Date: July 26, 2013

To: Mediation/Temporary Arbitration Panel

From: County of Inyo

Subject: The County of Inyo's Opening Brief Concerning Conditions in Vegetation Parcel Blackrock 94.

In accordance with the provisions of Section XXVI of the Inyo County/Los Angeles Long Term Water Agreement, the County of Inyo notified the Inyo County/Los Angeles Standing Committee that the County had submitted a dispute over vegetation parcel Blackrock 94 to mediation/temporary arbitration. By a revised stipulation signed on July 11, 2013, the parties to the dispute agreed that each party would submit its opening brief to the Mediation/Temporary Arbitration Panel by July 26, 2013. This document is the County's opening brief.

I. INTRODUCTION

The City of Los Angeles (City), through its Department of Water and Power (LADWP), has exported water from the County of Inyo (County) since 1913, when it built its first aqueduct from the Owens Valley to Los Angeles. In 1972, the City completed a second aqueduct and commenced increased groundwater pumping from the Owens Valley and other water gathering activities in the Eastern Sierra in order to fully utilize the second aqueduct and increase its water exports to the City. These activities led to a series of lawsuits between the County and the City. The County sued the City for failure to prepare appropriate environmental documentation for its increased exportation of water. The County also adopted an ordinance by which it exercised its police power to regulate the extraction of groundwater by the LADWP. This later action resulted in Los Angeles suing the County challenging its power to regulate the LADWP's groundwater pumping from the Owens Valley.

In 1991, the City and County agreed to resolve the litigation between them through the adoption of a Long Term Water Agreement (LTWA or Agreement). The overall goal as provided in Section III of the LTWA is:

> *The overall goal of managing the water resources within Inyo County is to avoid certain described decreases and changes in vegetation and to cause no significant effect on the environment which cannot be acceptably mitigated while providing a reliable supply of water for export to Los Angeles and for use in Inyo County.*

The technical appendix to the LTWA is called the Green Book which further defined the meaning of the overall goal (Section I.A, p.1):

> *This means that groundwater pumping and changes in surface water management practices will be managed with the goal of avoiding significant decreases and changes in Owens Valley vegetation from conditions documented in 1984 to 1987, and of avoiding other significant environmental impacts.*

For management purposes, the Agreement classifies vegetation of the Owens Valley floor into five management types classified as A, B, C, D, and E (Green Book Sec. I.A.). Type A parcels are non-groundwater dependent; Type B communities are groundwater dependent shrub-dominated communities; Type C communities are groundwater dependent grass-dominated communities; Type D parcels are riparian communities; and Type E parcels are irrigated lands. Blackrock 94 is a Type C parcel. The goal is to manage groundwater pumping and surface water management practices so as to avoid causing significant decreases in live vegetation cover, and to avoid causing a significant amount of vegetation comprising either the Type B, C, or D classification to change to vegetation in a classification type which precedes it alphabetically (for example, Type D changing to either Type C, B, or A vegetation) (LTWA Sec. IV.A).

The LTWA is a stipulated order for judgment entered by the Inyo County Superior Court. Impacts of LADWP's water gathering activities from 1970 to 1990 and the anticipated impacts that would occur under the LTWA were addressed in an Environmental Impact Report that was adopted in 1991 by the parties (1991 EIR). Pursuant to the stipulated order, the court retained jurisdiction over the matter. The LTWA provides that the Inyo County Los Angeles Technical Group (Technical Group) and the Inyo County/Los Angeles Standing Committee (Standing Committee) will administer the provisions of the Agreement. The LTWA includes an enforcement mechanism – the dispute resolution process - by which a party may enforce the obligations of the other party to the agreement. The dispute resolution

procedures are specifically listed as one of the methods that will be used to achieve the vegetation goals of the LTWA.

On February 3, 2011, the County presented evidence to the Inyo County Los Angeles Technical Group that the LADWP's groundwater pumping and reduced surface water diversion had caused a significant change and a significant decrease in vegetation in an area of the Owens Valley designated in the LTWA as vegetation parcel Blackrock 94. LTWA Section IV.B (Attachment 1) and related Green Book Section I.C (Attachment 2) establish the framework for the Technical Group to determine whether a significant impact has occurred due to LADWP's water management activities. To find that an impact is significant, the Technical Group must make three determinations: (1) that a measurable change has occurred, (2) that the change is due to groundwater pumping or changes in surface water practices, and (3) that the change is significant. The County requested, , that the Technical Group find, based on the County's report, that both the vegetation change and the vegetation decrease in Blackrock 94 are significant and begin preparation of a mitigation plan as required by the LTWA.

During the following year, the County unsuccessfully attempted to resolve this issue through the Technical Group. Because of the inability of the Technical Group to resolve the issue, by letter dated May 1, 2012 the County formally commenced the dispute resolution process by submitting a "Request for Resolution" to the Technical Group which requested the Technical Group to resolve the issues involving vegetation parcel Blackrock 94. (A copy of the County's request to the Technical Group is Attachment 3.) At the Technical Group meeting concerning the County's request, LADWP raised certain additional issues related to Blackrock 94. The Technical Group was unable to resolve the issues and the dispute resolution process was moved to the Inyo County/Los Angeles Standing Committee by the submission of written reports explaining the issues. (A copy of the County's request to the Standing Committee is Attachment 4.) At its September 26, 2012 meeting, the Standing Committee was unable to resolve the County of Inyo's request for a resolution of issues concerning vegetation parcel Blackrock 94.

In the months following the Standing Committee meeting, further attempts to resolve the dispute were unsuccessful. The LTWA provides that if the Standing Committee is unable to resolve a dispute within 21 days after submission of the dispute to the Standing Committee, a party may submit the dispute for mediation/temporary arbitration. On April 26, 2013, the County notified the LADWP of its intent to seek mediation/temporary arbitration. Subsequently, by revised stipulation signed on July 11, 2013, the

parties agreed to submit the County's issue and LADWP's issues to mediation/temporary arbitration and agreed upon a briefing schedule. (A copy of the revised stipulation is provided in Attachment 5.)

This matter has been submitted to mediation/temporary arbitration because the Technical Group and the Standing Committee have not resolved the dispute and the damage to the environment at Blackrock 94 continues. LADWP has not refuted the substantial scientific evidence presented by the County that shows a significant decrease and change in vegetation conditions at Blackrock 94 is attributable to LADWP's groundwater pumping and changes in surface water diversions and has used procedural arguments to delay and attempt to avoid resolution of the matter. Under the LTWA, LADWP may not refuse to engage with the County on the merits of this issue, and thereby thwart the County's ability to implement provisions of the LTWA.

As is set forth below, the County has provided substantial evidence to demonstrate that a measurable, significant negative change to the environment at Blackrock 94 has resulted from LADWP's groundwater pumping and reductions in surface water diversions in the area. The Technical Group should be directed to prepare a mitigation plan as required by the LTWA.

II. MATTERS BEFORE THE MEDIATION/ARBITRATION PANEL

As set forth in the revised stipulation (Attachment 5), the requests submitted for mediation/temporary arbitration by the County and LADWP are:

The County's request:

> The County requests a determination by the mediators/temporary arbitrators that LADWP's groundwater pumping and reductions in surface water diversions in the Blackrock 94 area have caused a measurable and significant change in the vegetation conditions in violation of the provisions of the LTWA. The County further requests the Panel to order that, as required by Section IV.A of the Water Agreement, reasonable and feasible mitigation of this significant impact be commenced within twelve (12) months of the determination by the mediators/temporary arbitrators that a significant effect on the environment has occurred at Blackrock 94.

The requests by LADWP:

a. With regard to the County's determination that there has been a measurable change in the environment at Blackrock 94, LADWP requests that the mediators/temporary arbitrators find that the County did not follow and conform to all the required rules, procedures and protocols in the Water Agreement, Green Book and 1991 EIR when it performed the vegetation monitoring, vegetation data collection, vegetation analysis (including the selection of analytical methods, assumptions made, and inputs used when conducting an analysis) and, therefore, the mediators/temporary arbitrators are unable to find that there has been a measurable change in the environment at Blackrock 94.

and/or

b. With regard to the County's determinations that a measurable, attributable, and significant effect has occurred at Blackrock 94, LADWP requests that the mediators/temporary arbitrators find that County did not follow and conform to required rules, procedures and protocols of the Water Agreement, Green Book, and 1991 EIR and, therefore, the mediators/temporary arbitrators are unable to find that a measurable, attributable and significant effect has occurred at Blackrock 94.

III. ORIGIN AND HISTORY OF ISSUE

The question of whether there has been a significant change or decrease in vegetation in Blackrock 94 and thus a violation of the vegetation management provisions of the LTWA originated in July 2007 from two requests by the Bristlecone Chapter of the California Native Plant Society (CNPS) for the Technical Group[1] and the Standing Committee[2] to address groundwater pumping impacts resulting from the operation of two LADWP wells that are the sole source of water supply for the California Department of Fish and Wildlife's Black Rock Fish Hatchery (Attachments 6 and 7). In its requests, CNPS concluded that

[1] The Technical Group consists of LADWP and County staff that meet to resolve technical issues that arise in implementing the LTWA.
[2] The Standing Committee consists of County and City policy makers, who meet to address policy concerns that arise in implementing the LTWA.

"[T]*he single biggest obstacle to compliance with the LTWA's model for impact avoidance is pumping from exempt wells 351 and 356*" and that "[R]*educing pumping from the* [Thibaut-Sawmill] *wellfield to 8,000 af/yr from wells 351 and 356 could allow rapid water table recovery…*"

LADWP prepared a draft letter in response to the CNPS which LADWP proposed be jointly signed by LADWP and the County. The letter stated that "[T]*he issues associated with pumping for the Blackrock Hatchery were discussed in detail in the* [1991] *EIR, and a mitigation measure was brought forward that compensated for the impacts*" (Attachment 8). The County disagreed that the impact identified in the CNPS letter was mitigated by a measure in the 1991 EIR and LADWP's proposed letter was not sent. It should be noted that LADWP's proposal that CNPS's concerns be addressed without any analysis of the issue by the Technical Group is inconsistent with LADWP's contention discussed below that the Technical Group must act jointly. In contrast to LADWP's proposal, in a June 19, 2009 letter to LADWP, the County notified LADWP (Attachment 9) that the County believed that the question should be addressed through the LTWA process for evaluating whether a significant impact to vegetation had occurred:

> *We believe that the issues raised by the CNPS letter merit Technical Group evaluation, and that the Long-Term Water Agreement requires that the evaluation be conducted by the Technical Group through the process outlined in Section IV.B.*

By letter dated October 13, 2009, LADWP agreed that the Technical Group should conduct an evaluation of whether a significant effect had occurred by stating:

> *LADWP assents to your request that the Technical Group conduct an evaluation of the Blackrock Wellfield Management Area and to determine if a new significant effect on the environment, which was not considered under the 1991 EIR, may have occurred as determined by the procedure prescribed under Water Agreement Section IV.B.*

Subsequently, at the October 18, 2010 Technical Group meeting, LADWP and the County agreed that the County would prepare an analysis of whether a significant effect had occurred in the Blackrock 94 parcel and submit it to the Technical Group for consideration. The LTWA requires the Technical Group to develop a mitigation plan if there has been a change or decrease in vegetation conditions that is measurable, attributable to LADWP's water gathering operations, and significant. As proposed in LADWP's October 13, 2009 letter, the County Water Department undertook the three step significance analysis that is outlined in Agreement Section. IV.B and reported on its progress on the analysis at

subsequent Technical Group and Standing Committee meetings. At no time while the County was conducting the analysis, did LADWP request to participate or assist with the analysis. On February 3, 2011, the County presented the analysis to the Technical Group (Attachment 10). The analysis concluded that:

> *The* [County] *Water Department has evaluated conditions in vegetation parcel Blackrock 94 in accordance with the LTWA Section IV.B and Green Book Section I.C. Available factual and scientific data indicate a measurable vegetation change since baseline has occurred in Blackrock 94, both in terms of vegetation cover and species composition. These changes occurred between baseline and 1991 and have persisted in time. Vegetation composition has changed toward increasing shrub proportion and a decrease in grass cover. While the proportion of shrubs in Blackrock 94 has not yet caused the parcel to change from Type C to Type B vegetation status, changes in species composition suggest a change in Type is occurring. Parcel Blackrock 94 is currently Type C, but is changing to Type B. Vegetation degradation is primarily attributable to changes in water availability resulting from groundwater pumping and reduced surface water diversions into the vicinity of Blackrock 94. The factors prescribed in the LTWA and Green Book for assessing the significance of an impact were evaluated and indicate that a significant change is occurring in Blackrock 94. The terms of the LTWA require that such impacts be avoided or mitigated.*

Two months after the County presented its analysis to the Technical Group showing a significant impact to vegetation in Blackrock 94 caused by LADWP's groundwater pumping, in April, 2011, LADWP presented the County with its annual groundwater pumping plan for the upcoming water year. In that plan, LADWP proposed to increase groundwater pumping in the vicinity of Blackrock 94 by 4,000 acre feet over the amount pumped the previous year, an amount that would exacerbate the already existing significant vegetation impacts in the area. The County challenged the amount of the planned groundwater pumping in the Blackrock 94 area through dispute resolution. Ultimately, LADWP agreed to reduce planned groundwater pumping to the minimum necessary to supply the Blackrock Fish Hatchery; however, the dispute proceeded to arbitration on procedural issues, which resulted in an arbitrated finding that the provisions of LTWA Section IV.B for determining significance apply to determinations of whether annual operations plans are consistent with the LTWA.

Seven months after the report was presented by the County to the Technical Group, on September 6, 2011 (Attachment 11), LADWP partially responded by stating that LADWP staff "*still have many questions*" and that LADWP "*will likely have more comments*" and that the letter presents "*our initial thoughts.*" In addition, LADWP stated that they "*disagree with the conclusion that there has been a measureable change in the vegetation from the initial vegetation inventory, as well as the data collection methodology and analyses performed to arrive at ICWD's findings.*" LADWP's response did not address the issues of whether the changed conditions were attributable to LADWP's actions or whether the changes and decreases in vegetation were significant. Inyo County subsequently addressed the contentions made in LADWP's response (Attachment 12).

More than a year after the County submitted its analysis to LADWP, in an April 9, 2012 letter to the County (Attachment 13), LADWP changed its position that there was no measureable change or decrease in vegetation conditions by admitting that *"…there are years where both the data collected by LADWP and the ICWD* [Inyo County Water Department] *suggest that there are measurable differences in total cover from the initial inventory.*" Prior to its April 9, 2012 letter, LADWP had not notified the Technical Group it was conducting an analysis nor did it involve the County in the design and content of its analysis. Although LADWP admitted that data collected and analyzed by both LADWP and the County showed that there had been a measurable change in vegetation conditions at Blackrock 94, LADWP stated that it would only move forward to assess whether the change is attributable to LADWP's water gathering activities and whether the change is significant if the Technical Group accepted LADWP's data and analyses and rejected the County's data and analysis. At the April 20, 2012 Technical Group meeting, the County rejected LADWP's proposal.

The obligations of LADWP and the County for determining whether a significant impact has occurred due to LADWP's water management activities and whether a mitigation plan should be prepared were addressed in the decision by the arbitration panel in the dispute between the County and LADWP concerning what procedures should be employed to determine whether an annual operations plan is consistent with the LTWA. The panel found that the three part measurability, attributability, and significance analysis should be employed to assess annual operations plans and noted on page 10 of its decision dated February 13, 2012 (Attachment 14):

> *Every contract imposes on each party duty of good faith and fair dealing in its performance and enforcement.*

Further, in applying the covenant of good faith and fair dealing to the obligations of LADWP and the County for determining whether a change or decrease in vegetation is significant under LTWA Section IV.B and Green Book Section I.C, on page 11, the Arbitration Decision states:

> *…the Technical Group must apply the Significance-Mitigation Determination process in an expeditious fashion to allow cooperative resolution or dispute resolution timely.*

LADWP actions with regard to the issue of significance at Blackrock 94 have prevented the issue from being resolved in an "expeditious fashion."

IV. THE COUNTY'S EVALUATION OF VEGETATION CHANGE IN PARCEL BLACKROCK 94 WAS CONDUCTED ACCORDING TO THE RULES, PROCEDURES, AND PROTOCOLS OF THE LTWA AND THE GREEN BOOK. THE EVALUATION SHOWS THAT THERE HAS BEEN AND CONTINUES TO BE AN ONGOING, WORSENING, SIGNIFICANT VEGETATION IMPACT IN PARCEL BLACKROCK 94 , THAT IS MEASURABLE AND ATTRIBUTABLE TO LADWP'S WATER GATHERING ACTIVITIES.

LTWA Section IV.B (Attachment 1) and related Green Book Section I.C (Attachment 2) establish the framework for the Technical Group to determine whether a significant impact has occurred due to LADWP's water management activities. To find that an impact is significant, the Technical Group must make three determinations: (1) that a measurable change has occurred, (2) that the change is due to groundwater pumping or changes in surface water practices, and (3) that the change is significant.

For determining measurability, the standard set by the Green Book (Attachment 2) is that a "*determination of measurability will be made if any of the relevant factors considered indicate even a small documentable change in vegetation cover or composition has occurred.*" The Green Book further provides a quantitative standard for assessing vegetation changes and decreases based upon an inventory of vegetation conditions in the Owens Valley which was conducted between 1984 and 1987. The Green Book states: "*The 1984-87 inventory shall be used as a 'baseline' to determine whether vegetation cover and/or species composition has changed*." Concerning attributability of a change to water management activities, under LTWA Section IV.B (Attachment 1), a change is considered attributable "*if the decrease, change, or effect would not have occurred but for groundwater pumping and/or a change in past surface water management practices.*" To determine the significance of a

change, the LTWA and Green Book provide a number of factors for the Technical Group to consider. In developing its report on conditions in Blackrock 94, the County followed the framework, guidance, and standards set out in the LTWA and Green Book and submitted the results to the Technical Group for consideration

The County's February 2, 2011 report describing the analysis of the conditions at Blackrock 94 and the results of the analysis (Attachment 10) presents multiple lines of substantial evidence that show a measurable change to the Blackrock 94 management area, that the change is attributable to LADWP's groundwater pumping operations, and that the change is significant. The following summarizes the County's analysis and findings.

Measurability. The Green Book (Section I.C.1.a., see Attachment 2) requires that the Technical Group consider all relevant factors and lists several factors and analyses that are relevant to assess whether a measurable change to the environment *has occurred or is occurring* (emphasis added). The Green Book standard is that a determination of measurability will be made if any of the relevant factors considered document even a small change in vegetation.

Multiple sets of relevant data were examined by the County to assess whether a measurable change or decrease in vegetation has occurred or is occurring in Blackrock 94. Four datasets of differing complexity and scale were examined: (1) photos of permanent transects documenting vegetation change, (2) annual measurements of vegetation cover and composition at permanent transects, (3) annual measurements conducted by the County of vegetation cover and composition measured throughout the parcel using randomly located transects (the Technical Group and LADWP staff acknowledged in 1992 that the monitoring results collected by the County would be used to assess vegetation conditions relative to baseline (Attachments 15 and 16)) , and (4) vegetation cover estimated from satellite imagery. The multiple lines of evidence from the monitoring programs at Blackrock 94 document decreased live vegetation cover compared with baseline in the majority of years since 1991 and a decrease in grasses resulting in an increased proportion of shrubs during the same period. The following conclusions were presented in the analysis:

- Baseline perennial cover for Blackrock 94 in 1986 was 40.8% and was comprised primarily of native grass species. The baseline plant community was an alkali meadow. Similar baseline conditions were observed in neighboring parcel Blackrock 99. Based on the annual parcel-scale

vegetation monitoring data collected by the County, perennial cover has been significantly below baseline for 14 of 19 years since 1991 and since 1991, except for five years (1997-2000, and 2003) perennial cover has been statistically different from baseline (14 of 19 years). Further, vegetation community composition in Blackrock 94 has been significantly different than the measurements of baseline conditions in 16 of the 19-years since 1991 due to a shift in proportion of shrubs as compared with grasses. Importantly, [as acknowledged by LADWP in its April 9, 2012 letter] similar data collected by LADWP's confirm these findings both with respect to vegetation cover and composition of perennial species. A measurable change in vegetation cover in Blackrock 94 has occurred and is persistent. Likewise, changes in vegetation composition are measureable and demonstrate that a change from Type C vegetation to Type B vegetation (grass-dominated to shrub-dominated) is occurring in Blackrock 94. The Green Book standard for assessing measurability is that any small documentable changes in cover or composition are deemed a measurable change. Concerning measurability, the County's analysis robustly meets that criterion.

- Based on data from LADWP's monitoring from 2004-2009, the County's analysis concluded that perennial vegetation cover in Blackrock 94 has been lower than baseline measurements in all years monitored and statistically significantly lower in three of six years.

- Repeated photo points, changes in shrub proportion over time and multivariate analyses of community composition, all show measurable changes in species composition are occurring and that there has been a statistically significant shift in vegetation from a grass-dominated toward a more shrub-dominated community. Grasses are declining resulting in a greater proportion of shrubs, a trend, which if continued over time, may result in a change in vegetation from Type C to B that is contrary to the goals of the LTWA. The County's report shows that the proportion of shrubs has nearly doubled in Blackrock 94 over a 19 year period since 1991. Although there has been little overall change in shrub cover between 1986 and 2007 (10.6% in 1986 vs. 8.3% in 2009).a large decrease in grass cover (29% in 1986 compared to 10% in 2009) accounts for much of the changing proportion of shrubs to grass.

- The County used available vegetation monitoring data to show that vegetation trends for

Blackrock 99, an adjacent parcel with similar vegetation to Blackrock 94 and with a higher water table, clearly differ from the decrease in total cover and grasses observed in Blackrock 94 since the baseline period. The decrease in vegetation cover in Blackrock 94 greatly exceeded and was more persistent than the minor decreases in adjacent parcel Blackrock 99. The decrease in grass cover (and consequent increase in shrub proportion) observed in Blackrock 94 was not observed in Blackrock 99. The changes in overall plant community were measureable in Blackrock 94 and not measureable in Blackrock 99 using the Water Department's vegetation data. Similar conclusions can be made for the LADWP data when the effect of the small sample size is taken into consideration.

- Analysis of satellite imagery of Blackrock 94 shows that cover decreased substantially from 1987 to 1990 and has remained depressed. Minor increases in cover occurred in years with higher than average precipitation, but that factor alone has not promoted vegetation recovery to the 1986 baseline vegetation cover values. Finally, comparisons of changes in vegetation cover in Blackrock 94 and 99 using satellite imagery were consistent with conclusions based on the County and LADWP monitoring programs discussed above.

Attributability. Regarding the attributability of the measurable vegetation change in Blackrock 94 to LADWP's groundwater pumping or surface water management practices, the analysis conducted by the County and presented to the Technical Group showed that the changes are attributable to LADWP's groundwater pumping and surface water management. The analysis shows:

- Groundwater pumping and episodic surface water spreading affect the depth to groundwater at Blackrock 94. Groundwater pumping from wells supplying the Blackrock Fish Hatchery and groundwater pumping by LADWP from other wells in the Thibaut-Sawmill and Taboose-Aberdeen wellfields have affected the water table in parcel Blackrock 94. Surface water diversions by LADWP to supply Eight-Mile Ranch and water spreading by LADWP from Sawmill and Thibaut Creeks during high runoff have also affected the water table at Blackrock 94.

- A groundwater model developed by the USGS as part of a County/LADWP cooperative study was used to evaluate how pumping has affected the water table at Blackrock 94. The modeling shows that the water table at Blackrock 94 has been lowered by pumping by LADWP from both fish hatchery wells and non-hatchery wells. The groundwater modeling shows that were it not for LADWP's pumping, the water table at two permanent monitoring sites in Blackrock 94

would be approximately seven feet (two meters) higher than current water table levels.

- Hydrographs of monitoring wells and remote sensing imagery show that the parcel has been affected by episodic surface water spreading by LADWP during periods of high runoff which has temporarily raised the water table under the parcel; however, declines in the water table caused by groundwater pumping in the vicinity of the parcel more than offset the rises in water table because the relative effect of groundwater pumping is greater than the effect of fluctuations in recharge to the groundwater aquifer caused by surface water spreading in the vicinity of Blackrock 94.

- Declines in the water table induced by pumping coincide with a decline in grass cover in Blackrock 94 where pumping has withdrawn the water table from the grass root zone. Depth to groundwater is significantly (negatively) correlated with vegetation cover and composition in Blackrock 94. In Blackrock 94, where pumping has withdrawn the water table from the grass root zone, grass cover has diminished because the grass roots lack access to groundwater and because of competition with more deeply rooted shrubs for available soil water and nutrients. In contrast, at Blackrock 99, where the water table has remained within or near the grass root zone, grass cover has remained near baseline conditions.

- Soil water measurements show that at the two permanent monitoring sites in Blackrock 94 the soil above 3.9 meters was dry in the vegetation rooting zone by the early 1990's and that the groundwater recharge to soil above the 3.9 meter level was negligible. At one permanent monitoring site, soil water at one site was replenished to about 2 meters in depth when the water table rose in the late 1990's; however, the soil at the other site remained dry, and the water level is still too deep to replenish soil water in the rooting zone at the site.

- Comparison with a permanent monitoring site in Blackrock 99, which did not experience as severe and persistent water table, soil water, and vegetation decline, showed that water table change is the primary driver of vegetation change in Blackrock 94. Because of their proximity, precipitation is similar in Blackrock 94 and 99. Because precipitation is essentially the same in both parcels, divergent changes in cover and composition between Blackrock 94 and 99 are primarily the result of the greater fluctuations in groundwater availability at Blackrock 94. Periodic fire is beneficial for grass-dominated communities where the water

table is shallow enough to replenish the grass root zone. Both Blackrock 94 and Blackrock 99 partially burned in July 2007. In the case of Blackrock 94, grasses in the areas that burned where the water table is too deep to replenish the root zone have not recovered and such areas are prone to increased dominance of shrubs and weeds. In contrast, Blackrock 99 exhibited vegetation conditions similar to baseline cover and composition shortly after the fire.

Uncertainty inevitably exists as to the accuracy of the various sources of vegetation information, groundwater model results, and the degree to which baseline conditions were a result of water spreading within the parcel. Nonetheless, multiple independent lines of evidence cited above show that vegetation changes in Blackrock 94 are a result of diminished groundwater available in the grass root zone, and that the diminished groundwater is attributable to LADWP's groundwater pumping and to LADWP's changes in surface water diversions.

Although changes in surface water diversions by LADWP are a contributing factor, groundwater pumping by LADWP is the primary cause of the changes in vegetation. In particular, pumping induced declines in the water table during 1987-1990 were coincident with drier soil conditions and decreased vegetation cover. The water table decline and resulting vegetation disturbance initiated the conversion in species composition, and lack of water table recovery has promoted subsequent loss of grass cover. LADWP's groundwater pumping has contributed to the lack of groundwater in the root zone of the alkali meadow vegetation community that comprises Blackrock 94. This lack of groundwater is not only responsible for the ongoing degradation to the vegetation of the area, but also prevents alkali meadow in Blackrock 94 from rebounding from natural disturbances like the fire in 2007. The lack of groundwater is incompatible with long-term persistence of alkali meadow.

Significance. To evaluate the significance of the impact in the parcel, the analysis presented by the County to the Technical Group and Standing Committee examined each of the eight factors required by the Green Book Section I.C. (Attachment 2), and found that the impact in Blackrock 94 is significant. With respect to significance, the analysis found:

- Size, location, and use of affected area. The size of Blackrock 94 is 333 acres. It is located within the Thibaut-Sawmill wellfield. The parcel is seasonally grazed by cattle, and was partially burned in 2007. Concerning the relative size of the impact area, numerous areas impacted by groundwater pumping of approximately the same size as Blackrock 94 were deemed significant

by LADWP in the 1991 EIR. Impact 10-11 identified 655 acres of vegetation die-off and mitigated for this by irrigating the affected area. Impact 10-12 identified approximately 300 acres of impacted vegetation attributable to pumping wells W385 and W386, and mitigated for the impact by revegetation, water spreading, and cessation of pumping. Impact 10-13 identified that groundwater pumping affected approximately 60 acres in the Symmes-Shepherd wellfield, with mitigation comprising revegetation and water spreading as necessary. Impact 10-14 identified that groundwater affected spring flow and vegetation at spring vents in an area less than 100 acres, and various off-site mitigations were implemented. Impact 10-18 identified vegetation decrease and change on approximately 640 acres in Laws, which was mitigated by 140 acres of revegetation and 541 acres of irrigation.

- Degree of change in affected area. The measurable decrease in vegetation cover at Blackrock 94 is a decrease of approximately one-third to two-thirds compared to baseline vegetation cover conditions, and there is a statistically significant trend of increasing shrub proportion indicating a change from Type C vegetation to Type B is occurring.

- Permanency of change. According to annual field measurements, vegetation cover has been statistically significantly below baseline levels 14 of 19 years over the period 1991-2009. According to cover measurements derived from satellite images, vegetation cover has been below baseline for all years since baseline surveys were done in 1986. The trend toward permanent loss of grass cover may be reversible with the use of fire to control shrubs which would allow revegetation of grasses; however, for this to occur, based on empirical evidence from Blackrock 99, water table conditions in Blackrock 94 must be raised to a level to provide water to the grass root zone.

- Cumulative impact. The LTWA provides that vegetation cover in parcels potentially affected by pumping (wellfield parcels) is to be compared to parcels unaffected by pumping (control parcels). The results of such an evaluation show that throughout the Owens Valley, vegetation in wellfield parcels is generally below baseline measurements while cover in control parcels is generally above baseline cover. Wellfield parcel cover is negatively correlated with changes in depth to groundwater caused by groundwater pumping while control parcel cover is unaffected; this indicates that groundwater pumping adversely affected wellfield parcels throughout the Owens Valley. Although the analysis did not exhaustively examine cumulative impacts, the

results of the comparison between wellfield parcels and control parcels throughout the valley indicate that the decreases and changes documented at Blackrock 94 are not occurring in isolation.

- Value of existing E/M and mitigation projects. The impacts identified in the County's analysis in Blackrock 94 were not identified in the 1991 EIR and have not been mitigated by any mitigation measure or project currently completed or planned as part of the LTWA, or the 1991 EIR. (It should be noted that Mitigation measure 10-14 in the 1991 EIR does not mitigate for the decreases and changes in Blackrock 94, instead it compensates for loss of vegetation and fish hatchery production associated with the eliminated flow from Blackrock Springs which is located over one mile from Blackrock 94.)

While the determination of a significant impact is necessarily a subjective assessment, the LTWA provides a number of factors – some quantitative, some not - to evaluate when assessing the significance of an impact. Several of these factors indicate that a significant change is occurring in Blackrock 94 – the areal extent of the parcel is significant using the standards applied in the 1991 EIR that analyzed the effects of the LTWA; the degree of change is large; the change is persistent in time; and the impact to the parcel has not been mitigated by other existing mitigation measures**.** The significance of other factors such as human health effects, air quality impact, rare plants, and cumulative impacts are unknown or inconclusive.

Conclusion. In its analysis presented in Attachment 10, the County evaluated conditions in vegetation parcel Blackrock 94 in accordance with the standards, prescriptions, rules, procedures, and protocols set out in LTWA Section IV.B and Green Book Section I.C (Attachments 1 and 2). Available factual and scientific data indicate a measurable vegetation change since baseline has occurred in Blackrock 94, both in terms of vegetation cover and species composition. These changes were initiated between the baseline period (1984-87) and 1991 and have persisted in time and are worsening. Since then, vegetation composition has changed and is changing toward increasing shrub proportion and a decrease in grass cover. While the proportion of shrubs in Blackrock 94 has not yet caused the parcel to change from Type C to Type B vegetation status, the trend in shrub proportion suggest a change in vegetation Type is occurring. Based on the comparison to Blackrock 99 with similar initial vegetation, soils, and precipitation but different water table fluctuations, it can be seen that the vegetation degradation in Blackrock 94 is primarily attributable to changes in water availability resulting from groundwater pumping and reduced surface water diversions into the vicinity of Blackrock 94. The

factors prescribed in the LTWA and Green Book for assessing the significance of an impact were evaluated and indicate that a significant change has occurred and is progressively worsening in Blackrock 94. The LTWA requires that such impacts be avoided or mitigated.

V. LADWP HAS NOT REFUTED THE COUNTY'S ANALYSIS

In a letter dated September 6, 2011, (Attachment 11) LADWP made a number of contentions critical of the analysis and conclusions that the County presented in its report on conditions in parcel Blackrock 94. The Inyo County Water Department (ICWD) replied on January 3, 2012 (Attachment 12). LADWP's contentions and the Water Department's replies to LADWP's contentions are summarized below. Page and paragraph numbers refer to LADWP's September 6, 2011 letter (Attachment 11).

LADWP Contention 1 (page 4, paragraphs 2 and 3). LADWP contends that the County unilaterally designed and implemented the line point vegetation monitoring program and that the County has ignored objections regarding the monitoring methods used raised by LADWP. Further, LADWP contends that the Technical Group was not consulted regarding the methods for sampling or data analysis used by the County.

ICWD Reply. LADWP's contention that the County's vegetation monitoring program was unilaterally designed and implemented has no basis. The Green Book (Box I.C.1.a.ii) requires that vegetation transects shall be used for monitoring vegetation response to pumping, specifically, *"…for use in determining whether vegetation has decreased or changed significantly from the previous cover."* The Green Book also provides that "*The 1984-87 inventory shall be used as a 'baseline' to determine whether vegetation cover and/or species composition has changed*." The Green Book prescribes the line point monitoring method for comparison with the 1984-87 baseline inventory because it is the same method that was used to collect the baseline data, but further specifics of the monitoring program were not described in the Green Book.

Meeting summaries from 1992 Technical Group meetings show that the Technical Group agreed that the annual vegetation measurements conducted by the County utilizing a monitoring program developed by the County with assistance from LADWP would be used for evaluating vegetation change. At the April 15, 1992 Technical Group meeting, concerning agenda item #6 – Fiscal Year 1992–93 Work Program, the meeting summary (Attachment 15) records:

Concerning the vegetation change transects, Sally Manning [Inyo staff]*, Paula Hubbard* [LADWP staff]*, and David Groeneveld* [Inyo consultant] *reported that they had met during the previous month and agreed upon an approach for conducting the monitoring for vegetation change. Bob Wilson* [LADWP, Northern District Engineer] *said, although DWP did not disagree with the concepts, it still had concerns over the scope of work proposed and the personnel requirement.*

Greg James [Inyo Water Director] *said that in the past DWP has questioned some of Inyo's conclusions because of lack of adequate data or confounding circumstances. He suggested it would be prudent to gather as much reliable data as possible during the drought to assist in reaching valid conclusions concerning the effects of the drought and of groundwater pumping on vegetation. He also noted that the vegetation change transects provide an opportunity to compare vegetation conditions before, during and after the drought, by replicating a portion of the 1984-87 vegetation inventory. The Technical Group will also have the opportunity to test the validity of the 1984-87 vegetation inventory maps.*

Paula Hubbard asked whether this magnitude of work would be done every year. Sally Manning replied that the transects run this year would provide a good base from which a smaller set of parcels could be selected as the best indicators of vegetation conditions for future transects.

Don McBride asked about the relative importance of running the vegetation change transects compared with other work. Greg James replied that certain work is required under the agreement. The vegetation change transects must be done in order to evaluate how the management program is working and to get a clearer picture of what is happening on the ground during the drought.

Bob Wilson asked if Inyo has the personnel to accomplish the proposed work. Greg James said the county will have to hire two temporary people for the summer. Bob Wilson said, although DWP could not afford to provide Inyo with additional funding beyond that provided under the agreement, the department agrees with the work in concept and considers it a joint effort. He said DWP will provide personnel if available to assist. [Underline added for emphasis.]

The meeting summary from the April 15, 1992 Technical Group meeting were approved at the May 22, 1992 meeting. At the December 22, 1992 Technical Group meeting, it was further documented that vegetation data collected by the County along with data obtained from the permanent vegetation transects would be used by the Technical Group for evaluating conditions relative to the baseline conditions measured in the mid-1980s. The Technical Group meeting summary for that meeting states:

> *Don McBride* [LADWP staff] *asked what the Technical Group was doing to monitor vegetation recovery in the Owens Valley. Paula Hubbard* [LADWP staff] *responded that the regular transect record and the vegetation change transect data collected by the Water Department would be used to compare vegetation conditions with those recorded during the 1984-87 vegetation inventory*. [Underline added for emphasis.]

The December 22, 1992 meeting summary was approved by the Technical Group at the February 8, 1993 Technical Group meeting. It is clear from these Technical Group meeting summaries that both parties agreed that in addition to the permanent transect monitoring program, the County's vegetation monitoring program would be used by the Technical Group to assess vegetation conditions relative to baseline. Table 1 summarizes the extensive consideration by the Technical Group of ICWD's vegetation monitoring program, including LADWP's recognition of the County's program as being a joint Technical Group program conducted to measure vegetation conditions for comparison to baseline conditions. Since the monitoring program was commenced, the County has annually presented results of the monitoring program in reports to the Technical Group.

Table 1. Synopsis of Technical Group discussion of the line point vegetation monitoring program documented in meeting minutes, 1991 - 1996.

Date of meeting	**Synopsis of meeting minutes regarding the County's vegetation monitoring program**
March 6 & 8, 1991	The County reported that randomly placed transects in vegetation parcels could produce reliable measurements of current plant cover and composition.
April 4, 1991	The County distributed draft of proposed 1991 monitoring program and a program to detect changes in wellfields.
May 9, 1991	The County distributed draft monitoring schedule and addressed questions raised by LADWP in their May 8, 1991 letter.
November 20, 1991	The County provided a preliminary analysis of 1991 results.
March 2 and 17, 1992	LADWP suggested parcels to monitor and agrees to meet with the County to discuss the program.
April 15, 1992	Technical Group agrees to use the County's line point vegetation monitoring program to assess vegetation conditions and that the County's program is a joint effort of the Technical Group.
May 22, 1992	The County reported results of 1991 monitoring program.
December 22, 1992	LADWP staff at the Technical Group staff confirm that the County's line point monitoring will be used to assess vegetation conditions relative to baseline conditions. ICWD requested LADWP's review of the monitoring. There is no record of LADWP providing comments to the County.

February 8, 1993	LADWP staff reported that the regular transect record and the vegetation change data collected by the Water Department would be used to compare vegetation conditions with those recorded during the 1984-1987 vegetation inventory.
May 11, 1993	The Technical Group agreed to use field data gathered in wellfields to learn about vegetation recovery without water table recovery.
October 7, 1993	The County reported on 1992 monitoring results. LADWP provided no comments.
February 1, 1994	The County reported on 1993 monitoring results. LADWP provided no comments.
May 10, 1995	The County reported that vegetation monitoring in 1995 would be much the same as previous years. LADWP provided no comments.
March 6, 1996	The County reported on trends evident in the monitoring results wellfield and control parcels. LADWP provided no comments.
October 28, 1996	The County reported on 1996 monitoring results. LADWP provided no comments.

In 2004, LADWP began producing an Annual Owens Valley Report to satisfy reporting requirements of the Inyo/Los Angeles Long Term Water Agreement, the 1991 EIR for the Agreement, a 1997 MOU, and a 2004 Amended Stipulation and Order. The 1997 MOU requires the annual report describe the environmental conditions in Owens Valley. For the period 2004 through 2011, LADWP based its report on Owens Valley vegetation conditions on data collected by the County. In 2012, LADWP reported both the County's data and data that LADWP collected as part of a LADWP monitoring program that LADWP initiated in 2004. In 2013, LADWP reported only its own data. It is difficult to reconcile LADWP's contention that the County's vegetation monitoring program is a unilateral product of the County with LADWP's practice of presenting the results of the County's program to fulfill reporting requirements of the Water Agreement and MOU, while not providing their own data in the reports or to the Technical Group.

The paucity of communication referenced by LADWP regarding their objections to the monitoring program conducted by the County suggests that LADWP's unwillingness to engage in a discussion of the program and its results was LADWP's prerogative. In 2004, LADWP unilaterally instituted a competing monitoring program without any involvement of the County or Technical Group, the results of which were not made available to the County until 2010. LADWP's contention that the monitoring conducted by the County was unilaterally developed and, thus, the data resulting from the program should be ignored is without factual merit and should be rejected.

LADWP Contention 2 (page 5, paragraphs 2 and 3). LADWP claims that its monitoring program established in 2004 is superior due to its use of permanently located transects, and that the different results of the LADWP and Inyo programs are due to weaknesses in the execution and design of the County's monitoring program. LADWP claims the County's data are questionable and should not be used alone to assess conditions.

Inyo Reply. As required by Green Book Section I.A. and Box I.C.1.a.ii, the primary purpose of the line point vegetation monitoring is to assess current conditions relative to the conditions measured during the 1984-1987 baseline mapping period. A defect of the baseline data set is that the locations of the transects used to establish the baseline conditions are unknown, so the transect locations measured during the baseline survey cannot be revisited. If the locations of the baseline transects were known, permanent transects could be established in the same locations and this would be the most appropriate sampling method to compare back to this reference period. Since these locations are unknown, using permanently located transects to reevaluate conditions with respect to baseline could perpetually bias the comparison between baseline conditions and subsequent measurements. The bias would be permanent and unknowable; detection of persistent vegetation change over time may or may not be simply due to the choice of permanent sampling locations. LADWP's program uses permanent transects and, thus, suffers from this flaw. ICWD's program of re-randomizing the location of the transects each year is designed to avoid this flaw. The County measures a sufficient number of random samples (transects) from the parcel to represent the conditions of the parcel as a whole. In a given year, the random transects locations differ from baseline transect locations. Although the locations differ, it is highly unlikely that the County's program's detection of a persistent change from baseline conditions in Blackrock 94 for several years is simply due to chance.

As previously noted, the potential for systematic bias in the comparison between baseline conditions and subsequent measurements is a concern with LADWP's program. In Blackrock 94, some of LADWP permanent transects are located in unrepresentative portions of the parcel causing an oversampling of uncommon species within the parcel (see Attachment 12, Contention 8 for more details). The brief summary of methods that LADWP provided to the County describing how LADWP established its permanent transects in each vegetation parcel in the Owens Valley indicates that in each parcel 50 random transects were initially generated. Transects were added and removed until "*the maximum number that had ever been run by Inyo County were obtained for each parcel.*" The process used to reduce the starting 50 transects to the final smaller number (for example 17 permanent transects were established in Blackrock 94 by LADWP) is not described and may not be a truly random set. Because this

important final selection step of the procedure has not been explained by LADWP, the Technical Group has not had the opportunity to fully evaluate LADWP's program.

LADWP samples fewer transects in the same vegetation parcels than the County, contrary to LADWP's contention that LADWP generated the same number of start points. LADWP asserts that a large sample size is important both to meet the assumptions of statistical tests and to adequately represent the plant communities present. On page 13 of their letter (Attachment 11), LADWP explains "*it is best to randomly locate a sufficient number of transects each year so that both the high and low cover areas are sampled and averaged as one community*". This point is amplified on page 14 of the letter; "*If more transects were sampled per year, all plant communities contained within the vegetation parcel would be sampled…The latter method would provide a more accurate representation of the plants within the parcel.*" The County samples nine more transects in Blackrock 94 and six more in Blackrock 99 than LADWP samples in those parcels each year. Since the number of transects the County samples is always equal to and usually greater than the number LADWP samples, by LADWP's own contention, the County's monitoring program is superior for statistical comparison of current conditions to baseline conditions.

As required by the Green Book, the County evaluated all relevant data to assess conditions in Blackrock 94, including the line-point data collected by LADWP since 2004. The County's analysis of LADWP's data supported the conclusions based on the County's dataset. LADWP's methods may result in an unknown and systematic bias compared with baseline, and the statistical characteristics of their data suggest it is inferior at reliably detecting a change from baseline. The average difference in cover between the County's dataset and the LADWP dataset for all years and all parcels is approximately 8%. The County agrees that this difference is due to some type of systematic discrepancy between Inyo and LADWP methods; however, it does not prove that the Green Book sampling protocol followed by the County is faulty or inferior, only that there is some unexplained difference between the results of the two monitoring programs.

Contention 3 (page 5, paragraph 3 and page 7, paragraphs 1-3). LADWP contends that analysis of perennial cover is not the same as an analysis of live vegetation cover. LADWP contends that "*live cover, not perennial cover, is the goal*."

Reply. LADWP's contention has no basis in the Water Agreement or Green Book, and is inconsistent with their own practices for reporting vegetation conditions. The County's vegetation monitoring program measures total live cover by species, as was done during the vegetation surveys that

established baseline conditions. Additionally, the permanent monitoring site transects described in the Green Book measure total cover. Perennial cover, which includes groundwater dependent shrubs and grasses, is the subset of total cover most affected by water table fluctuations. For this reason, the Technical Group (i.e., both LADWP and the County) have a long-standing practice of analyzing perennial cover to assess vegetation conditions. For example, perennial cover measurements are presented in County and LADWP annual reports, recent County and LADWP presentations to the Technical Group and Standing Committee regarding Blackrock 94, and reports authored by LADWP staff and consultants.

The Water Agreement refers to "*live vegetation cover,*" but does not make a distinction between total or perennial cover. LADWP seems to have confused the Water Agreement's reference to "*live cover*" as requiring that *total* live cover is the only measure of vegetation that the Technical Group may consider. The Water Agreement and Green Book have no such requirement. LTWA Section IV.B requires that determinations of significance be made on a case by case basis to afford the Technical Group the ability to conduct analyses appropriate to each situation. In the case of Blackrock 94, perennial cover is a more pertinent factor than total cover. LADWP's contention concerning total live cover is based on a standard that does not exist in the LTWA or Green Book.

Finally, contrary to LADWP's statement on page 7 of its letter, the County does not *assume* that there has been a decrease in cover; the County has *observed* a decrease in cover, as described extensively in the County's February 2, 2011 analysis (Attachment 10).

LADWP Contention 4 (pages 8-9). LADWP contends that data derived using the line-point transect sampling method cannot differentiate a decline in grass cover from an increase in shrub dominance. On page 8, LADWP concludes that, "*the apparent decrease in grass cover from the baseline period to present is likely an artifact of the line point sampling technique.*" The example in Figure 4 of the LADWP response (pg. 9) suggests that shrub encroachment over an intact grass understory accounts for the County's results showing less grass in the parcel.

Reply. LADWP's speculative hypothesis that there is an intact grass understory beneath an increasing shrub canopy is worthy of consideration. This hypothesis was considered in the County's response letter to LADWP (Attachment 12) and, as summarized below, it must be rejected based on observations from three permanent monitoring sites located within or near Blackrock 94. The locations of these permanent monitoring sites are shown in Figure 1 of the County's February 2, 2011 report (Attachment 10).

Both the County's and LADWP's monitoring programs apply line point methods similar to those employed during the baseline inventory to permit comparison. The line point method would only fail to

detect grass cover decline for the specific situation postulated by LADWP, i.e., if grasses were present underneath shrub canopies and the shrub cover was increasing. Many other patterns of plant community change that are possible, for example, grass decline in areas between shrubs, would be detectable by the line point method. It should be noted that, even if LADWP's argument were true, it would mean that there has been an increase in shrubs in the parcel. Measurements collected at the permanent monitoring site transects concurrently record the top layer of vegetation (like the line point method) and also record all layers of the canopy to calculate leaf area index (LAI). Leaf area index is the area of leaves per unit area of land surface. Data from the permanent monitoring sites can be used to test the hypothesis LADWP proposes to account for grass decline in the line point data set. Three permanent transects from the parcels evaluated in the County's report were examined to test LADWP's hypothesis.

Analysis of permanent transects shows that LADWP's model of shrub encroachment and resultant plant community structure is not supported (detailed in Attachment 12). A more concordant interpretation of the line point and permanent monitoring site data is that the change in shrub proportion in Blackrock 94 is a result of grass decline and shrub growth. Indeed, this alternative interpretation is consistent with the substantial body of literature on conversion grass dominated ecosystems to shrub dominated ecosystems. LADWP's speculative contention that there is an intact grass understory beneath an increasing shrub canopy was analyzed by the County and shown to be false.

LADWP Contention 5 (pages 8-9). LADWP contends that the Agreement recognized that vegetation changes due to a variety of factors and that the County's report provided an "*inadequate factual basis*" that vegetation is changing in parcel Blackrock 94.

Inyo Reply. In its report, the County provided an extensive factual basis for its conclusions. The County recognizes that numerous factors affect vegetation and specifically addressed the potential causes for the measurable vegetation change in Blackrock 94 as part of the attributability analysis in the February, 2011 report (Attachment 10). The Green Book requires examination of all relevant factors. The County examined groundwater pumping, surface water management, water table conditions, soil water conditions, precipitation, and fire as causal agents related to vegetation change. The County concluded Blackrock 94 is changing from a meadow community to a shrub-dominated community with an associated loss in cover. The change in vegetation began between 1986 and 1991 which coincided with a period of lowered water tables due to LADWP pumping. The analysis concluded this was the most likely stressor that caused the changes to vegetation.

LADWP Contention 6 (page 10). LADWP concluded that the comparison of parcel Blackrock 94 with Blackrock 99 is inappropriate due to differences in water availability between the two parcels.

Inyo Reply. The County agrees that water availability accounts for the contrast in vegetation condition between the two parcels. The differences between the parcels described by LADWP suggest the water table beneath Blackrock 99 was buffered by surface water infiltrating from the L.A. Aqueduct from the effects of groundwater pumping. If Blackrock 94 were similarly buffered, LADWP's groundwater pumping would not have affected the parcel as significantly as shown in the County's report. LADWP's analysis further supports the County's contention that the different water table regimes of the two parcels largely accounts for the differing vegetation responses since baseline and since the 2007 fire which burned portions of both parcels.

LADWP Contentions 7 though 10 (pages 15-24). LADWP raises a number of contentions concerning ICWD's analysis of the line point vegetation data.

Inyo Reply. Attachment 12 examines LADWP's contentions and explains their lack of merit.

LADWP Contention 11 (page 24-26). LADWP questioned the methods the County used to analyze vegetation cover using satellite imagery. In their review of the article by Elmore et al., (2000) that set forth methods used to determine vegetation cover in the Owens Valley using Spectral Mixture Analysis (SMA), LADWP identified a number of issues that would "*require independent verification prior to acceptance of ICWD's results*".

Inyo Reply. A number of the points raised in LADWP's review were addressed in the articles referred to in ICWD's report. LADWP's review was also inadequate regarding image processing particularly in the area of image registration and correction. Each of LADWP's points is addressed in detail in Attachment 12.

After the County notified LADWP of its intent to elevate the issue to the Standing Committee, LADWP provided the County with further comments on the County's analysis of Blackrock 94 in a letter dated June 8, 2012 (Attachment 17). The June 8, 2012 letter largely reiterated the points raised by LADWP in their September 6, 2011 letter (Attachment 11) and responded to the County's January 3, 2012 reply to LADWP's contentions. Attachment 18 gives the County's responses to LADWP's June 8, 2012 letter.

VI. LADWP HAS PREVENTED THE TECHNICAL GROUP FROM RESOLVING THE ISSUE IN AN EXPEDITIOUS MANNER

Due to the actions of LADWP, neither the Technical Group nor the Standing Committee has been able to address the conditions in Blackrock 94 and the need for the development of a mitigation plan in an expeditious fashion. Despite its acknowledgment that there has been a measurable change in vegetation conditions at Blackrock 94, LADWP has not responded to the question of whether the change is attributable to LADWP water management, nor to whether the change is significant. Over the two years since the County presented its analysis to the Technical Group for consideration, LADWP has not addressed the substantive issues raised by the County, while at the same time using the lack of progress as a reason why the core issues cannot be addressed at any level. LADWP's tactics have deprived the County of the remedies in the LTWA for achieving the vegetation management goals and for mitigation of ongoing damage to the environment in the County.

LADWP has made variable and conflicting claims concerning conditions in Blackrock 94. LADWP has claimed at various times that: (1) effects to vegetation in the parcel have been mitigated by mitigation measures in the 1991 EIR (Attachment 8); (2) there has been no measurable effect to the parcel (Attachment 11); and, conflictingly, (3) that there has been a measurable effect to the parcel (Attachment 13). LTWA Section IV.B and Green Book I.C require that the Technical Group determine the measurability, attributability, and significance of the impact; however, LADWP's conflicting statements have impeded the Technical Group from resolving the issues raised by the CNPS and by the County.

It is evident that the Technical Group has not been able to act in an expeditious fashion. It has been over five years since the CNPS first raised their concerns regarding parcel Blackrock 94, and over 2 years since the County presented its comprehensive report to the Technical Group. The issues should not be referred back to the Technical Group. A failure to reach a conclusion regarding this issue can only raise serious questions about the viability of the LTWA's process for ongoing avoidance and mitigation of significant impacts.

LADWP has ignored the requirements of Green Book Section I.C in evaluating measurability of an effect on the environment. LTWA Section IV.B describes the process the Technical Group should follow to evaluate whether a significant effect has occurred, and provides that "*The first step in this case by case analysis is to determine whether the decrease or change can be measurably demonstrated*" (Attachment

1). Green Book Section I.C elaborates on this process and provides the standard that the Technical Group must apply when determining whether a change is measurable:

> *A determination of measurability will be made if any of the relevant factors considered indicate even a small documentable change in vegetation cover or composition has occurred.*

As demonstrated in the previous section, the County presented ample evidence from multiple relevant data sources that a significant effect in Blackrock 94 has occurred. In contrast, without the County's knowledge, LADWP produced its own analysis of vegetation conditions using a much narrower range of data and analytical techniques. In its April 9, 2012 letter concerning LADWP's analyses (Attachment 13), LADWP concluded that:

> *…LADWP has conducted additional analyses (enclosed) utilizing all of the available data and a variety of analytical methods. These analyses indicate that there are years where both the data collected by LADWP and ICWD suggest that there are measurable differences in total cover from the initial inventory. … Because these analyses have indicated that there are some years where vegetation cover may have differed from the initial inventory, LADWP is willing to support the Technical Group advancement of the Green Book process … based on the acceptance of LADWP's analyses by the Technical Group.*

Unlike the County's analysis, LADWP's limited analyses did not include permanent monitoring site data, did not make comparisons to control sites, did not examine remote sensing data, and did not consider paired photo points, nor did LADWP provide an argument why these data used by the County are not relevant. LADWP's limited analysis fails to meet the requirement of LTWA Section IV.B that the Technical Group analyze "*all relevant factors*." Contrary to LADWP's request to the mediation/arbitration panel, it is LADWP, not the County, that has failed to follow the rules, procedures, and protocols of the LTWA.

At Technical Group meetings on April 20, 2012 and June 14, 2012, LADWP clarified that its willingness to concede that a measurable change had occurred was contingent on the County accepting that LADWP's limited data and analysis would be the only one under consideration by the Technical Group. This is contrary to the LTWA's requirement that the Technical Group consider all relevant data (LTWA section IV.B). LADWP's analysis (Attachment 13) concluded:

> *A significant change in total perennial cover (TPC) has occurred based on ICWD's linepoint data since 1991 in some years. The most conservative measures … found six years with significantly different TPC from baseline; 1992, 1994, 2002, 2004, 2007, and 2009. … For LADWP linepoint*

data, only 2007 and 2008 are significantly different in TPC from baseline, but both years have been affected by the Inyo Complex Fire.

Since the standard set out in the Green Book is that "*A determination of measurability will be made if any of the relevant factors considered indicate even a small documentable change in vegetation cover or composition has occurred*," there is no requirement in the Green Book or LTWA that the Technical Group rely on the "*most conservative measures*" to evaluate whether a change in vegetation is measurable. Nevertheless, such a change has been documented by both Technical Group members, and, based on the standards of the Green Book, the Technical Group should have long-since concluded that a measurable change has occurred and moved on to consider attributability and significance. Instead, LADWP obstructs the Technical Group from proceeding unless the County agrees to limit the relevant data to be considered by the Technical Group in the attributability and significance analyses. Such a restriction is contrary to the provisions of the LTWA and the Green Book.

In light of the evidence summarized above and presented in detail in Attachments 10, 12, and 18, the County requests that the mediation/temporary arbitration panel find that a significant change has occurred in vegetation in parcel Blackrock 94.

LADWP Technical Group representatives have selectively interpreted certain provisions of the LTWA to thwart the Technical Group's ability to assess the measurability, attributability, and significance of changes in vegetation condition. LTWA Section III.D (Monitoring) states that "*All monitoring, analysis, and interpretation of results shall be done by the Technical Group.*" The LTWA Goals and Principles for Groundwater Management define "*The Technical Group shall be comprised of not more than five (5) representatives selected by the County and five (5) by the Department*" and each party has one vote; thus, the Technical Group consists of a delegation from Inyo County and a delegation from LADWP – there is no individual or group of individuals comprising the Technical Group other than staff from LADWP and the County.

Since its inception, the Technical Group has customarily conducted its work by one side presenting data or analysis to the Technical Group for consideration by the other side. Thereafter, the two sides can either reach consensus and agree on a course of action, or disagree, and either side is entitled to submit the resulting disagreement to the LTWA dispute resolution process (LTWA Section XXVI). Typically, when one side is concerned with a particular issue, it raises the issue to the Technical Group by presenting an analysis or report to the Technical Group. For example, in preparation for construction of three new production wells, in 2011, LADWP prepared reports analyzing the effects of the proposed

wells for the purpose of complying with LTWA Section VI (New Wells and Production Capacity). The County reviewed the reports, provided comments, LADWP modified the reports, and the Technical Group formally agreed that the LTWA requirements for preconstruction evaluation of the wells had been completed. This process was completed by the Technical Group in a number of weeks.

With respect to the Technical Group's work on Blackrock 94, at the October 18, 2010 Technical Group meeting, it was recognized by both the County and LADWP that the County was in the process of preparing a report for consideration by the Technical Group, because, as Gene Coufal, LADWP Aqueduct Manager stated , "*somebody has to make the first effort.*" Any characterization that Inyo County prepared its report unilaterally is a misrepresentation of the facts related to how the Technical Group customarily functions and how the Technical Group agreed to approach the Blackrock 94 analysis.

Before conducting an analysis of whether a significant change has occurred to parcel Blackrock 94, the County submitted the issue to the Technical Group, obtained Technical Group concurrence that the issue should be addressed through LTWA Section IV.B and Green Book Section I.C, and obtained Technical Group agreement that the County would prepare an analysis of the issue. Only then did the County prepare the analysis and present it to the Technical Group for consideration.

With respect to Blackrock 94, LADWP has asserted that the County's report is invalid on its face because it was prepared by the County, not the Technical Group (for example, in Gene Coufal's June 8, 2012 letter to Robert Harrington, he states "*As stated on numerous occasions, the Water Agreement does not provide ICWD with the authority to unilaterally make determinations of measurability, attributability, and significance pursuant to the Water Agreement Section IV.B and Green Book Section I.C, but rather Section III.D of the Water Agreement assigns that authority specifically to the Technical Group.*"). The County has not sought to make a unilateral determination. It has followed the rules, procedures, and protocols of the LTWA for the Technical Group and Standing Committee to address conditions in Blackrock 94 but the process has been obstructed by baseless procedural objections from LADWP.

The County recognizes that the Technical Group has the responsibility to determine if alleged significant effects require mitigation; however, the LTWA contains no provisions that prevent either party from conducting an analysis and presenting it to the Technical Group. Thereafter, the Technical Group can agree with the analysis or disagree with the analysis; however, if it were required each analysis be conducted jointly by both LADWP and the County, either side could obstruct the Technical Group from fulfilling its responsibilities by simply not participating in the process and the matter could never proceed through the dispute resolution process set forth in the LTWA.

As Technical Group members, LADWP and the County each have the right to present relevant data and information to the Technical Group to address their respective concerns and interests within the responsibilities of the Technical Group. If it were otherwise, the LTWA's provisions for determining significance, implementing mitigation and for other actions by the Technical Group would be unenforceable and there would be no need for LTWA Section XXVI (Dispute Resolution), since either party could block Technical Group activity on any subject.

LADWP has refrained from cooperative forthright participation in Technical Group efforts to assess whether vegetation conditions are compliant with LTWA goals. At the June 14, 2012 Technical Group meeting, Gene Coufal stated:

> *"…it is impossible to accept the County's conclusion because it is based on a unilateral application by the County of the significance mitigation determination process set forth by the LTWA, moreover, it is impossible to accept the County's measurability determination at Blackrock 94 because perhaps the most troubling is based on data collection and monitoring analysis in comparison that was performed based on techniques and protocols that run afoul with those mandated by the Green Book and that were never agreed to by the Technical Group, in fact they were specifically rejected in 1992."*

The County has presented its data collection and monitoring analysis methods and the data resulting from such activities to the Technical Group since the inception of the County's vegetation monitoring program in 1991. LADWP's contention that the County's data collection and monitoring analyses were rejected by the Technical Group in 1992 has no basis (see Section V, Contention 1 reply above).

Since neither LADWP's monitoring protocols nor the resulting data were shared with the Technical Group or the County until 2010, LADWP's monitoring program certainly is inconsistent with LADWP's interpretation of the requirements of LTWA Section III.D, that all monitoring shall be conducted by the Technical Group. Moreover, once the County became aware that LADWP was conducting a monitoring program, the County requested that LADWP provide the data to the County. When LADWP refused, in 2005, the County made a request for the information pursuant to the California Public Records Act (August 22, 2005 letter from Phil McDowell to Ron Deaton, Attachment 19). In that request, the County asked LADWP for:

> *…the data that have been collected and analyses that have been performed involving Owens Valley vegetation, as well as any recommendations or reports developed by or received by LADWP concerning this topic of mutual interest. In particular, we request copies of all field data*

sheets, electronic spreadsheets tallying field results, precise information on transect locations, written descriptions of field protocols, and analytical methods, and reports on results, conclusions, and comparisons with data collected by ICWD [Inyo County Water Department].

In response to the County's request, LADWP provided some information to the County, but did not provide a report that had clear relevance to Owens Valley vegetation. On June 8, 2012, as part of a rebuttal to correspondence from the County concerning Blackrock 94, LADWP provided to the County a report produced by a consultant to LADWP, titled "*ICWD Vegetation Monitoring: Analysis of Methods and Data*." This report, dated January 2004, predated the County's public records request by over a year and a half. The subject of the report (finally provided by LADWP in 2012) is a review of the County's vegetation monitoring methods, a review of the County's data, an interpretation of the data, and recommendations. This report was directly relevant to the Public Records request made by the County, yet LADWP did not provide the report in response to the County's request.

VII. CONCLUSION

The County's analysis (Attachment 10) of conditions in vegetation parcel Blackrock 94 provides substantial evidence that a measurable change in vegetation cover has occurred; that the parcel is converting from a grass-dominated community to a shrub-dominated community; that the changes are attributable to LADWP's groundwater pumping operations and surface water management; and that the changes are a significant impact that has occurred since the establishment of baseline vegetation conditions in the parcel. The County's analysis was conducted according to the framework and prescriptions of the LTWA and Green Book for determining if a significant impact has occurred. The County obtained concurrence from LADWP and the Technical Group to prepare an analysis for Technical Group consideration and performed the analysis using data that had been long-accepted by the Technical Group for this purpose. The LTWA requires that significant impacts be mitigated; therefore, based upon the substantial evidence presented by the County, the mediation/arbitration panel should find that the Technical Group is required to prepare a mitigation plan according to the requirements of the LTWA.

The Technical Group and Standing Committee have not been able to act in an expeditious fashion on the dispute raised by the County. It has been over five years since the CNPS first raised their concerns regarding parcel Blackrock 94, and over two years since the County presented its comprehensive report to the Technical Group. Consequently, the dispute over Blackrock 94 should be resolved without delay.

LADWP's requests alleging that the County did not follow the rules, procedures, and protocols of the LTWA have no basis. Concerning measurability of the change, LADWP itself has acknowledged that a measurable vegetation change has occurred in Blackrock 94. LADWP has not presented evidence to the Technical Group or to the Standing Committee that is sufficient to contradict the substantial evidence presented by the County concerning the questions of attributability and significance. The County has addressed comments on its analysis that have been provided by LADWP. Most concerns raised by LADWP misrepresented the County's statements, are technically unsound, or, upon further examination, were irrelevant (see Attachments 12 and 18).

The Technical Group and the Standing Committee have not been able to resolve this issue. LADWP has taken refuge behind spurious procedural issues which have prevented a determination of whether a significant effect has occurred at Blackrock 94 in an expeditious fashion.

For the reasons presented in this opening brief, the County requests that the LADWP's procedural arguments be rejected and, based on the substantial evidence presented by the County, that the mediation/arbitration panel find that a significant effect has occurred in Blackrock 94, and that the Technical Group is required to develop a mitigation plan in compliance with LTWA Section IV.B and Green Book Section I.C.

List of Attachments

Attachment 1. Inyo/Los Angeles Water Agreement Section IV.B

Attachment 2. Green Book Section I.C

Attachment 3. May 1, 2012 memo from County to LADWP requesting that the Technical Group resolve the Blackrock 94 dispute

Attachment 4. September 20, 2012 memo from the County to LADWP requesting the Standing Committee to resolve the Blackrock 94 dispute

Attachment 5. July 11, 2013 revised stipulation

Attachment 6. July 9, 2007 letter from CNPS (Pritchett and Taylor) to Inyo/LA Standing Committee

Attachment 7. July 13, 2007 letter from CNPS to Inyo/LA Technical Group

Attachment 8. December 11, 2007 draft letter from Coufal to Pritchett

Attachment 9. June 19, 2009 letter from Harrington to Coufal

Attachment 10. February 2, 2011 ICWD report to the Technical Group

Attachment 11. September 6, 2011 letter from Coufal to Harrington

Attachment 12. January 3, 2012 County response to Attachment 11

Attachment 13. April 9, 2012 letter from LADWP to Harrington

Attachment 14. February 11, 2012 arbitration panel decision

Attachment 15. Meeting Summary of the Inyo/Los Angeles Technical Group, April 15, 1992

Attachment 16. Meeting Summary of the Inyo/Los Angeles Technical Group, December 22, 1992

Attachment 17. June 8, 2012 letter from Coufal to Harrington

Attachment 18. County response to Attachment 17

Attachment 19. August 22, 2005 letter from McDowell to Deaton