

GR-6 Groundwater

Several comments, including a letter prepared by Snyder Geologic, Inc., dated July 5, 2019, were submitted expressing concerns regarding the methodologies and findings provided in the Groundwater Resource Evaluation for the Campo Wind Project within the Boulder Brush Facilities (Project) and impacts to groundwater resources on and near the Project Site.

Chapter 3.1.5, Hydrology and Water Quality, of the Draft Environmental Impact Report (EIR) provides a thorough evaluation of groundwater impacts supported by substantial evidence. The analyses therein are based on three primary groundwater resource studies included as appendices to the Draft EIR. These studies include the following: the Groundwater Resources Evaluation (Appendix J-1), the Boundary Creek Groundwater Report (Appendix J-2), and the Flat Creek Groundwater Report (Appendix J-3). The Groundwater Resources Evaluation analyzed the effects of using the On-Reservation wellfield to supply 100% of the water demand for Project construction. The Boundary Creek Groundwater Report and Flat Creek Groundwater Report analyzed the effects of using Jacumba Community Service District (JCSD) wells to supply 100% of the Project's construction water demand.

These studies and Draft EIR Chapter 3.1.5 assess multiple potential water sources to evaluate the potential impacts of Project implementation on local groundwater resources. The analysis also takes into account cumulative project impacts on groundwater resources, including the Tule Wind and Rugged Solar projects. JCSD staff has recently confirmed that JCSD is not currently supplying water for operations and maintenance (O&M) use to either ECO Substation or Tule Wind (Dudek 2020). This is further confirmed based on ongoing groundwater production and water level monitoring of the Jacumba Valley Groundwater Basin. Additionally, Rugged Solar is accounted for in JCSD water supplies, which, in part, informed the cumulative groundwater analysis. The analysis provides accurate and sufficient information on existing groundwater conditions and projections of potential off-site well interference based on reasonable assumptions and data to support the conclusions in the Draft EIR, as described below.

The analyses provided in the groundwater resource reports take into account existing groundwater demand within the contributing watershed. While site-specific well testing on the Campo Band of Diegueño Mission Indians Reservation (Reservation) was not performed due to Reservation access restrictions, historical pumping data from 19 groundwater wells located in the 312-acre wellfield within the Reservation and estimates of aquifer properties from the local fractured rock aquifer were collected. This comprehensive data collection and analysis was considered a practical and appropriate analytical approach to provide a comparison to the County of San Diego groundwater significance thresholds. The County's significance thresholds were applied in the Draft EIR analysis.

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Chapter 3.1.5 of the Draft EIR describes the existing conditions regarding water resources and provides a complete analysis of potential impacts from the Project on groundwater resources. As stated in Draft EIR Chapter 3.1.5, the long-term annual water demand is estimated to be approximately 210 gallons per day (0.25 acre-feet per year [AFY]) for the O&M facility. It is anticipated that groundwater sourced from an existing On-Reservation groundwater well would be used for Project operations. Alternatively, non-potable water would be trucked in from JCSD or Padre Dam Municipal Water District. Both potential water source options were analyzed in the Draft EIR. The volume of water required for O&M of the Project is considered minimal (i.e., less than the amount of water assumed to be consumed for the indoor and outdoor water demands of a single-family home) and would not have a substantial impact on groundwater resources. Of the 19 existing groundwater wells located on the Reservation, it was determined that at least four supply wells have the potential to sufficiently serve as a source of groundwater for the Project's O&M demand of 0.25 AFY. A water balance analysis and a well interference analysis, documented in the Groundwater Resources Evaluation prepared for the Project (Appendix J-1 to the Draft EIR), show that use of 0.25 AFY of water for O&M would not exceed the County's significance thresholds for groundwater resources.

Regarding construction water use, according to the Water Supply Assessment (included as Appendix N to the Draft EIR), an estimated maximum water demand of approximately 173 acre-feet (AF) of water would be required over the 14 months of construction (123 AF for Campo Wind Facilities and 50 AF for Boulder Brush Facilities). Similar to Project operations, to analyze the impacts of Project construction on groundwater resources, three groundwater reports were prepared: one to analyze the effects of using the On-Reservation wellfield to supply 100% of the water demand for Project construction (Appendix J-1), and two reports to analyze the effects of using JCSD wells to supply 100% of the Project's construction water demand (Appendix J-2 for the Boundary Creek Watershed, and Appendix J-3 for the Flat Creek Watershed).

A soil moisture balance analysis was performed to evaluate the 1,702-acre contributing watershed to the Reservation wellfield considering 59 years of historical precipitation record. The analysis found that even if construction were to occur during a period of no rainfall, the total water demand in the Project Area, including demand from the Golden Acorn Casino, would amount to a reduction of only 7% of the total groundwater in storage, which is considered a less-than-significant impact. Additionally, following the construction of the East County Substation Project, groundwater recovered to near pre-construction levels within the 5-year time period specified by County standards of significance. The analysis of potential impacts from using water from JCSD's wells also found that there would be no significant impact on groundwater in storage (Appendices J-2 and J-3). Therefore, long-term depletion of groundwater storage due to 14-month Project construction and ongoing O&M usage is not anticipated.

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Regarding comments expressing concern that existing residential water demand is underestimated because area residences are large lots, the estimate of 0.5 AFY for residences as utilized in the Groundwater Resources Evaluation is based on the average usage for the County from the County's Guidelines for Determining Significance and further substantiated within the County of San Diego General Plan Update Groundwater Study dated April 2010. Pumping at the rate as suggested in the July 5, 2019, comment letter for all 295 residences (22.4 AFY) would deplete the total estimated water in storage in the basin within 6 months, and use of 22.4 AFY per residence as suggested is not substantiated by actual conditions. The pumping rate (Q) used for calculations in the Groundwater Resources Evaluation (Appendix J-1) is estimated using the total extraction (173 AF for the first year and 0.25 AF for the following 4 years) amortized over 1 year. Specific well construction details were not available for the analysis; however, all information available for the analysis was disclosed in the Groundwater Resources Evaluation. Aquifer properties used in the analysis were derived from the nearest pumping tests performed for which data were available.

Regarding comments stating the existing groundwater use by the Golden Acorn Casino was not accounted for, the estimate of 23.4 AFY is based on the water demand for the Golden Acorn Casino and Travel Center as cited in the 2008 Groundwater Supply Evaluation: Campo Kumeyaay Nation Proposed Golden Acorn Hotel and Amenities Project.¹ The estimate is reasonable as it is based on actual historical water demand of the facility.

Regarding comments stating that Live Oak Springs Water Company connections are outdated and do not represent a worst-case scenario of water use within the company or account for retail sale of water by the company for several projects in the area, data provided for Live Oak Springs Water Company were the most recent data made available for the analysis. For small water systems, it is reasonable to use historical water demand rather than estimates of water use as these systems are regulated by the County and state.² There are no known projects for which Live Oak Springs Water Company is planned to supply water.

Regarding units of measure for transmissivity (square-foot per day vs. gallons per day), transmissivity values are presented in square feet per day because this metric is industry standard for how they are typically measured; therefore, values are presented in these units in order for them to be readily comparable to typical values. Regarding storativity, use of an assumed storativity value of 0.1% (0.001) as representative of the local aquifer is a reasonable estimate for this evaluation, especially because site-specific well testing was not performed on the Reservation due to Reservation access restrictions. However, historical pumping data from 19 existing groundwater wells located in the 312-acre wellfield within the Reservation and estimates of aquifer properties from the local fractured rock aquifer were collected. The assumptions used in the Groundwater

¹ ENSI (Environmental Navigation Services Inc.). 2008. *Groundwater Supply Evaluation: Campo Kumeyaay Nation Proposed Golden Acorn Hotel and Amenities Project*. Revised May 2008.

² Dudek. 2015. "Final Source Capacity Update, Live Oak Springs Water Company." December 2015.

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Resources Evaluation are reasonable estimates of the fractured rock aquifer underlying the 312-acre wellfield in the southeastern portion of the Reservation.

The Groundwater Resources Evaluation documents that groundwater levels recovered in the 312-acre wellfield in the southeastern portion of the Reservation after pumping for the ECO substation project; therefore, there are no residual impacts to groundwater in storage as a result of this historical activity. Additionally, historical pumping for the ECO substation confirms the ability to use groundwater resources on the Reservation to supply the Project without impacts, provided the Campo Band of Diegueño Mission Indians (Tribe) would implement project design feature PDF-HY-1, which would ensure that declines in groundwater levels in On-Reservation wells remain at less than 20 feet resultant from On-Reservation pumping for Project construction. The County has no jurisdiction over land or groundwater use on the Reservation; however, the Groundwater Resources Evaluation used the County's groundwater significance thresholds from the County Groundwater Ordinance and Guidelines for Determining Significance and Report Format and Content Requirements: Groundwater Resources.^{3,4} This approach was used to investigate groundwater impacts from Project groundwater use and to allow for a comparison of impacts between this Project and other projects within the County. While site-specific well testing was not completed, use of historical pumping data from the 312-acre wellfield and estimates of aquifer properties from the local fractured rock aquifer was considered a reasonable approach to provide comparison to the County's groundwater significance thresholds. The soil moisture balance analysis and well interference analysis both indicated that the groundwater in storage and groundwater drawdown at Off-Reservation wells is within the limits set by the County's standards of significance.

As previously stated, the analysis of potential impacts that could occur as a result of groundwater extraction has been completed using reasonable estimates of the aquifer properties of the 312-acre wellfield and surrounding fractured rock aquifer based on data from either nearby aquifer tests or typical values of fractured rock aquifers in the County. The Campo Environmental Protection Agency routinely monitors groundwater well levels on the Reservation and will continue to do so through the course of the Project. For more information regarding the Campo Environmental Protection Agency, please refer to Response to Comment WR-1 provided in Appendix T to the Final Environmental Impact Statement prepared for the Project by the Bureau of Indian Affairs. In addition, in the event the Tribe decides to supply water to the Project, the Tribe would implement PDF-HY-1, which would ensure that declines in groundwater levels in On-Reservation wells remain at less than 20 feet resultant from On-Reservation pumping for Project construction. In addition, implementation of PDF-HY-2 would ensure that if groundwater from JCSD is used for construction of the Boulder Brush Facilities, it would not be used in a manner that exceeds the

³ County of San Diego. 2007b. *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements – Groundwater Resources*.

⁴ County of San Diego. 2013. *Groundwater Ordinance*. March 3, 2013. Accessed September 2018. <https://www.sandiegocounty.gov/content/dam/sdc/dplu/docs/GROUNDWATER-ORD.pdf>.

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County's California Environmental Quality Act significance thresholds for groundwater resources. Thus, the Project would result in less-than-significant impacts to groundwater.

Furthermore, the County Geologist has adapted the County's thresholds of significance for groundwater resources specifically to address the issue of construction water use associated with renewable energy projects. As stated in Appendix J-1 (p. 28):

According to the County Groundwater Geologist, the primary author of the County of San Diego Guidelines, the intent of the above guideline was to cover projects that have continual ongoing water uses that remain static over time. Historically, this has been the case for the vast majority of groundwater dependent projects processed by the County. This Project, however, proposes to use variable quantities of water, with intensive pumping over short periods. The intensive pumping during short periods may cause direct well interference impacts. Therefore, to evaluate potential impacts from short-term pumping of groundwater, the County Groundwater Geologist has requested a short-term drawdown analysis, in addition to the 5 year projection of drawdown, to evaluate the potential impacts from operating at the highest rate of pumping.

Therefore, impacts would be less than significant and no additional mitigation relative to groundwater resources is required.

It should also be noted that, as a sovereign nation, the Campo Band of Diegueño Mission Indians has historic federal water rights that they would sustainably exercise during implementation of the Project, as permitted under the Winters Doctrine.⁵ Refer to Response to Comment WR-1 in Appendix T to the Final Environmental Impact Statement for more information.

⁵ *Winters v. United States*, 207 U.S. 564 (1908) is a United States Supreme Court Case clarifying water rights of American Indian reservations.

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