under the National Ambient Air Quality Standard (NAAQS) adopted pursuant to the CAA, PM_{10} levels may not exceed an average concentration of 150 micrograms per cubic meter ($\mu g/m^3$) during a 24-hour period more than one time per calendar year averaged over three years.
- F. The District has regulatory authority over air quality issues in the region where Owens Lake is situated.
- G. Under Health and Safety Code Section 42316, enacted by the California Legislature in 1983, the District has authority to require the City to undertake reasonable measures at Owens Lake in order to address the impacts of its activities that cause or contribute to violations of federal and state air quality standards, including but not limited to the NAAQS for PM₁₀.
- H. In 1987, the United States Environmental Protection Agency (EPA) identified the Owens Valley Planning Area (OVPA), which encompasses

Owens Lake, as an area not meeting the NAAQS for PM_{10} . In 1993, the OVPA was reclassified as a serious non-attainment area under the CAA.

- In 1997, the District adopted the Owens Valley PM₁₀ Demonstration of Attainment State Implementation Plan as required by the CAA (1997 SIP). In 1998, the District and the City agreed that the City would construct control measures on 16.5 square miles of the Owens Lake bed by the end of 2003 as part of a SIP revision in 1998.
- J. In 2003, through District Board Order 03111-01 (Order), the District required the City to construct dust control measures (DCMs) on an additional 13.3 square miles of the Owens Lake bed by the end of 2006, for a total of 29.8 square miles of dust control measures, as part of a Revised SIP (2003 SIP). The Order and 2003 SIP also established a process whereby the Air Pollution Control Officer of the District (APCO) must evaluate on at least an annual basis the potential need for additional DCMs and "watch areas" at Owens Lake bed in order to attain the NAAQS. The process involves a determination by the APCO and an opportunity for the City to present an alternative analysis.
- K. On December 21, 2005, the APCO issued the 2004/2005 SCR determination finding that the City would be required to implement DCMs on an additional 9.31 square miles of Owens Lake bed and identifying 0.66 square miles as "watch area."
- L. On January 20, 2006, the City appealed the 2004/2005 SCR determination to the California Air Resources Board (CARB). The District disagreed that the determination was subject to such an appeal.
- M. On February 22, 2006, the City submitted an Alternative Analysis contesting aspects of the 2004/2005 SCR determination.
- N. On April 4, 2006, the APCO modified the SCR determination issued on December 21, 2005 to reduce the supplemental DCM area to 8.66 square miles and increased the "watch area" to 0.79 square miles (Modified SCR determination).
- O. On May 3, 2006, the City filed an appeal of the April 4, 2006 Modified SCR determination with the CARB. The District disagreed that the determination was subject to such an appeal.
- P. On May 4, 2006, the City filed a petition for writ of mandate challenging the APCO's April 4, 2006 Modified SCR determination (*City of Los Angeles Department of Water and Power v. Great Basin Unified Air Pollution Control District*, Kern County Superior Court Case No. S-1500-

CV-258678, RJO). The Parties entered into mediation and a temporary stay of the litigation.

AGREEMENT

NOW, THEREFORE, in consideration of the provisions herein contained and to resolve the disputes over methods to address air quality at Owens Lake, including the disputes over the SCR determination issued on December 21, 2005, and modified on April 4, 2006, the City and the District hereby agree as follows:

DUST CONTROL MEASURES (DCMs)

- 1. The City shall apply DCMs as provided in this Agreement on additional areas of the lake bed beyond the 29.8 square miles required in the 2003 SIP.
 - A. The areas on the lake bed on which DCMs will be applied are designated in this Agreement as follows:
 - (i) The 12.7 square-mile area of additional DCMs shall be known as the 2006 Supplemental Dust Control Area (SDCA).
 - (ii) The 29.8 square miles of DCMs required by the 2003 SIP shall be known as the 2003 Dust Control Area (DCA).
 - (iii) The 0.5 square miles of natural drainage channels on the south area of the lake bed shall be known as the Channel Area.
 - (iv) The combined 43.0 square miles of DCMs and Channel Area shall be known as the Total Dust Control Area (TDCA).
 - (v) The SDCA, DCA, Channel Area and TDCA are delineated on the TDCA Map, attached as Exhibit 1. The SDCA and Channel Area coordinate descriptions are attached as Exhibit 2. The DCA coordinate description is contained in the 2003 SIP.
 - B. Minor adjustments may be made to the boundaries of the SDCA upon written request by the City to the District and written approval by the APCO, which approval shall not be unreasonably withheld. In the event of such modification, the boundaries of the TDCA shall also be modified to reflect the modified SDCA boundaries.
 - C. The City may, at its sole option, apply DCMs to additional areas outside the TDCA.
 - D. The City shall begin full operation of the DCMs within the SDCA as follows:

- (i) Moat and row controls shall be operational by October 1, 2009.
- (ii) All other controls shall be operational by April 1, 2010.
- E. Following the dates set out above in this Section, the City shall continuously operate and maintain the DCMs within the TDCA. The City shall continuously operate and maintain DCMs within the DCA as required under the 2003 SIP, except as otherwise provided in this Agreement.
- 2. A. The City shall construct within the SDCA a minimum of 9.2 square miles of Shallow Flood dust controls. The Shallow Flood areas are delineated on the Dust Control Measure Map, attached as Exhibit 3.
 - B. On the remaining 3.5 square miles of the SDCA not specifically designated for Shallow Flood on the DCM Map (Exhibit 3), the City shall
 - (i) construct Shallow Flood, Managed Vegetation, or gravel cover, as described in the Dust Control Measures Description, attached as Exhibit 4, and which are currently approved as Best Available Control Measures (BACM) under the 2003 SIP; or
 - (ii) subject to Sections 3, 7 and 8, treat up to 3.5 square miles of the SDCA with the alternative dust control measure known as "Moat and Row," as described in the DCM Description (Exhibit 4).
 - C. TDCA areas designated as Channel Area represent areas containing natural drainage channels having potentially significant resource issues and regulatory constraints. While these areas are not a part of the SDCA, they shall be addressed as part of the control strategy for the SDCA. However, it is acknowledged that the control strategy in this area may be subject to additional regulatory constraints, design considerations, and impacts caused by adjacent DCMs.
 - D. The internal control measure boundaries delineated on the DCM Map (Exhibit 3) are approximate and are subject to final written approval by the APCO. The areas designated on the DCM Map (Exhibit 3) for Shallow Flood and Moat and Row may be modified upon written request by the City to the District and written approval by the APCO, which approval shall not be unreasonably withheld.
- 3. All DCMs within the SDCA shall be designed, constructed, operated and maintained by the City to achieve the initial target minimum dust control efficiencies (MDCEs) shown on the MDCE Map, attached as Exhibit 5. The initial target MDCEs (Target MDCEs):

- A. Are based on the results of air quality modeling, as described in the 2003 SIP, conducted by the City and approved by the APCO for the period July 2002 through June 2006;
- B. Assume 100 percent control efficiency in the 29.8 square miles of the DCA required under the 2003 SIP, except during the fall and spring ramping periods as described in Section 26, and achievement of the target MDCEs for the areas in the SDCA. Control efficiencies during the fall and spring ramping periods shall be based on modeling that accounts for reduced wetness cover pursuant to Sections 5 and 26;
- C. Have been selected to achieve PM_{10} concentrations that will not exceed the federal 24-hour PM_{10} ambient air quality standard of 150 μ g/m³ (federal standard) at all historic shoreline (elevation 3600 feet above sea level) receptors.
- 4. Prior to April 1, 2010, the Target MDCEs may be modified, upon request of the City and written approval of the APCO, which approval shall not be unreasonably withheld, if the modified MDCEs meet the criteria set forth in the MDCE Selection Process Spreadsheet, attached as Exhibit 6, pursuant to Section 3.
- 5. For the Shallow Flood areas identified in DCM Map (Exhibit 3), the percentage of each area that must be wetted shall be based on the Shallow Flood Control Efficiency Curve (SFCE Curve) attached as Exhibit 7, or an update of the SFCE Curve mutually agreeable to the Parties, to achieve the control efficiency levels in the MDCE Map (Exhibit 5).
- 6. The Parties believe that the City's existing Managed Vegetation site may currently achieve a control efficiency of 99 percent. Therefore, the City shall continue to maintain and the District shall continue to monitor the site to ensure that it achieves 99 percent control efficiency. No later than July 1, 2007, the City shall submit to the District an operation and management plan for the City to maintain cover conditions that achieve 99 percent control efficiency in the Managed Vegetation areas. The plan shall be subject to written approval by the APCO, which approval shall not be unreasonably withheld. Prior to the time that the Managed Vegetation area is in compliance with an approved SIP, the District will not issue a Notice of Violation (NOV) for the existing Managed Vegetation area as long as:
 - A. From January 1, 2007, to the earlier of July 1, 2007 or the date when the City's operation and management plan is approved by the APCO, the City maintains its current operation and management practices for its Managed Vegetation areas; and

- B. After the APCO's written approval of the operation and management plan, the City implements all provisions of its operation and management plan; and
- C. The City's Managed Vegetation area site does not cause an exceedance of the federal standard at the historic shoreline.
- 7. As Moat and Row is not a currently approved BACM dust control measure under the 2003 SIP, the City will develop, in consultation with the District, and conduct Moat and Row Demonstration Projects on the lake bed. These Demonstration Projects will be conducted on two or more locations on the lake bed outside of the DCA. The proposed location of these Demonstration Project areas are shown on attached Moat and Row Demonstration Project Map (Exhibit 8). The actual locations of the projects may be changed by the City, and in such event, the City shall notify the APCO in writing of the changed locations. The City will be the California Environmental Quality Act (CEQA) lead agency for implementation of the Moat and Row Demonstration Projects.
- 8. Based on results of the Moat and Row Demonstration Projects described in Section 7 and subject to Sections 2 and 3, the City in its sole discretion may decide which DCMs to implement in the areas designated for Moat and Row in Section 2 and Exhibit 3 of this Agreement. The City shall consult with the District before making its decision and inform the District of its decision in writing.
 - A. Depending on the results of the Moat and Row Demonstration Projects, the measures implemented in these areas by the City may include Moat and Row, enhanced Moat and Row (*e.g.*, closer Moat and Row spacing, Moat and Row with some Shallow Flooding, Moat and Row with some vegetation), combined Moat and Row/Shallow Flood, MDCE-BACM, or BACM.
 - B. If the City implements Moat and Row, it shall design and construct Moat and Row to achieve the Target MDCEs described in Section 3. The Moat and Row configuration required to achieve these Target MDCEs will be decided solely by the City, after consultation with and written notification to the District.
 - C. In the event of a dispute regarding the City's proposed decision or action pursuant to Section 8.A or 8.B, either Party may initiate the Dispute Resolution Process pursuant to Section 32.
 - D. Upon written request of the City, the APCO shall determine in writing if Moat and Row and/or Enhanced Moat and Row constitutes BACM or MDCE-BACM, in accordance with the revisions to the 2003 SIP provided in Section 28.

DUST IDENTIFICATION (DUST ID) PROGRAM

- 9. The Parties mutually recognize that a method for identifying sources of potential exceedances of the federal standard at the historic shoreline could be developed that is superior to and could replace or modify the current Dust ID Program.
 - A. The Parties will work cooperatively, with the participation of a mutually agreeable independent third party technical expert or experts under contract to the District and jointly managed by the Parties, in a good faith effort to develop, before April 1, 2010, an improved Dust ID Program. The APCO will implement all mutually-agreeable changes to the Dust ID Program and notify the City in writing of those changes.
 - B. The District will continue to work with the City after April 1, 2010 to further improve the Dust ID Program and will implement all additional mutually agreeable changes in a written decision.
 - C. In furtherance of efforts to improve the Dust ID Program:
 - (i) The Parties will promptly begin a mediated process for refining the Dust ID Program and resolving disputes.
 - (ii) The Parties will select a mutually agreeable expert or panel of independent third-party technical experts.
 - (iii) The District, after consultation with the City, will increase the number of PM_{10} monitors at or near the historic shoreline. In all cases, the District will notify the City of the location of the monitors within 30 days of placement of the monitors. If a PM_{10} monitor is located above the historic shoreline, the District will make reasonable attempts to account for non-lake bed sources that may affect the monitor.
 - (iv) The District, after consultation with the City, will modify the existing sand flux monitor network to concentrate on areas of special interest, and will, in all cases, notify the City of the modifications within 30 days of any modification.
 - (v) The Parties will establish mutually agreeable model performance measures. Such measures may, but are not required to, include a minimum model performance standard.
 - (vi) The District will make reasonable efforts to account for impacts of DCM construction activities.

- 10. The City will lead a joint effort with the District to develop methods for directly measuring PM_{10} emission rates from the lake bed. The District will incorporate mutually agreeable methods into the Dust ID Program.
- 11. A. If the City is in compliance with Sections 1 and 2 of this Agreement, the following shall apply to the time period before April 1, 2010.
 - (i) The APCO will not issue any further determinations regarding the need for SCRs that provide for additional requirements beyond those in this Agreement. However, the District will continue to use the Dust ID Program, as that program may be modified pursuant to Sections 9 and 10. The District will periodically advise the City of results in writing and may recommend actions to the City based on the model results.
 - (ii) Data collected before April 1, 2010 will not be used in future determinations requiring SCRs, except in those areas delineated as Study Areas on the Study Area Map attached as Exhibit 9 and described in Exhibit 2. Data collected from the Study Areas between July 1, 2006 and April 1, 2010 may only be used in SCR determinations after April 1, 2010, and may be used only in accordance with the current form of the Dust ID Program that is in effect after April 1, 2010.
 - (iii) The District will not issue an order requiring the City to implement any additional controls on any lake bed dust source areas in order to achieve the state PM_{10} standard of 50 micrograms per cubic meter unless compelled to issue such an order by state law.
 - B. The District shall determine compliance with the state PM₁₀ standard based on concentrations only in the surrounding communities, unless otherwise compelled by state law.
- 12. The City, in consultation with the District, shall annually develop and provide to the District a Performance Monitoring Plan (PMP) to aid in its operation of the Owens Lake dust mitigation program on the Owens Lake bed.
 - A. The PMP will describe the measurements and methods used to verify the performance of the constructed DCMs and Moat and Row test areas. The PMP will also describe the measurements and methods used to maximize information on dust emissions from areas of special interest.
 - B. The City shall implement the PMP, and will use the results as a guide for making operational decisions about the type, location, timing, and level of dust control measures needed to prevent exceedances of the federal standard at the shoreline.

C. The District may use information from the PMP to assist in determining the likely sources of dust emissions causing or contributing to exceedances (if any) of the federal standard at the shoreline.

SHALLOW FLOOD BACM REFINEMENT

- 13. The City shall have the option to conduct field testing to refine the wetness cover requirement to achieve 99 percent control efficiency in Shallow Flood areas within the DCA (Shallow Flood Cover Test).
 - A. The Shallow Flood Cover Test shall occur on one or more areas totaling not more than 1.5-square-miles, to be selected by the City and approved by the APCO, which approval shall not be unreasonably withheld, from within the TDCA areas requiring 99 percent control.
 - B. The Shallow Flood Cover Test design shall be prepared by the City and approved by the APCO, which approval shall not be unreasonably withheld, prior to implementation. Based on that design, the APCO will reasonably determine wetness cover requirements for the Shallow Flood Cover Test.
 - C. The City will be CEQA lead agency for the Shallow Flood Cover Test.
- 14. If the APCO reasonably determines in writing that DCMs in the TDCA have been operational for one full year (defined as 365 consecutive days) with no exceedance of the federal standard at monitors located at or above the historic shoreline caused solely by sources within the TDCA, the City shall be permitted to reduce the wetness cover by an average of 10 percent over Shallow Flood areas requiring 99 percent control efficiency, excluding areas identified in Section 14.C, provided that:
 - A. Application of the 10 percent reduction in wetness cover during the Fall and Spring Shallow Flood DCM Compliance periods set out in Sections 25 and 26 shall result in the lower of:
 - (i) The areal cover resulting from a 10 percent reduction; or
 - (ii) The areal cover required in Section 26.A.
 - B. To implement the reductions set out in this Section, the City shall be required to first submit a written Wetness Cover Plan to the District for reducing the wetness cover on the eligible areas. The Wetness Cover Plan shall take into account:

- (i) the results of testing carried out pursuant to Section 13, if conducted; and
- (ii) the results of fall and spring Shallow Flood wetness cover reduction operations carried out pursuant to Section 26.
- C. If, in any year, the Wetness Cover Plan proposes reductions in wetness cover greater than 10 percent in any portion of the Shallow Flood areas covered by the Plan (consistent with the 10 percent limit on the overall average reduction), the City shall obtain the additional written approval of the APCO, which approval shall not be unreasonably withheld.
- D. In the event shoreline monitors show an exceedance of the federal standard, whether that exceedance is caused by sources within, outside, or both within and outside of the TDCA, no further reductions in wetness cover shall be permitted for any Shallow Flood area that has contributed to the exceedance, as determined by the methodology in Section 18 and subject to the provisions of Section 16.
- E. Except as provided in Section 16, the City may continue to operate using reductions of wetness cover pursuant to a previously approved Wetness Cover Plan.
- 15. For each Dust Control Season (October 1 of each year through June 30 of the next year) that wetness cover reductions have taken place under the provisions of Section 14, the City shall prepare and submit to the District a written report summarizing the results of the wetness cover reductions within 90 days after conclusion of the corresponding Dust Control Season. The report shall document the percentage of wetness cover for Shallow Flood areas and the effect(s) of wetness cover reductions at the historic shoreline.
- 16. Any areas for which wetness cover has been reduced pursuant to Section 14 and that cause or contribute to an exceedance of the federal standard at the historic shoreline shall be remediated by the City under the Remedial Action Plan requirements pursuant to Sections 18 and 22 below.
 - A. Subject to APCO written approval, which approval shall not be unreasonably withheld, the City may further reduce the wetness cover beyond that allowed in Section 14 provided that:
 - (i) The maximum 24-hour PM_{10} shoreline monitor values for at least 365 consecutive days of operation following initiation of the last approved Wetness Cover Plan does not exceed 130 µg/m³; and
 - (ii) The City demonstrates to the reasonable satisfaction of the APCO that the modeled contributions from the lake bed for the same time

period set forth in Section 16.A.(i) plus the background of 20 μ g/m³ do not exceed 120 μ g/m³ at the historic shoreline.

- B. If the monitored values at the historic shoreline exceed 130 μ g/m³, and it is determined that non-lake bed sources are contributing greater than 20 μ g/m³, then the District will expeditiously seek to identify and require control of those non-lake bed sources so that the City may continue to implement efficient DCMs on the lake bed.
- C. If the City is entitled to further reduce wetness cover pursuant to this Section, the City shall prepare and submit an updated Wetness Cover Plan to the District to describe the wetness cover proposed for the subsequent, applicable Dust Control Season. The updated Wetness Cover Plan shall include:
 - (i) A map that depicts the eligible Shallow Flood areas;
 - (ii) The proposed amount of wetness cover for each eligible Shallow Flood area; and
 - (iii) The method for determining effectiveness of the proposed wetness cover.
- D. The Wetness Cover Plan shall be subject to approval of the APCO, which approval shall not be unreasonably withheld.

ACTIONS TO ADDRESS STANDARD VIOLATIONS

- 17. After May 1, 2010, the APCO will recommence written SCR determinations under the revisions to the 2003 SIP as provided in Section 28. Recommenced determinations will use Dust ID data collected only after April 1, 2010, except as provided in Section 11.A.(ii) for Study Areas, and shall be made at least once in every calendar year.
- 18. If, pursuant to Section 17, the APCO determines that a monitored or modeled exceedance of the federal standard caused by emissions from the lake bed has occurred at or above the historic shoreline:
 - A. The APCO, based on all available information, including visual observation, monitoring and modeling, and in consultation with the City, will identify the need for additional controls, monitoring, or both.
 - B. (i) If the APCO identifies the need for additional controls, the APCO shall issue a SCR determination.

- (ii) If the City does not agree with the APCO's determination, the City may, within 60 days of the APCO's determination, submit to the District an Alternative Analysis. If the City submits an Alternative Analysis, the APCO shall consider the Analysis and may withdraw, modify or confirm the SCR determination.
- (iii) If the APCO issues a modified SCR determination or confirms the initial SCR determination and the City does not agree with the APCO's action, the City may initiate the Dispute Resolution Process pursuant to Section 32. The APCO may modify the SCR determination based on the Dispute Resolution process.
- (iv) In the event the Parties are unable to resolve disagreements over future SCR determinations through the Dispute Resolution Process, the City may appeal future determinations to CARB under the provisions of Health and Safety Code Section 42316 (Section 42316), provided that the Parties expressly intend that this Agreement be the final resolution regarding the existing disputes between the Parties that are the subject of this Agreement. Based on the foregoing, the City stipulates and agrees that all of the provisions and determinations, including the measures and procedures, contained in the 2003 SIP, the provisions of this Agreement to be included in modifications to the 2003 SIP pursuant to this Agreement, and the SCR determination dated April 4, 2006, which the City in good faith disputed, shall be deemed to be valid and reasonable, and that the City will not challenge those provisions or determinations by appeal under Section 42316 or in any other proceeding, including any other administrative or judicial forum. Subject to this Paragraph, the City may challenge any future SCR determination under Section 42316; however any arguments or challenges must be based on data and information that do not currently exist, but that exist after the execution of this Agreement.
- C. The City shall prepare and submit for the APCO's consideration and written approval, which approval shall not be unreasonably withheld, a Remedial Action Plan as described in Section 21 to address the exceedance(s). The City shall submit the Remedial Action Plan within 60 days of the date the SCR determination becomes final.
- D. The District may, as appropriate, also issue a notice of violation.
- 19. In the event:
 - A. The APCO has made a written determination pursuant to Section 18 that an exceedance of the federal standard, occurring after April 1, 2010,

resulted from a Control Area or portion of a Control Area treated with Moat and Row; and

- B. That Control Area or portion of a Control Area causing the exceedance was remediated by the City as provided in Section 21 below; and
- C. That Control Area or a portion of that Control Area is subsequently the sole cause of an exceedance of the federal standard at or above the historic shoreline, (*i.e.*, an exceedance occurred after the City attempted to remediate that area under Section 21);

then the City shall convert that Control Area, or that portion of that Control Area, from Moat and Row to MDCE-BACM or BACM, to address the exceedance described in Section 19.C., for all or the portion of that Control Area that caused the subsequent exceedance, under the time deadlines provided for in Section 24.

- 20. If the APCO determines that Moat and Row constitutes BACM or MDCE-BACM, then upon issuance of such written determination, the provisions of Section 19 that require the City to convert to BACM or MDCE-BACM may be satisfied by applying the BACM or MDCE-BACM approved under this Section 20.
- 21. A Remedial Action Plan prepared by the City pursuant to Section 18 will contain a description of:
 - A. Any and all needed changes, repairs or enhancements to DCMs, including one or some combination of the following:
 - (i) Maintenance of facilities (*e.g.*, berms, moats and rows);
 - (ii) Changes to Shallow Flood or Managed Vegetation facilities or operations (*e.g.*, increase in wetness cover extent, improved wetness cover distribution, enhancement of vegetation);
 - (iii) Augmentation (*e.g.*, more moats and rows) or enhancement (*e.g.*, addition of sand fences, surface wetting, armoring, vegetation, surface roughening) of Moat and Row areas;
 - (iv) Transition of Moat and Row areas to BACM, or MDCE-BACM.
 - B. Any and all needed expansion of DCMs, and specific plans for expanding the measures.
 - C. A schedule for the work to be performed to implement the changes, clearly indicating the point at which facilities will be operational and effective at design levels.

- 22. The Schedule of Contingency Measures attached to this Agreement as Exhibit 10 sets forth a non-exclusive list of items that shall be included by the City in its Remedial Action Plans, described in Section 21, and the timing required for their implementation.
- 23. Before any full-scale Moat and Row areas are operational, the City shall submit to the District a conceptual design and schedule for possible implementation of BACM or MDCE-BACM to each Moat and Row area consistent with Section 19. These designs and schedules are the potential contingency measures to be implemented by the City where a transition from Moat and Row to another DCM is needed, or where such transition is required pursuant to Section 19.
- 24. Areas to be transitioned from Moat and Row to BACM or MDCE-BACM will be operational within the times set forth in the Moat and Row Transition Schedule attached as Exhibit 11. DCMs for new areas will be operational within the times set forth in the DCM Operation Schedule attached as Exhibit 12.

FALL AND SPRING SHALLOW FLOOD DCM COMPLIANCE

- 25. For the time period from October 16 of each year through May 15 of the next year, the Shallow Flood Control Areas shall be considered to be in compliance with this Agreement and applicable laws and regulations, if the areal wetness cover within each Shallow Flood Control Area in the TDCA meets the MDCE required in Exhibit 6 using the SFCE Curve in Exhibit 7.
- 26. The provisions set forth in this section shall apply to all Shallow Flood areas with target control efficiencies of 99 percent or more, except those which the City and the District may mutually agree to exclude.
 - A. Beginning on April 1, 2010, compliance of TDCA Control Areas with 99 percent control efficiency Shallow Flood requirements shall be as follows:
 - (i) Beginning May 16 and through May 31 of every year, Shallow Flood may be reduced to a minimum of 70 percent areal wetness cover.
 - Beginning June 1 and through June 15 of every year, Shallow Flood may be reduced to a minimum of 65 percent areal wetness cover.
 - (iii) Beginning June 16 and through June 30 of every year, Shallow Flood may be reduced to a minimum of 60 percent areal wetness cover.

- (iv) If for any Shallow Flood area, the percent of areal wetness cover in the periods specified in Sections 26A.(i), (ii) and (iii) is below the minimum percentages specified in those sections, and there were no monitored or modeled exceedances of the federal standard at the historic shoreline, that area will be deemed to be in compliance with this Agreement and applicable laws and regulations if the City demonstrates in writing and the APCO reasonably determines in writing that maximum mainline flow was maintained in the applicable period.
- B. From July 1 through September 30 of each year, the City is not required by the 2003 SIP to apply water for dust control, but is required to maintain minimum areal wetness cover as required by applicable environmental documents and approvals.
- C. Beginning on April 1, 2010, if modeled or monitoring data shows an exceedance or exceedances of the federal standard at the historic shoreline as a result of excessive dry areas on Shallow Flood Control Areas during the dust control periods for each year between May 16 through June 30, and October 1 through October 15, the provisions of Sections 17 and 18 shall apply.
- 27. The provisions of Sections 25 and 26 are subject to the results of air quality modeling, to be conducted by the City and approved by the APCO, that demonstrates attainment of the federal standard at the historic shoreline using the reduced areal wetness covers set forth in Section 26. The modeling shall be conducted as described in the 2003 SIP using data for the period July 2002 through June 2006. The control efficiency of the areal wetness covers shall be modeled using the SFCE Curve as provided in Section 5.

REVISION OF THE STATE IMPLEMENTATION PLAN (SIP)

- 28. A. The APCO will propose a District Board Order that will revise the 2003 SIP to incorporate all of the terms and conditions of this Agreement, except such terms and conditions, if any, that may not lawfully be included in the SIP. The APCO will propose the Board Order and SIP revision at a time sufficient to allow the proposed revisions to be considered and adopted by the District Board by July 1, 2008. The time for consideration and adoption shall take into account, without limitation, the time for legally required environmental review and public notice and hearing. The District Board will act on the proposed SIP revisions by July 1, 2008.
 - B. If the District Board has the legal ability to act and fails to act by November 1, 2008 on a proposed District Board Order as described in Subsection 28.A, the City may terminate this Agreement by providing

written notice to the District, provided, however, that the City will not provide such notice prior to the conclusion of the Dispute Resolution Process pursuant to Section 32, which process may be initiated by either Party.

- C. The Parties have developed this Agreement with the intention that its provisions will be incorporated into a revision of the 2003 SIP and are consistent with applicable provisions of the Health and Safety Code, including Section 42316, and applicable provisions of federal law regarding attainment of the NAAQS.
- D. The APCO shall confer in good faith with the City to develop procedures to modify and authorize MDCE-BACM for incorporation into the revisions to the 2003 SIP.
- E. The District will be CEQA lead agency and will prepare, in consultation with the City, and will consider for certification on or before March 1, 2008 an environmental impact report (EIR) on the proposed SIP revisions.
- F. (i) In the event:
 - (a) the District Board adopts a District Board Order revising the 2003 SIP that does not incorporate all the terms and conditions of this Agreement, except such terms and conditions, if any that may not lawfully be included in the SIP; or
 - (b) the District Board adopts a District Board Order revising the 2003 SIP that incorporates all the terms and conditions of this Agreement except such terms and conditions, if any, that may not lawfully be included in the SIP, and subsequent judicial action causes the revised SIP to be materially inconsistent or materially in conflict with the terms and conditions of this Agreement,

the City may terminate this Agreement in the case of Section 28.F(i)(a), and either Party may terminate this Agreement in the case of Section 28.F(i)(b), within 30 days of such action by providing written notice to the other Party.

(ii) If the City does not elect to terminate this Agreement pursuant to Section 28.F(i) and any inconsistencies or conflicts exist between this Agreement that preclude compliance with both, the provisions of the District Board Order shall prevail.

- G. The City will support and will not appeal or in any other way challenge or oppose revisions to the 2003 SIP and resulting District Board Order that incorporate all of the terms and conditions of this Agreement, except such terms and conditions, if any, that may not lawfully be included in the SIP. After issuance of the District Board Order provided for in this Section, the City shall not challenge the order under CEQA to the extent that Order is consistent with this Agreement.
- H. In the event the District Board fails to certify the EIR by March 1, 2008 or to act on the proposed SIP revisions by July 1, 2008, the Parties shall meet and confer as provided in Section 33.A.
- I. Any provisions of this Agreement that are incorporated into the District Board Order as provided in Section 28.A. shall, upon adoption of that Order by the District Board, cease to have any further force and effect as part of this Agreement, and shall instead be effective as part of the District Board Order.
- J. Any provisions of this Agreement that are not incorporated into the District Board Order as provided in Section 28.A shall remain in full force and effect as part of this Agreement until May 1, 2012, at which time those provisions shall cease to be of any further force or effect as part of this Agreement, provided that the Parties may mutually agree in writing to extend this date.

COVER MEASUREMENT TECHNIQUES AND PERFORMANCE SPECIFICATIONS

29. The District and City will collaboratively develop wetness and vegetative cover measurement techniques, control efficiency relationships, and compliance specifications. Final acceptance of those cover measurement techniques and compliance specifications with regulatory impact will be at the sole discretion of the APCO.

KEELER DUNES

30. The Parties acknowledge that dust emissions from the area known as the Keeler Dunes may cause or contribute to exceedances of federal and state standards for PM_{10} . The City hereby agrees to cooperate with the District and other federal, state and local agencies and experts as necessary to develop a plan to reduce dust emissions from the Keeler Dunes.

COOPERATION BETWEEN PARTIES AND DISPUTE RESOLUTION

31. In carrying out the terms of this Agreement, the Parties intend to cooperate fully and to consult with each other effectively and on a regular basis. The Parties will make good faith efforts to provide each other with relevant documents and

technical information in a timely manner, and they will keep each other informed of their respective progress in actions to implement the actions set forth in this Agreement, including, without limitation, progress in entering into consultant and construction contracts and in securing permits from agencies with permitting authority.

- 32. Notwithstanding the Parties' commitment to cooperate in implementing the terms of this Agreement, they recognize that differences may arise between them. To address this situation, the Parties agree that, in the event either Party believes that a dispute exists regarding implementation or interpretation of any provision of this Agreement, that Party may, by informing the other Party in writing within 21 days of the decision or determination, action or proposed action triggering the dispute, initiate non-binding mediation between the Parties. A party may not seek non-binding mediation for issues that were already the subject of mediation under this Section unless both Parties agree in writing.
 - A. The mediator shall be a mediator mutually acceptable to the Parties. The Parties may also by mutual agreement include in the mediation, one or more of the technical experts selected pursuant to Section 9.C.(ii), or any other technical experts, such experts to be under contract to the District and jointly managed by the Parties. The City shall be responsible for the cost of the mediator and the technical experts pursuant to Health and Safety Code Section 42316. The mediation will be conducted and completed within 60 days of the notice initiating the Dispute Resolution Process unless that time period is extended by mutual agreement of the Parties. The mediation will be conducted under all applicable California laws regarding mediation, including but not limited to Cal. Evidence Code Sections 1115-1128.
 - B. Neither Party will commence any litigation concerning the implementation of terms of this Agreement unless that Party has first initiated the mediation described in this Section, and the sooner of the following two events takes place:
 - (i) Sixty (60) days has expired from the date that Party first sent written notice to commence the mediation; or
 - (ii) Both Parties agree, or the mediator(s) states, in writing that the mediation has been completed.
 - (iii) Notwithstanding the provisions of this Section 32.B, a Party may commence litigation at an earlier time if necessary to pursue a claim or cause of action that would otherwise be time barred under an applicable statute of limitations.

- C. If the Dispute Resolution Process pursuant to this Section 32 is initiated to address a dispute regarding a SCR determination issued by the APCO pursuant to Section 18.B, then that SCR determination shall not be deemed final until the conclusion of this process under Section 32.B.
- D. Nothing in this section is intended to or shall be construed to restrict or eliminate a Party's right to utilize available legal remedies following completion of the mediation process.

EXTENSIONS OF TIME

- 33. A. In the event that the District
 - (i) Anticipates that it will fail to certify or fails to certify an environmental impact report on the proposed SIP revisions and related actions by March 1, 2008; or
 - (ii) Anticipates that it will fail to act on or fails to act on a proposed District Board Order pursuant to Section 28.A by July 1, 2008,

the District shall promptly notify the City, and Parties shall meet and confer to determine what if any revisions to other dates contained in this Agreement may be appropriate. The Parties may mutually agree to the participation of a mediator in the meet and confer process.

- B. In the event the City
 - (i) Anticipates that it will be unable to complete implementation or fails to complete implementation of moat and row controls pursuant to this Agreement by October 1, 2009; or
 - (ii) Anticipates that it will be unable to complete implementation or fails to complete implementation of all other controls by April 1, 2010,

the City may seek relief for such failure or delay by obtaining a variance from the Hearing Board of the Great Basin Unified Air Pollution Control District pursuant to District Regulation VI and all applicable law for variance relief from a District Order, including but not limited to Health and Safety Code Section 42350 *et seq.* In such event, the District shall, at the request of the City, meet with the City, prior to or after the filing of a request for a variance, in order to ascertain whether the District will support the City's variance request. In the event the District will not support the City's variance request, the City may invoke the Dispute Resolution Process pursuant to Section 32.

- C. Nothing in this Section is intended to or shall limit the ability of the City to seek a variance from requirements not included in this Section.
- D. Each Party will undertake to inform the other Party as early as practicable of the fact that it anticipates that it will not meet or has failed to meet any of the dates set out in this Section.
- 34. In the event either Party claims that the other Party is in material breach of the terms of this Agreement, including without limitation, a claim by the District that the City is in material breach under Section 11, the Party claiming the breach shall provide written notice of the claimed breach to the other Party. In the event the Party claimed to be in breach contests such claim, the issue shall be subject to the Dispute Resolution Process in Section 32.

LAWSUIT/APPEAL SETTLEMENT CONDITIONS

- 35. Within 15 days of execution of this Agreement, the APCO shall issue a revised SCR determination that incorporates the terms of this Agreement and that supersedes all previous determinations.
- 36. Upon issuance by the APCO of the revised SCR determination as described in Section 35, the City shall immediately commence the process for implementing additional DCMs on the Owens Lake bed consistent with the terms of this Agreement.
- 37. Upon issuance by the APCO of the revised SCR determination as described in Section 35, the City shall within seven days dismiss with prejudice its CARB appeals and the litigation against the District as described in the Recitals at Paragraphs L, O. and P.

DEFINITIONS

38. Definitions of terms used in this Agreement are contained herein and in Exhibit 13. Where specifically identified in Exhibit 13, these terms as used in this Agreement and Exhibits shall have the meanings provided in this Exhibit 13. Where no definition is provided herein or in Exhibit 13, the words and terms shall have their meaning as provided in the federal Clean Air Act or state air pollution law in the Health and Safety Code, and where no definition is found there, shall have their ordinary meaning as read in the context of this Agreement and consistent with the expressed intent of the Parties.

NOTICES

39. Whenever, under the terms of this Agreement, written notice is required to be given or a report or other document is required to be sent by one Party to another, it shall be sent by overnight mail and directed to the individual at the address

specified below, unless that individual or his or her successor gives notice of a change to the other Party in writing.

As to the City:

Ronald F. Deaton General Manager Los Angeles Department of Water and Power 111 North Hope Street, Room 1550 Los Angeles, CA 90012

As to the District:

Theodore D. Schade Air Pollution Control Officer Great Basin Unified Air Pollution Control District 157 Short Street Bishop, California 93514

ADDITIONAL PROVISIONS

- 40. By this Agreement, the City and the District intend to settle their disputes regarding methods to address air quality issues at Owens Lake, including disagreements over the SCR determination issued on December 21, 2005, and the Modified SCR determination issued on April 4, 2006.
- 41. This Agreement is the final integrated agreement between the Parties regarding the matters addressed herein, and may not be modified except in a writing signed by both Parties.
- 42. This Agreement shall be construed in accordance with the laws of the State of California.
- 43. In the event any provision of this Agreement is judicially determined to be unenforceable, the Parties shall meet and confer and following such meeting, the Parties may amend the Agreement, or continue the Agreement without amendment, or either Party may terminate the Agreement.
- 44. This Agreement shall not create any rights in any third party.

- 45. No failure by a Party to insist on strict performance of any term or condition of this Agreement shall constitute a waiver of such term or condition or a breach hereof.
- 46. Each Party represents that their respective signatories below have the authority to bind them to the terms of this Agreement.

REVIEWED AND AGREED TO:

Dated: Thosen 30 2006

Ronald F. Deaton General Manager, Los Angeles Department of Water and Power

The City of Los Angeles By and Through the Los Angeles Department of Water and Power

Dated: December 4 2006

Henry "Skip" Veatch Board Chairman

Great Basin Unified Air Pollution Control District

APPROVED AS TO FORM AND LEGALITY ROCKARD J. DELGADILLO, CITY ATTORNEY

CONBO

List of Exhibits

- 1. Total Dust Control Area Map
- 2. 2006 Supplemental Dust Control Area Coordinate Description
- 3. Dust Control Measure Map
- 4. Dust Control Measures Description
- 5. Minimum Dust Control Efficiency Map
- 6. MDCE Selection Process Spreadsheet
- 7. Shallow Flood Control Efficiency Curve
- 8. Moat and Row Demonstration Project Location Map
- 9. Study Area Map
- 10. Schedule of Contingency Measures
- 11. Moat and Row Transition Schedule
- 12. DCM Operation Schedule
- 13. Definitions

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EXHIBIT 1 -- TOTAL DUST CONTROL AREA MAP

The Total Dust Control Area (TDCA) is comprised of the 2006 Supplemental Dust Control Area (SDCA) and the 2003 Dust Control Area (DCA).



EXHIBIT 2 -- 2006 SUPPLEMENTAL DUST CONTROL AREA COORDINATE DESCRIPTIONS



Area ID	Area (miles)	Area type	Coordinates(UTM Zon X-coordinates	e11 meters NAD83) Y-coordinates	Area ID	Area (miles)	Area type	Coordinates(UTM Zoo X-coordinates	ne11 meters NAD83) Y-coordinates
D1	0.16	SDCA	416,001.0310 415,701.7500 415,343.2810 415,366.3750 415,994.4060 416,002.6250 416,005.6250 416,001.0310	4,042,347,3789 4,042,385,7617 4,042,999,8633 4,042,999,0234 4,043,383,8359 4,043,304,2109 4,042,981,9922 4,042,568,5234 4,042,347,3789	D5	0.57	SDCA	418754.0310 418552.9690 418484.0000 418689.0940 418529.0310 418434.8130 418325.1880 4183224.7810 418067.7500	4033026.5000 4033287.6914 4033621.1133 4034066.4102 4034424.5078 4034424.5078 4034452.0664 4034653.5234 4034845.3438 4035047.7852
D2	0.21	SDCA	408,085.5000 407,718.8130 407,731.5000 407,804.9060 407,873.2810 408,032,2500 408,089.5630 408,267.6560 408,347.0630 408,347.0630 408,085.5000	4,041,493,3164 4,042,027,7422 4,042,299,3945 4,042,254,2148 4,042,654,1211 4,042,654,1211 4,042,647,6875 4,042,402,491,4219 4,042,440,3203 4,041,492,4844 4,041,493,3164	D6	0.03	SDCA	41793.1880 417980.5000 418027.9060 417924.4060 41866.3750 419065.6880 419223.4690 419141.3750 419084.1880 418754.0310 419801.2810	4038467.4961 4035865.3203 4036319.6094 4037110.5117 4034527.9844 4034610.9648 4034342.1406 4034271.8047 4033110.8086 4033026.5000 4033687.7539
D3	0.03	SDCA	414,747.2500 414,550.5000 414,528.0310 414,532.5000 414,583.3750 414,643.3130 414,700.5000 414,718.6880 414,729.1250 414,747.2500	4,039,108.7500 4,039,224.6641 4,039,697.5156 4,039,759.7891 4,039,699.2617 4,039,605.6250 4,039,498.9766 4,039,441.7188 4,039,314.2500 4,039,108.7500	07	0.43	SDCA	419831.7500 420006.8130 420012.7190 419801.2810 422105.2500 421854.9690 421952.1880 421827.1560 421778.4380 421882.0310 421831.3130	4034141.1016 4034139.3281 4033690.4844 4033687.7539 4031749.0176 4031871.4102 4032442.4199 4032442.4199 4032442.4199 4032422.8755 4032522.0762 4032660.6934 4032728.7031
D4	0.59	SDCA	408,694,5000 408,417,2190 408,370,5940 408,249,5940 408,231,6880 408,075,5000 408,254,4060 408,254,4060 408,249,9060 408,606,5630 408,414,0000 408,448,8750 408,415,9060 408,687,9380 408,762,7190 408,687,9380 409,126,1560 409,113,130 409,210,1630 409,126,1560 409,126,1560 409,134,0630 409,255,5940 409,255,5940 409,304,7190 409,325,7190 409,334,3750 409,312,7190 409,334,3750 409,260,5630 409,184,9060 408,755,8130 408,751,4060 408,765,400 408,765,400 408,765,400 408,765,400 408,765,400	4,035,836,9883 4,035,957,7344 4,036,191,9453 4,036,191,9453 4,036,258,3164 4,036,571,0625 4,036,791,1719 4,037,187,2813 4,037,485,5391 4,037,684,35391 4,037,684,35391 4,037,684,35391 4,037,684,35391 4,038,246,6484 4,038,303,7813 4,038,290,2422 4,038,245,15742 4,038,258,7344 4,038,2554,7344 4,038,2554,7344 4,038,2554,7344 4,038,2554,7344 4,038,2554,7344 4,038,2554,7344 4,038,259,1797 4,038,422,9180 4,038,259,1797 4,038,329,9609 4,038,259,1797 4,038,13789 4,038,259,1797 4,038,017,695 4,037,266,8359	D8	0.06	SDCA	421954.3130 421966.3130 421992.7810 42203.5310 42203.5310 42203.5000 422042.1560 422042.1560 422042.1580 422040.7810 422103.3750 422274.9380 422331.4380 422351.4380 422530.2190 42259.7190 42259.7190 42259.6860 422105.2500 422105.2500 422168.66250 422165.5310 42268.6250 42168.6250 42168.6250 42168.6250 42168.6250 42168.6250 42168.6250 42168.6250 42168.6250 42168.6250 42168.6250 42168.6250 42168.6250 42199.4800 42199.4800 42091.5000 42202.5630 42209.3130 42209.4130 42199.4130 42194.8130 42194.8130	4032765.7129 4032765.8828 4032841.0703 4032841.0703 4032841.0703 4032841.0703 4032841.0703 4032841.0703 4032841.0703 403308.7461 4033082.8008 4033127.2188 4033127.2188 4033127.2188 4033477.2383 4033430.6797 4033313.9453 4033430.0469 4032367.5195 403194.7988 4031749.0176 4032529.3477 4032569.9238 403245.5186 403316.5156 4033044.5586 403318.1875 4033018.7031 4032902.9766 4032858.2227 4032795.7422 4032795.7422 403267.7148 4032593.7305 4032529.3477

Area ID	Area (miles)	Area type	Coordinates(UTM Zor X-coordinates	e11 meters NAD83) Y-coordinates		Area ID	Area (miles)	Area type	Coordinates(UTM Zor X-coordinates	ne11 meters NAD83) Y-coordinates
D9	0.53	SDCA	420,265.8440	4,030,508.7188		D11	2.32	SDCA	416481.0000	4029994.3359
			419,947.7500	4,030,741.5176		continued			416483.2500	4030000.4590
			420,067.1880	4,030,907.7324					416476.4690	4030004.0684
			420,051.5940	4,031,073.7461					416464.6250	4030013.5332
			420,152.5000	4,031,300.3000					410452.1250	4030020.7200
			420,449,4060	4.032.103.9551					416454.8750	4030042.8809
			419,975,9690	4.032.480.4902					416467,7500	4030052.9766
			420,091.3750	4,032,635.9316					416466.0630	4030067.6035
			420,399.6560	4,032,679.1270					416454.5310	4030077.5586
			420,847.1880	4,032,406.2988					416440.6250	4030076.0938
			421,363.7810	4,031,994.1230					416437.6250	4030084.6914
			420,995.8750	4,031,495.0273					416445.8130	4030098.3496
			420,265.8440	4,030,508.7188					416459.0310	4030110.6875
Dia	4 75	0000	440.005.0000	4 007 700 0500					416465.9060	4030126.0488
DIU	1.75	SDCA	419,965.0000	4,027,728.2520					416461.5310	4030142.7871
			419,003.2190	4,027,047.7303					416450 1560	4030157.1525
			419 437 5940	4 028 368 0176					416439 0940	4030177 2402
			419,317,9690	4 028 206 2617					416443 8750	4030188 7227
			418,994,5310	4.028.445.2656					416458.4380	4030192.3809
			418,730,3440	4.028.397.0371					416470.3130	4030190.8789
			419,406.8750	4,029,323.4316					416479.0310	4030177.9727
			421,010.9060	4,031,484.3145					416493.8130	4030171.2637
			421,216.1560	4,031,761.8594					416510.6250	4030166.2656
			421,439.0940	4,031,498.2363					416527.2190	4030165.8828
			421,631.0310	4,031,208.7773					416541.7810	4030161.9238
			421,571.8750	4,030,077.3184					416568.0630	4030143.3945
			421,548.9690	4,029,833.7383					416585.0000	4030137.3281
			421,523.2500	4,029,607.1328					416601.6250	4030130.7734
			421,241.1880	4,029,607.8887					416608.7190	4030112.7188
			421,116.0000	4,029,457.7559					416614.8750	4030093.7324
			420,776.0000	4,029,075.9551					416614.1560	4030081.1367
			420,233.7500	4,028,421.8027					416606.9690	4030057.0176
			420,070.9690	4,028,193.2832					416610.2810	4030041.6328
			419,973.2500	4,027,978.3457					416621.0310	4030029.7910
			419,965.0000	4,027,728.2520					410020.8440	4030016.4492
D11	2 3 2	SDCA	116 024 2100	4 025 001 8065					416639 6560	4030003.4603
DIT	2.52	ODOA	416 906 7190	4 026 000 2598					416642 2500	4029973 2676
			416.817.3750	4.026.065.2832					416656.7190	4029972.4727
			415,808.9380	4,026,810.0977					416688.3750	4029977.5293
			415,803.8440	4,026,822.5840					416704.9380	4029976.5762
			415,810.1250	4,026,837.9219					416715.9690	4029964.5742
			416,016.5310	4,027,163.7559					416723.1250	4029949.7949
			415,829.9690	4,027,301.7383					416734.4690	4029937.7109
			415,812.0000	4,027,654.7500					416747.7190	4029929.2070
			415,987.3440	4,028,348.8008					416759.0310	4029916.4004
			415,969.6880	4,028,562.7461					416768.4690	4029902.2207
			415,530.3750	4,028,446.4922					416781.8130	4029898.3633
			415,660.2500	4,028,955.4551					416790.3750	4029900.3945
			410,002.8130	4,029,458.0664					416827.0940	4029907.2129
			416,300,1300	4,023,003.3740					416845 7500	4029913.7013
			416 449 5000	4,029,720.7140					416852 5940	4029916 0938
			416,468.5940	4.029.742.7246					416867.9690	4029916.1543
			416,489.8750	4,029,746.4355					416880.3440	4029917.7637
			416,529.4060	4,029,741.9941					416895.6880	4029914.7402
			416,547.9690	4,029,741.4180					416925.9380	4029904.3965
1			416,541.4060	4,029,755.8789			1		416940.7190	4029903.4805
1			416,528.0940	4,029,767.9277			1		416954.8130	4029907.8730
			416,515.2190	4,029,777.7969					416966.3750	4029914.2246
			416,501.9690	4,029,786.2637					417119.3130	4029946.7070
			416,489.6560	4,029,794.9004					417187.6250	4029971.9180
			416,430.1250	4,029,834.6543					417582.2500	4030268.0078
			416,415.3750	4,029,843.4570					417521.0310	4029772.5176
			416,400.7190	4,029,849.4766					417701.5630	4029667.0430
			416,387.3130	4,029,856.1563					41///1.4380	4029656.0293
1			410,372.5940	4,029,860.3105			1		41/852./810	4029647.5566
			410,308.3310	4,029,070.0703					410130.3/30	4029043.4040
			410,3/3./810	4,029,000.0270					410303.2010	4029047.0859
			410,304.4090	4,023,033.7017					410000.1010	4023140.1333
			416 395 3130	4.029.918.6621					419093 6560	4029564 0527
			416.406.0630	4,029.922.9727					417887.0630	4029198.4668
			416,419.9060	4,029,929.8086					417896.1560	4029182.4668
1			416,435.1560	4,029,936.6543			1		417881.5000	4029187.7246
1			416,449.2500	4,029,947.3340			1		418000.2190	4028968.8594
1			416,459.1250	4,029,961.2246			1		417985.8130	4028531.7539
1			416,462.9690	4,029,976.8418			1		417825.0940	4028556.4668
			416,471.5630	4,029,988.3965					417545.0000	4028513.0254

Area ID	Area (miles)	Area type	Coordinates(UTM Zon X-coordinates	e11 meters NAD83) Y-coordinates	Area ID	Area (miles)	Area type	Coordinates(UTM Zor X-coordinates	ne11 meters NAD83) Y-coordinates
D11 continued	2.32	SDCA	417,068.6250 417,152.6880 417,077.1880 417,117.7810 417,277.7500 416,924.2190	4,027,867.9766 4,027,307.1758 4,026,864.2910 4,026,581.1016 4,026,460.9707 4,025,991.8965	D16	0.70	SDCA	416987.0630 416718.5630 416734.5310 416700.3440 416689.5630 416678.1560 416678.1560	4023427.0801 4023625.5098 4023647.0078 4023672.5195 4023734.1953 4023741.8613 402375.6105
D12	0.02	SDCA	419,887.8440 419,726.0310 419,965.0000 419,949.5310 419,887.8440	4,027,285.2500 4,027,404.7344 4,027,728.2520 4,027,659.1582 4,027,285.2500				416044.1500 417010.6880 417000.8130 417004.5630 416997.8130 416224.2500	4023925.0193 4024645.2734 4024984.0566 4024995.9414 4025001.7578 4025007.0430
D13	0.02	SDCA	419,810.5000 419,648.7190 419,772.4690 419,887.8440 419,880.3750 419,832.8130 419,830.5000	4,026,842,2539 4,026,961,7383 4,027,130,8359 4,027,285,2500 4,027,234,3164 4,026,984,5820 4,026,842,2539				416932.7810 417170.5000 417483.0940 417363.6250 417848.8440 418087.8130 418249.6250 417981.1560	40259/1.6777 4026294.0039 4026061.2461 4025899.4863 4025541.0000 4025845.5176 4025744.9961 4025744.9961
D14	2.46	SDCA	412,117.6560 411,983.4060 411,915.1560 411,828.0940 411,988.0310 412,161.8440 412,387.4060 412,577.3130 412,752.9380 412,942.5940 413,298.0630 413,700.7190 413,843.4060 413,843.4060 413,843.4061	4,023,538.0977 4,023,714.6152 4,023,883.7793 4,024,594,2207 4,025,141.2695 4,025,254.5859 4,025,254.5859 4,025,175.8184 4,025,413.6777 4,025,667.2090 4,025,913.1816 4,025,878.1113 4,025,878.1113 4,025,859.0313 4,025,869.0625 4,026,17207	D17	0.01	SDCA	417862.3130 417742.6560 417731.0940 417731.0940 417596.9060 417427.9690 417308.1560 417192.2500 417038.6560 416987.0630 416987.0630 418812.6560 4188722.7810 4188531.3750 418650.8440 418812.6560	4025432,8262 4025357,7832 4025299,8848 4025042,9023 4024857,0391 4024735,2051 4024673,9160 4024288,4082 4023907,3789 4023427,0801 4025829,9941 4025817,3457 4025787,7188 4025949,5527 402589,9941
			414, 103, 1380 414, 294, 0310 414, 574, 5630 414, 628, 3130 414, 946, 8130 415, 303, 7810 415, 463, 6880 415, 633, 7810 415, 787, 8440 415, 777, 6250 415, 787, 8440 415, 773, 6560 416, 207, 2500 416, 207, 2500 416, 207, 2500 416, 545, 3750 416, 545, 3750 414, 5712, 3440 414, 755, 6880 414, 755, 5500 414, 432, 8440 414, 509, 4060 414, 432, 8750 414, 432, 8750 414, 432, 8750 414, 432, 8750 414, 432, 8750 414, 274, 7500 414, 266, 4690 414, 210, 4380 413, 519, 9380 413, 307, 2500	4,026,188,3672 4,026,188,3672 4,026,552,7695 4,027,212,3789 4,027,711,2480 4,026,77,11,2480 4,026,771,12480 4,026,771,12480 4,026,771,44590 4,026,784,4590 4,026,793,4668 4,026,794,4512 4,026,479,4612 4,026,421,2695 4,025,017,7598 4,025,017,7598 4,025,017,7598 4,025,017,7598 4,025,157,7637 4,025,518,7598 4,025,757,7637 4,025,518,7598 4,025,757,7637 4,025,518,7598 4,025,757,7637 4,025,518,7598 4,025,757,7637 4,025,518,7598 4,025,757,2539 4,025,699,41863 4,025,678,2109 4,025,458,0084 4,025,532,3205 4,025,425,935,323,055 4,025,245,9863 4	D18	0.01	SDCA SDCA	418812.6300 418250.0940 418369.5630 418531.2190 418422.7500 418220.0940 410989.2810 410728.5630 410728.5630 410249.0940 4101434.2500 410330.1560 410249.0940 410165.6880 410012.7810 409988.7810 409988.7810 409988.2190 409834.5940 409345.2190 409345.2190 409364.2190 409364.2190 409364.2190 409364.2190 409364.2190 409364.2190 409364.2190 409121.8750 409142.4380 409121.8750 409121.8750 409094.0000	4023029.9941 4025775.2305 4025775.2305 4025775.2305 4025775.2305 4025745.5586 4022251.9551 4022140.5918 4021605.7773 4021573.8405 4021553.4805 4021533.4805 4021533.9121 4021533.9121 4021533.9121 4021489.0801 4021485.5020 4021487.3027 4021472.0918 4021482.5129 4021468.2417 4021468.2417 4021664.2617 4021667 40216
D15	0.08	SDCA	413,144,4690 412,117.6560 419,051.1560 419,213,4060 419,810.5000 419,810.5000 419,499.9380 419,482.9690 418,812.6560	4,024,931,4102 4,023,538,0977 4,025,829,9941 4,026,152,9863 4,026,034,2168 4,026,404,2789 4,025,404,8789 4,025,993,3496 4,025,252,2813 4,025,829,9941				409085.6880 409078.5310 409061.1250 409031.1250 409029.3750 409009.4380 409009.4380 409009.4380 408748.8130 408748.6880 408748.6880 408748.6880 408752.0000 409002.0630 408999.6250 410005.0940 410025.03760	4022117.5977 4022146.7773 4022247.9473 4022310.3633 4022381.5703 4022388.8301 4022518.7207 4022749.8164 4022752.2285 4022994.9199 4023250.6855 4023249.9121 402300.2637 4022997.9844 4023280.3379 402325 5746

Area ID	Area (miles)	Area type	Coordinates(UTM Zor X-coordinates	e11 meters NAD83) Y-coordinates	Are	ea ID	Area (miles)	Area type	Coordinates(UTM Zor X-coordinates	e11 meters NAD83) Y-coordinates
D19 continued	1.88	SDCA	410,472.1880 410,718.0630 410,862.1250 410,821.5940 410,665.3750 410,401.5000 410,411.4380 410,520.6560 411,162.2810 411,122.3440 411,392.4060 411,607.8130 411,737.1560 411,867.2500 411,784.7500 411,784.7500 411,784.7500 411,126.7810 410,994.2500	4,023,123,1172 4,023,206,8965 4,023,378,8164 4,023,731,0039 4,023,862,7910 4,024,041,8867 4,024,349,3066 4,024,349,3066 4,024,873,7930 4,024,873,7930 4,024,873,7930 4,024,873,7930 4,024,873,7930 4,024,873,7930 4,024,873,7930 4,024,873,7930 4,024,873,7930 4,024,873,7930 4,024,873,7930 4,024,873,7930 4,024,873,7930 4,024,873,7930 4,024,873,7930 4,022,4752,550 4,022,795,5557 4,022,416,6367		S1 S2	0.71	Study	410001.6560 409290.7190 408861.2190 408813.8750 408859.4380 409372.0940 409337.5310 410500.6560 410962.4690 411096.8440 41108.0630 410984.4380 410592.0940 410496.6250 410003.5310 410001.6560 415072.8130 414928.6560	4042464.2656 4042500.2383 4042688.4688 4042910.9609 4043071.8984 4043285.6914 4043426.8914 4043424.3945 4044000.3555 4043852.2109 4043072.6836 4043481.0273 404309.3259 404309.3259 4043008.3594 4042464.2656 4041278.8984 4041572.7422 4041572.7422
D20	0.21	SDCA	410,983.2810 414,982.2190 415,176.7190 415,103.2190 415,581.2500	4,022,251,9551 4,021,997.8164 4,022,263.2852 4,022,320.4727 4,022,965.4922					414740.2500 415304.2190 415642.3130 415234.1250 415072.8130	4042329.6992 4042966.9609 4042393.3203 4041986.6914 4041278.8984
			415,817.9380 416,056.9060 416,207.6250 415,998.3750 416,002.5310 415,526.5000 414,982.2190	4,022,790.5078 4,023,113.9902 4,023,003,7656 4,023,002.3203 4,022,602.1270 4,022,002.0215 4,021,997.8164		S3	0.72	Study	421548.9690 421571.8750 421631.0310 421439.0940 421216.1560 421260.3750 421371.5310	4029833.7383 4030077.3184 4031208.7773 4031498.2363 4031761.8594 4031837.4414 4031985.9238
D21	0.39	SDCA	$\begin{array}{c} 409,784.0630\\ 409,836.5940\\ 409,959.4380\\ 409,986.8440\\ 410,014.9380\\ 410,019.0000\\ 410,027.5940\\ 409,986.0310\\ 409,487.5940\\ 409,409.3130\\ 409,373.6560\\ 409,360.9380\\ 409,276.4690\\ 409,280.3750\\ 409,223.5310\\ 409,176.1250\\ 409,176.1250\\ 409,255.5940\\ 409,255.5940\\ 409,255.5940\\ 409,255.5940\\ 409,255.5940\\ 409,255.5940\\ 409,351.8750\\ 409,464.4690\\ 409,583.4380\\ 409,710.2810\\ 409,784.0630\\ \end{array}$	$\begin{array}{c} 4,021,446.5840\\ 4,021,452.1992\\ 4,021,465.6152\\ 4,021,465.6152\\ 4,021,465.6152\\ 4,021,484.2637\\ 4,021,484.2637\\ 4,020,143.3262\\ 4,020,043.3262\\ 4,020,065.3262\\ 4,020,006.3652\\ 4,020,006.3652\\ 4,020,008.8984\\ 4,020,023.0879\\ 4,020,086.8984\\ 4,020,986.3672\\ 4,021,804.0762\\ 4,021,804.0762\\ 4,021,639.3984\\ 4,021,639.3984\\ 4,021,639.3984\\ 4,021,438.8574\\ 4,021,438.8574\\ 4,021,438.8574\\ 4,021,438.8574\\ 4,021,438.8574\\ 4,021,438.8574\\ 4,021,438.8574\\ 4,021,438.8574\\ 4,021,438.8574\\ 4,021,438.8574\\ 4,021,446.5840\\ \end{array}$					421398.8440 421454.5000 421509.5310 421645.9690 421725.3130 421769.8440 421827.1560 421827.1560 421827.1560 422195.21880 422105.2500 422299.6560 422299.6560 422732.5630 422746.8130 422779.7500 422779.7190 422779.7190 422793.9060 4228417.5310 422840.9690 422840.9690 422869.3130 422869.3130 422836.2810 422250.5940 422200.0310	4032023.9863 4032099.1406 4032174.3066 4032358.6465 4032358.6465 4032468.9844 4032526.2539 4032498.3555 4032442.4199 4031771.4102 4031762.5020 4031994.7988 403267.5195 4032243.8984 4032159.0254 4032064.7734 4031946.8984 4031648.9816 4031656.0645 4031447.2109 4031338.7852 4031206.8086 4030985.2422 4030779.7578 4030499.9922
D22	0.03	SDCA	414,001.2500 414,001.4690 414,426.0000 414,464.0310 414,293.7190 414,135.9690 414,001.2500	4,020,257.5078 4,020,502.5137 4,020,500.8262 4,020,432.0313 4,020,338.7207 4,020,279.6660 4,020,257.5078		S4	0.15	Study	422006.2810 421836.9380 421548.9690 417410.5630 417398.8440 417387.4380 417377.4060	4030500.0156 4030271.0234 4029833.7383 4023845.5176 4023845.8750 4023846.9883 4023848.7207
D23	0.29	SDCA	409,535.8130 409,534.9380 409,428.5630 409,274.7500 409,200.4380 409,208.0310 409,445.7810 409,445.7810 409,445.4060 409,576.6880 410,016.9060 410,025.1560 409,535.8130	4,018,994.6445 4,019,112.7676 4,019,250.0898 4,019,253.1973 4,019,259.9512 4,019,355.6914 4,019,372.8008 4,019,902.2852 4,019,983.3887 4,020,126.1250 4,020,278.1445 4,019,002.0527 4,018,994.6445					417367.8440 417358.9380 417350.9380 417350.9380 417343.0940 417327.4690 417319.6880 417319.6880 417319.6940 417293.6560 417286.2810 417286.2810 417276.9060 417273.1560 417276.9060 417276.9060 417276.9000 417265.5000	4023851.0527 4023853.9434 4023857.4238 4023861.6250 4023861.6250 4023872.8066 4023872.8066 4023879.7500 4023899.1680 40238910.1230 4023921.5137 4023930.6543 4023939.6543 4023949.9414 402397.55664 4023992.3125

Area ID	Area (miles)	Area type	Coordinates(UTM Zor X-coordinates	e11 meters NAD83) Y-coordinates		Area ID	Area (miles_)	Area type	Coordinates(UTM Zor X-coordinates	ne11 meters NAD83) Y-coordinates
64	0.45	C	447 057 5000	4 024 020 1010	│	64	0.45	Qu	417700 0050	4024442 4000
54 continued	0.15	Study	417,257.5630	4,024,036,4043		54 continued	0.15	Study	417723.6250	4024112.4082
continueu			417 254 3440	4,024,033.0898		continueu			417710.6880	4024104 8281
			417,253,3440	4.024.112.0410					417693,1880	4024092.0859
			417,253.6880	4,024,135.3887					417683.1250	4024084.1797
			417,256.4690	4,024,211.2207					417674.4380	4024076.5137
			417,258.9380	4,024,248.6602					417667.2810	4024069.1191
			417,260.8130	4,024,266.7930					417661.4690	4024061.8086
			417,266.0630	4,024,299.1426					417657.0630	4024054.5488
			417,274,6560	4.024.330.5859					417652.5000	4024040.8516
			417,281.5940	4,024,349.5684					417647.9060	4024009.5918
			417,289.7810	4,024,368.9414					417646.3750	4024002.8047
			417,298.0630	4,024,386.4863					417644.5940	4023996.9746
			417,306.2810	4,024,401.4785					417640.7500	4023988.9395
			417,314.9690	4,024,415.0508					417630.3750	4023980.8088
			417,333.2500	4,024,437.8730					417623.6560	4023965.2930
			417,341.8130	4,024,446.3809					417617.2810	4023958.7949
			417,362.2810	4,024,463.6328					417609.9690	4023952.3184
			417,374.6880	4,024,472.7871					417601.7810	4023945.7832
			417,391.6880	4,024,484.4727					417592.6250	4023939.0781
			417,438,9380	4.024.515.1504					417540.5940	4023927.0041
			417,454.8440	4,024,524.5742					417526.8440	4023897.4316
			417,469.5000	4,024,532.6895					417515.0940	4023889.3320
			417,483.8130	4,024,540.1250					417487.6880	4023868.7949
			417,497.9690	4,024,546.9180					417472.0940	4023858.9844
			417,525.0310	4,024,558.3184					417463.6560	4023854.8926
			417,550,9690	4.024.567.0371					417444.7810	4023849.1504
			417,565.6880	4,024,571.1504					417433.6250	4023847.1348
			417,595.7190	4,024,578.3379					417422.1560	4023845.9258
			417,644.3750	4,024,588.4512					417410.5630	4023845.5176
			417,671.1560	4,024,593.2676		C1	0.21	Channel	411145 0290	4022140 5117
			417,699.5630	4,024,597.4395		CI	0.21	Channel	411145.9380 410989.3130	4022140.5117 4022252 0020
			417,763.4060	4,024,604.2285					410994.2500	4022416.6367
			417,801.4380	4,024,607.2109					411126.7810	4022795.5957
			417,876.5000	4,024,612.3184					411582.4060	4023006.9551
			417,885.9690	4,024,613.4160					411784.7500	4023306.3613
			417,900.1880	4,024,617.6074					411737 1560	4023465.2520
			417,966.3750	4,024,632.8535					411915.1560	4023883.7793
			417,976.4690	4,024,634.2813					411983.4060	4023714.6152
			417,984.4060	4,024,634.8398					412117.6560	4023538.0977
			417,991.7190	4,024,634.7266					411792.0630	4023094.1152
			418.004.0310	4.024.632.4531					411748.7190	4022994.3965
			418,009.1560	4,024,630.2891					411643.6250	4022726.7266
			418,013.8130	4,024,627.4102					411641.6880	4022435.3887
			418,017.8750	4,024,623.8594					411419.2190	4022347.2383
			418,021.4380	4,024,619.5566					411284.5000 411145 9380	4022318.9453 4022140 5117
			418.032.4060	4.024.597.6895					411140.0000	4022140.0117
			418,034.6560	4,024,589.4512		C2	0.30	Channel	409201.5000	4019370.5664
			418,035.8750	4,024,580.7773					409173.3130	4019532.8418
			418,035.6560	4,024,570.7617					409115.7190	4019657.4395
			418,034.0630	4,024,559.9766					409058.5940	4019813.5703
			418,026.3750	4,024,535.4473					409098.6560	4019944.7520
			418,020.4690	4,024,521.3984					409192.5940	4020079.2344
			418,000.5310	4,024,478.6465					409223.5310	4020182.5996
			417,984.5630	4,024,435.9668					409280.3750	4020086.8984
			417,970.9060	4,024,402.7227					409276.4690	4020023.0879
			417,957.8130	4,024,373.8125					409352.7190	4020011.6758
			417,931.2500	4,024,320.3027					409409.3130	4020065.3262
			417,918.0940	4,024,295.7734					409487.8750	4020143.3594
			417,880.1250	4,024,228.6719					409998.1880	4020801.4746
			417,859.5000	4,024,190.0117					410027.7500	4021036.2715
			417,854.1250	4,0∠4,181.01/6 4 024 173 2773					410109.2810	4021484.2578 4021494 7188
			417,843.6250	4,024,166.4160					410242.0940	4021502.6836
			417,838.3130	4,024,160.3535					410335.4060	4021518.5000
			417,832.0940	4,024,154.4258					410438.7190	4021533.8438
			417,825.1250	4,024,149.1992					410529.8750	4021556.1816
			417,816.9690	4,024,144.4160 4 024 140 0762					410/12.0940	4021583.1074 4021411 3418
			417,799.1250	4,024,136.8242					410686.8440	4021328.9805
			417,789.4690	4,024,133.5957					410488.7190	4020946.7344
			417,744.3750	4,024,120.6641					410264.6250	4020620.0820
1	I	1	417,733.3130	4,024,116.6641	1 I			1	410015.6880	4020454.4902

Area type Coordinates(UTM Zone11 meters NAD83) X-coordinates Y-coordinates

EXHIBIT 2 -- Owens Lake 2006 Supplemental Dust Control Area Coordinate Descriptions

Area ID Area (miles)

Area ID	Area	Area type	Coordinates(UTM Zone11 meters NAD83)						
	(miles)		X-coordinates	Y-coordinates					
C2 continued	0.30	Channel	410,016.9060 409,576.6880 409,445.4060 409,435.7810 409,208.0310 409,201.5000	4,020,278.1445 4,020,126.1250 4,019,983.3887 4,019,902.2852 4,019,472.8008 4,019,370.5664					

Total SDCA	12.77
Total Study	1.85
Total Channel	0.50

EXHIBIT 3 -- DUST CONTROL MEASURE MAP

Shown are dust control measures assigned to areas within the SDCA.



EXHIBIT 4 -- DUST CONTROL MEASURE DESCRIPTIONS

Brief descriptions of dust control measures for use on Owens Lake are given below. More detailed descriptions of the three BACM approved dust control methods (shallow flooding, managed vegetation and gravel) are provided in the 2003 SIP. Modifications to these measures as provided in the Settlement Agreement (Agreement) are noted. All references are to sections of the Agreement; section numbers of the Agreement are contained in square brackets.

Shallow Flooding

The "shallow flooding" (SF) dust control measure involves wetting emissive lake bed surfaces to reduce dust emissions. Performance specifications and a detailed description of the SF measure are provided in the 2003 SIP for achieving 99 percent PM_{10} control efficiency. Otherwise, water shall be applied in amounts sufficient to achieve the required wetness cover as specified in Sections 3 through 5, 25, 26, and 27, or as modified under the provisions of Sections 5, 14, 15, 18, and 29. Satellite imagery, aerial photography or other methods approved by the APCO under the provisions of Section 29 are used to measure wetness cover for compliance.

Managed Vegetation

The "managed vegetation" (MV) dust control measure involves establishing a plant cover on emissive lake bed surfaces to protect them from the wind, thereby reducing dust emissions. Performance specifications and a detailed description of the MV control measure are provided in the 2003 SIP for achieving 99 percent PM_{10} control efficiency. Vegetative cover on the MV site present on the lake bed on January 1, 2007 shall be as specified in Section 6. The performance specification of MV may be modified under the provisions of Section 29. Point-frame measurements satellite imagery or other methods approved by the APCO under the provisions of Section 29 are used to measure plant cover for compliance.

Gravel Cover

The "gravel cover" (GC) dust control measure involves placing a layer of gravel on emissive lake bed surfaces to protect them from the wind, thereby reducing dust emissions. Performance specifications are described in the 2003 SIP.

Moat and Row

The general form of the "moat and row" (MR) measure is an array (see Figure E4-1) of earthen berms (rows) about 5 feet high with sloping sides, flanked on either side by ditches (moats) about 4 feet deep (see Figure E4-2). Moats serve to capture moving soil particles, and rows physically shelter the downwind lake bed from the wind. The individual MR elements are constructed in a serpentine layout across the lake bed surface, generally parallel to one another, and spaced at variable intervals, so as to minimize the fetch between rows along the predominant wind directions. The serpentine layout of the MR array is intended to control emissions under the full range of principal wind directions (see Figure E4-1). Initial pre-test

modeling indicates that MR elements' spacing will generally vary from 250 to 1000 feet, depending on the surface soil type and the PM_{10} control effectiveness required on the MR area.

The PM_{10} control effectiveness of MR may be enhanced by combining it with other dust control methods such as vegetation, water, gravel, sand fences, or the addition of other features that enhance sand capture and sheltering or directly protect the lake bed surface from wind erosion. The effectiveness of the array can also be increased by adding moats and rows to the array, which reduces the distance between rows.

The final form of MR will largely be determined from the results of testing on the lake bed as provided in Sections 7 and 8. Final design is subject to test results, required PM_{10} control effectiveness, environmental documentation and permitting, engineering, and monitoring considerations.

In areas where MR is used as a control measure, the City shall implement the measure in a manner consistent with the Agreement, particularly Sections 7 and 8, or as modified by actions pursuant to Sections 18 through 24.



Figure E4-1. Moat and Row Array Plan View (schematic).



Figure E4-2. Profile of Moat and Row with Approximate Dimensions (schematic).

EXHIBIT 5 -- TDCA MINIMUM DUST CONTROL EFFICIENCY MAP

Shown are MDCEs calculated according to Sections 3 and 4 of the agreement.



EXHIBIT 6 -- MDCE SELECTION PROCESS

This exhibit summarizes the purpose of the MDCE Selection Process Spreadsheet. A copy of the Process Spreadsheet, which contains a description of the spreadsheet structure and operation, may be downloaded from the District's website at <u>http://www.gbuapcd.org/</u>.

The District developed the Dust ID Model as a tool for identifying dust control areas on the lake bed. The Dust ID Model computes the amount of dust being generated from each source area on the lake bed, but the results cannot be used without additional processing to identify the acceptable combinations of dust control required on each source area (that is, each area's minimum dust control efficiency or "MDCE") to achieve the federal 24-hour PM_{10} standard along the shoreline. There are many possible combinations of MDCEs that could produce the acceptable result of achieving the standard at the shoreline. For example, 50 percent control on hypothetical Area 1 and 99 percent control on Area 2 may produce the same modeled shoreline concentration as 99 percent control on Area 1 and 50 percent control on Area 2. However, the first combination might be more practical and less costly than the second, and for that reason it is important to have a process that can quickly and efficiently identify acceptable combinations. In all cases, the outcome of this process is some combination of area-by-area dust control efficiencies that produces a modeled attainment of the federal PM_{10} standard everywhere along the shoreline.

The process for selecting the acceptable combinations of dust control levels has been, heretofore, a manual process. The MDCE Selection Process Spreadsheet (Process Spreadsheet) was developed to more quickly and efficiently identify combinations of dust controls required to produce compliance with the federal 24-hour PM_{10} standard along the shoreline. The worksheet is set up so that MDCE calculations are automatic, yet it still allows manual adjustments to be made.



EXHIBIT 7 -- SHALLOW FLOOD CONTROL EFFICIENCY CURVE

EXHIBIT 8 -- MOAT AND ROW DEMONSTRATION PROJECT LOCATION MAP

Two proposed moat and row demonstration project locations



EXHIBIT 9 -- STUDY AREA MAP

Four proposed study area locations



EXHIBIT 10 -- SCHEDULE OF CONTINGENCY MEASURES

Issue	Resolution	Duration	Units
Moat and Row			
Eroded row	Install armoring to prevent further erosion	2	mo/mile
	Install sand fences to prevent further erosion	1	mo/mile
	Reconstruct row in place or adjacent	2	mo/mile
	Re-excavate new moat outboard of filled moat, expand existing		
Filled moat	row onto filled moat	2	mo/mile
Filled sand fence	Clean out or flank with new sand fences	2	mo/mile
Collapsed sand fence	Repair or flank with new sand fences	1	mo/mile
Spacing too large	Pull in intervening sand fence	1	mo/mile
	Add intervening moat and row	3	mo/mile
	Enhance with vegetation and/or wetness	12 to 36	months
	Soil roughening	1 to 3	months/sq mi
	Conversion to reduced BACM/BACM	See Exhibit 11	
Managed Vegetation			
Emissions from bare areas	Enhance/restore vegetation	36	months
	Stabilize by other means (e.g., moisture, sand fences)	1 to 6	months/sq mi
Emissions from vegetated areas	Determine and establish necessary cover	36	months
	Stabilize by other means (e.g., moisture, sand fences)	1 to 6	months/sq mi
Gravel Patches			
Infilling pore spaces	Supplement gravel depth	4	months/sq mi
	Stabilize by other means (e.g., vegetation, wetness, sand fences)	6 to 36	months
Shallow Flood			
Emissions from dry areas (insufficient			
uniformity of wetting)	Wet dry areas. May require land leveling and/or additional laterals.	12	months
Generally too dry	Increase water application rate relative to ET	1	month
Other features			
Gravel source	Open new or re-open existing quarry	4	months
Emissions from roads, berms, etc.	Increase watering frequency	1	month
	Stabilize by other means (e.g., gravel, stabilizing agents)	1 to 4	months/sq mi

EXHIBIT 11 -- MOAT AND ROW TRANSITION SCHEDULE

Activity	Duration (years)
Shallow flood transition from moat & row	1.9
Managed vegetation transition from moat & row	5.9
Gravel cover transition from moat & row	1.8
Mutually agreeable exceptions:	Increase over and above durations listed above (years)
1. Mainline capacity increase	2.1
2. New aqueduct turnout	1.4
3. New power feed	1.0

EXHIBIT 12 -- DCM OPERATION SCHEDULE

Activity	Duration (years)					
New area shallow flood DCM ^a	2.9					
New area managed vegetation DCM ^a	6.1					
New area gravel cover DCM ^a	2.2					
Mutually agreeable exceptions:	Increase over and above durations listed above (years)					
1. Mainline capacity increase	2.1					
2. New aqueduct turnout	1.4					
3. New power feed	1.0					
4. Expanded CEQA triggered	1.4					
^a Assumes that total new area <2 square miles per year						

EXHIBIT 13. DEFINITIONS

- A. "Background PM_{10} concentration" shall mean the concentration of PM_{10} caused by sources other than from wind blown dust emanating from the Owens Lake bed. For the purpose of modeling air quality impacts, the background concentration is assumed to be 20 µg/m³ (micrograms per cubic meter) during every hour at all receptor locations. The monitored and modeled PM_{10} emissions from the Keeler Dunes, which are located off the lake bed are treated as a separate dust source area and are not included in the background concentration.
- B. "Best Available Control Measures" or "BACM" shall have the same definition as in the federal Clean Air Act. Approved BACM in the 2003 SIP was associated with PM₁₀ emission reductions of at least 99 percent and includes managed vegetation, shallow flood, and gravel cover.
- C. "Contingency measures" shall mean dust control measures or modifications to the dust control measures that can be implemented to mitigate dust source areas that cause or contribute to an exceedance of the federal standard at the historic shoreline in the event that a previously approved control strategy was found to be insufficient.
- D. "Control Area" shall mean an area on the lake bed for which dust control is required.
- E. "Control efficiency" shall mean the relative reduction or percent reduction in PM_{10} emissions resulting from the implementation of a control measure compared to the uncontrolled emissions.
- F. "Control measures" shall mean measures effective in reducing the PM_{10} emissions from the lakebed surface over which they are implemented.
- G. "Dust control measure" or "DCM" shall mean measures designed to suppress sand motion and reduce dust emissions from the Owens Lake bed.
- H. "Dust ID Model" shall mean a computer-based air quality modeling approach developed as part of the 2003 SIP to identify emissive areas on the Owens Lake bed and to estimate the resulting PM₁₀ concentrations at the shoreline. See also "Dust ID Program."
- I. "Dust ID Program" shall mean a long-term monitoring and modeling program that is used to identify dust source areas at Owens Lake that cause or contribute to exceedances and violations of the federal PM_{10} standard. The current protocol for conducting the Dust ID Program is

included in the 2003 SIP (Exhibit 2 – Attachment 4). See also "Dust ID Model."

- J. "Emission rate" shall mean the rate (expressed as mass per unit area per unit time) at which an air constituent (PM_{10} , for example) is transported away from the surface of the lake bed.
- K. "Exceedance of the federal standard" or "exceedance" shall mean any single-day PM_{10} concentration that is monitored or modeled to be above 150 μ g/m³ (24-hour average from midnight to midnight) at any location at or above the historic shoreline.
- L. "Historic shoreline" or "shoreline" shall mean the elevation contour line of 3,600 feet above mean sea level at Owens Lake, California.
- M. "Lake bed" or "Owens Lake bed" or "playa" shall mean the exposed surface within and below the historic shoreline.
- N. "Managed Vegetation" is a Dust Control Measure consisting of lakebed surfaces planted with protective vegetation.
- O. "May not lawfully be included in the SIP" shall mean that inclusion of the provision in question in the revisions to the 2003 SIP has been determined by binding judicial order to be unlawful.
- P. "MCDE-BACM" shall mean Dust Control Measures that achieve Minimum Dust Control Efficiency and are found to be appropriate for the area of application.
- Q. "Minimum Dust Control Efficiency" or "MDCE" shall mean the lowest dust control efficiency, as determined by the Dust ID model, in the Supplemental Dust Control Area necessary to meet the federal standard at the historic shoreline.
- R. "Moat and Row" shall mean a Dust Control Measure consisting of arrays of sand breaks that arrest sand motion.
- S. "PM₁₀" or "particulate matter" shall mean atmospheric particulate matter less than 10 micrometers in nominal aerodynamic diameter.
- T. " PM_{10} monitor" shall mean an instrument used to detect the concentrations of PM_{10} in the air.
- U. "Sand flux monitor" shall mean a device used to measure the amount and/or rate of moving or saltating sand and sand-sized particles caused by wind erosion.

- V. "Shallow Flood" is a Dust Control Measure consisting of lakebed areas wetted to a specified proportion of surface coverage.
- W. "2003 SIP" or "2003 Owens Valley PM₁₀ State Implementation Plan" shall mean the Owens Valley PM₁₀ Planning Area Demonstration of Attainment State Implementation Plan 2003 Revision Adopted November 13, 2003.
- X. "Supplemental Control Requirements" or "SCR" shall mean Dust Control Measures required by the District on areas outside of the DCA that cause or contribute to an exceedance of the federal PM₁₀ standard at the historic shoreline of Owens Lake.

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