WSIP Data and Information Summary Table: Water Quality Priority 9 (Basic Human Needs)

Priority 9: Provide water for basic human needs, such as drinking, cooking, and bathing, in disadvantaged communities, where those needs are not being met.

Instructions: This table must be used for projects claiming water quality priority 9 that improve conditions in a non-public water system that serves a disadvantaged community (DAC). Descriptions and clarifying information should provide the rationale for the claimed improvements (e.g., how the values were determined, etc.). Attach up to three (3) additional pages if more space is needed. (Projects that provide water for public water systems, serve DACs, and that are not meeting their existing obligations to provide safe drinking water are not eligible for this priority due to those existing compliance obligations. However, projects that would, as an incidental benefit, provide higher quality water, while not specifically creating new drinking water projects, may be eligible and should describe this scenario where appropriate, below).

Describe how the project would provide water for basic human needs, such as drinking, cooking, and bathing, in DACs, where those needs are not being met. Include the additional expected volume (acre-feet per year) of suitable water that would be made available for a non-public water system(s) that serves DACs and the additional DAC population that would be served by the improved water supply. If incidental improvements to regional water quality are achieved, highlight the public water system(s) and non-public water system(s) that would benefit from that incidental improvement.

The project would provide supplemental surface water supplies to Sites Participants Municipal and Industrial (M&I) water providers located within disadvantaged communities (DACs) that have drinking water supplies that exceed California maximum contaminant levels for various naturally occurring and human-caused contaminants including arsenic, nitrates, hexavalent chromium, bacteria, radionuclides, and disinfection by-products. The primary source for drinking water in the majority of the DACs is groundwater. Supplemental high quality surface water supplies generated from the project could be made available to DACs with unsafe drinking water supplies. In some DACs, chronic lowering of groundwater has resulted in wells reportedly going dry during periods of drought. Groundwater level benefits from increased conjunctive use by Sites participants could also Refer to Sites_A2 WQ Priority 9, "Documentation for Water Quality Priority 9 –Basic Human Needs" uploaded under the PHYSICAL PUBLIC BENEFITS TAB for further information.

Additional locations in the application where data and relevant supporting information, including attachments, are documented (document name, page number, table number, etc.).	Application Reference: Refer to Sites_A2 WQ Priority 9, "Documentation for Water Quality Priority 9 –Basic Human Needs" uploaded under the PHYSICAL PUBLIC BENEFITS TAB.

Identify the DAC(s) addressed by the project using the Department of Water Resources Disadvantaged Communities Mapping Tool or other DAC identifier. Cite the source.

Refer to Sites_A2 WQ Priority 9, "Documentation for Water Quality Priority 9 –Basic Human Needs" uploaded under the PHYSICAL PUBLIC BENEFITS TAB.

Provide the population levels for the DACs benefited by the project:

DAC Location	Current DAC Population with Unmet Needs	2030 DAC Population Benefited by the Project

See Sites_A2 WQ Priority 9, "Documentation for Water Quality Priority 9 –Basic Human Needs" uploaded under the PHYSICAL PUBLIC BENEFITS TAB.

Applicable water quality standards* for parameters/constituents that would be improved by the project:

Parameter/ Constituent	Water Quality Standard Value and Unit	Source Citation
Arsenic	0.01 mg/L	California MCL (22 CCR §64431)
Nitrate	10 mg/L as N	California MCL (22 CCR §64431)
Nitrate-Nitrite	10 mg/L as N	California MCL (22 CCR §64431)
Hexavalent Chromium	0.01 mg/L	California MCL (22 CCR §64431)
Coliform	<40 samples/month - More than 1 Total Coliform-positive sample in a month >40 samples/month - More than 5.0% Total Coliform -positive samples in a month	Acute Total Coliform MCL (22 CCR § 64426.1)
E. Coli	E.coli-positive repeat sample following Total Coliform -positive routine sample; or Total Coliform -positive repeat sample following an E.coli positive routine sample	E.coli MCL (Federal Revised Total Coliform Rule)
Radionuclides/Gross Alpha Particle Activity	Gross Alpha Particle Activity - 15 pCi/L Radium-226 + Radium-228 - 5 pCi/L	California MCLs (22 CCR §64441 and §64443—Radioactivity)

*For the purpose of this table, water quality standards means numeric or narrative water quality objectives, including maximum contaminant levels (MCLs), in water quality control plans adopted by the California State and Regional Water Boards.
mg/L = milligrams per liter

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MCL = maximum contaminant level pCi/L = picocuries per liter				
REV 2: Magnitude				
Provide the parameter/constituent values (including units) for each surface water body or groundwater basin/subbasin that would be improved by the project and be available to a non-public water system that serves a DAC, or be available to DAC(s) that might receive incidental benefits.				
Water Body Name (including stream segment or groundwater basin/subbasin number, as applicable)	Parameter/ Constituent	Current Condition**	Without-Project Condition in 2030	With-Project Condition in 2030
Water quality improvements to surface water bodies or groundwater basins that would serve DAC would vary depending on where supplemental surface supplies would be delivered. Refer to Sites_A2 WQ Priority 9, "Documentation for Water Quality Priority 9 –Basic Human Needs" uploaded under the PHYSICAL PUBLIC BENEFITS TAB for further information.				
**For the purpose of this table, "current condition" means conditions measured or estimated at the year of the CEQA Notice of Preparation (NOP) for the project or subsequently revised information used to describe existing conditions.				
Provide additional clarifying information below, as needed.				
Additional locations in the application where data and relevant supporting information, including attachments, are documented (document name, page number, table number, etc.).			Application Reference: Refer to Sites_A2 WQ Priority 9, "Documentation for Water Quality Priority 9 –Basic Human Needs" uploaded under the PHYSICAL PUBLIC BENEFITS TAB for further information.	
REV 3: Spatial Scale				
Provide the geographical extent of the improvement claimed by the project for each location. Attach a map of the improvement area.				
Water Body Name (including stream segment or groundwater basin/subbasin number, as applicable)		Geographical Extent Improved in 2030 (e.g., river miles or acre-feet improved)		
The geographical extent of water quality improvements to surface water bodies or groundwater basins that would serve DAC would vary depending on where supplemental surface supplies would be delivered. Refer to Sites_A2 WQ Priority 9, "Documentation for Water Quality Priority 9 –Basic Human Needs" uploaded under the PHYSICAL PUBLIC BENEFITS TAB for further information.				
Provide additional clarifying information below, as needed.				
Additional locations in the application where data and relevant supporting information, including attachments, are documented (document name, page number, table number, map number, etc.).			Application Reference: Refer to Sites_A2 WQ Priority 9, "Documentation for Water Quality Priority 9 –Basic Human Needs" uploaded under the PHYSICAL PUBLIC BENEFITS TAB for further information.	
REV 4: Temporal Scale				
Provide the time period(s) during the year (days or months) when the improvement would occur for each location improved by the project:				
Water Body Name (including stream segment or groundwater basin/subbasin number, as applicable)		Expected Time Period Provided by Project in 2030		
Water quality improvements to surface water bodies or groundwater basins that would serve DAC would vary depending on where supplemental surface supplies would be delivered. Refer to Sites_A2 WQ Priority 9, "Documentation for Water Quality Priority 9 –Basic Human Needs" uploaded under the PHYSICAL PUBLIC BENEFITS TAB for further information.				
Provide additional clarifying information below, as needed.				
Additional locations in the application where data and relevant supporting information, including attachments, are documented (document name, page number, table number, etc.).			Application Reference: Refer to Sites_A2 WQ Priority 9, "Documentation for Water Quality Priority 9 –Basic Human Needs" uploaded under the PHYSICAL PUBLIC BENEFITS TAB for further information.	

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REV 5: Adaptive Management	
Describe the adaptive management and monitoring strategies for the claimed priority (e.g., potential management or corrective actions that could be taken if monitoring results fall outside of the range of expected values or if claimed improvements are not being achieved by the project). Include the potential measurable objectives, performance measures, thresholds, and triggers to monitor project performance and achievement of improvements.	
The Adaptive Management and Monitoring Framework for the project has been developed to identify measurable objectives, performance measures, thresholds, and triggers to meet operational objectives and desired ecosystem benefits. Because uncertainties remain about natural hydrologic variations, project operations, and ecological responses, the Sites Project is being designed with a range of operational scenarios to evaluate the effectiveness of different management actions and evaluate strategies for resilience to climate change. These are further described in the Operations Plan. A monitoring program would also be implemented to collect data necessary to operate and evaluate the Project's success. Monitoring efforts would be guided by the specific Sites Project objectives and desired outcomes and would focus on the most informative, efficient, and cost-effective indicators and methods. A preliminary Adaptive Management Framework is included as part of Sites A2 Operations uploaded under the BENEFIT CALCULATION, MONETIZATION, AND RESILIENCY TAB. A more detailed plan and decision-making process will be developed in future phases of the Sites Project.	
Additional locations in the application where data and relevant supporting information, including attachments, are documented (document name, page number, table number, etc.).	Application Reference: See Sites_A2 Operations, "Operations Plan" uploaded under the BENEFIT CALCULATION, MONETIZATION, AND RESILIENCY TAB Adaptive Management Framework provided in Sites A2 Operations uploaded under the BENEFIT CALCULATION, MONETIZATION, AND RESILIENCY TAB.
REV 6: Immediacy of Improvement Action	
Describe when the project would begin implementing actions toward achieving the improvement(s) associated with the claimed priority. Include the number of months expected to elapse between grant encumbrance and project implementation (i.e., completed projected construction and start-up of project element(s) that are expected to achieve the claimed priority). Include specifics by location, as appropriate.	
Initial benefits are expected in year 2028 (6 years after grant encumbrance for construction) at a lower level than when the project is complete. Full benefits are expected in 2030 (8 years after grant encumbrance).	
Additional locations in the application where data and relevant supporting information, including attachments, are documented (document name, page number, table number, etc.).	Application Reference:
REV 7: Immediacy of the Realization of Benefits	
Describe when the improvement(s) associated with the claimed priority would be realized by the project. Include the number of months expected to elapse from grant encumbrance to full realization of the improvement (i.e., improvement achieves the claimed magnitude at 2030). Include specifics by location, as appropriate.	
Initial benefits are expected in year 2028 (6 years after grant encumbrance for construction) at a lower level than when the project is complete. Full benefits are expected in 2030 (8 years after grant encumbrance).	
Additional locations in the application where data and relevant supporting information, including attachments, are documented (document name, page number, table number, etc.).	Application Reference:
REV 8: Duration	
Describe the duration of the improvement(s) associated with the claimed priority. Include the number of years that the project would deliver the full realization of the improvement (i.e., the claimed magnitude at 2030). Include specifics by location, as appropriate.	
The anticipated duration of the improvements is 100 years. Full benefits are expected in 2030. To determine the duration of potential benefits, additional regional deliveries modeling with and without the project for 2070 was performed. As shown in Table 1 see Sites_A2 Documentation WQ Priority 6 "WSIP Data and Information Summary for Water Quality Priorities 6 – Groundwater" uploaded under the PHYSICAL PUBLIC BENEFITS TAB, regional deliveries in dry and critical years increase in 2070 due to changing climate conditions; therefore, overtime potential groundwater benefits could increase due to increases in water supply availability. See Sites_A2 Documentation WQ Priority 6 "WSIP Data and Information Summary for Water Quality Priorities 6 –Groundwater" uploaded under the PHYSICAL PUBLIC BENEFITS TAB.	
Additional locations in the application where data and relevant supporting information, including attachments, are documented (document name, page number, table number, etc.).	Application Reference: Sites_A2 Documentation WQ Priority 6 "WSIP Data and Information Summary for Water Quality Priorities 6 –Groundwater" uploaded under the PHYSICAL PUBLIC BENEFITS TAB.

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REV 9: Consistency	
Describe how the improvement(s) associated with the claimed priority would be consistent with water quality control plans, water quality control policies, and the Sustainable Groundwater Management Act. Include specifics by location, as appropriate.	
Water quality objectives for waters affected by the project are specified in the basin plans for the North Coast, Central Valley, Tulare Lake, and the San Francisco Bay regions. The water quality objectives and beneficial uses are further described in Table 7.1 on pages 7-1 to 7-3 in Chapter 7, "Surface Water Quality" of the EIR/EIS.	
Additional locations in the application where data and relevant supporting information, including attachments, are documented (document name, page number, table number, etc.).	Application Reference: Table 7.1 pages 7-1 to 7-3 in Chapter 7, "Surface Water Quality" of the EIR/EIS located online here: [http://sitesproject.org/information/DraftEIR-EIS]
REV 10: Connectivity	
Describe, if applicable, how the project would restore or create a hydrologic connection, as a result of water quality improvement(s), to areas that support beneficial uses of water or are being managed for water quality. If multiple connections are restored or created, include specifics by location.	
The Sites Reservoir project would allow for greater operational flexibility to support maintaining hydrologic connection between surface and groundwater. Conjunctive use practices by Sites participants could reduce surface water diversions and improve surface water flows by using stored groundwater during dry and critical periods. In addition, supplemental water supplies from the Sites Reservoir project would assist with improving aquifer storage and groundwater levels. Refer to Sites_A2 Documentation WQ Priority 6 "WSIP Data and Information Summary for Water Quality Priorities 6 – Groundwater" uploaded under the PHYSICAL PUBLIC BENEFITS TAB	
Additional locations in the application where data and relevant supporting information, including attachments, are documented (document name, page number, table number, etc.).	Application Reference: Refer to Sites_A2 Documentation WQ Priority 6 "WSIP Data and Information Summary for Water Quality Priorities 6 – Groundwater" uploaded under the PHYSICAL PUBLIC BENEFITS TAB.
REV 11: Resilience to Climate Change at 2030	
Describe how the climate risk factors, identified in the General Application Questions for water quality priorities, were considered as part of the project siting and design for the claimed priority. Explain why any identified risk factors are not applicable.	
Various modeling scenarios were run to allow evaluation of how the benefits of the project can be sustained under potential future climate risk factors, including water quality changes, changing participation and runoff and extreme hydrologic variability. Sea-level rise, ocean acidification and wildfire risk factors are not applicable to the Sites Reservoir project. Operations modeling results demonstrate that Sites Reservoir will provide operational flexibility to sustain both public and private benefits under a range of climate change scenarios, including severe extended droughts. See Sites_A12 Uncertainty, "Uncertainty Analysis" uploaded under the BENEFIT CALCULATION, MONETIZATION, AND RESILIENCY TAB.	
Additional locations in the application where data and relevant supporting information, including attachments, are documented (document name, page number, table number, etc.).	Application Reference: See Sites_A12 Uncertainty, "Uncertainty Analysis" uploaded under the BENEFIT CALCULATION, MONETIZATION, AND RESILIENCY TAB.
REV 12: Undesirable Groundwater Results Corrected	
Describe, if applicable, the current groundwater conditions within the claimed project improvement area(s), including, but not limited to: the estimated number of wells present, total pumping values for the basin, current land use, potential and existing beneficial uses, existing water quality values, soil information, geology of the area, and any applicable undesirable results listed at Water Code section 10721(x)(1-6).	
The Sites Reservoir project would improve groundwater sustainability by supplying surface water to facilitate increased conjunctive use practices and for replenishment to enhance aquifer storage recovery. The Sites Reservoir project would improve groundwater in adjudicated groundwater basins, and medium and high priority basins defined under SGMA, including those in critical overdraft. Sites_A6C, "Groundwater Basins Affected by the Sites Reservoir Project:" uploaded under the ELIGIBILITY AND GENERAL PROJECT INFORMATION TAB provided a listing of potential groundwater basins that could be improved by the project. Improvements would occur by supplying supplemental surface water that could be used to facilitate increased conjunctive use practices and replenishment to enhance aquifer storage recovery. Sites operations would change the timing of available surface and groundwater supplies by providing Sites participants with supplemental surface water for storage, use or replenishment (typically in above normal and wet year conditions) and then recovering a portion of the water during periods of water supply shortages (in dry and critical year conditions) by groundwater pumping. Increased conjunctive use and replenishment operations	

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would assist with improving chronic lowering of water levels and reduction of groundwater storage within the groundwater basins associated with Sites Participants. Incidental water quality, salt water intrusion and subsidence improvements may also result with increases in storage and water levels.	
Describe, if applicable, the expected without-project groundwater conditions in 2030 within the claimed project improvement area, including the factors addressed for current conditions (above).	
Generally speaking, in areas that rely wholly or predominantly on groundwater, only a portion of the water pumped percolates back to the groundwater system, resulting in net extraction of groundwater where groundwater pumping (in part due to recent dry conditions) has exceeded recharge. Sustainability of groundwater supplies depends largely on the amount of surface water available for use and groundwater replenish. The project would provide supplemental surface water supplies that would help to balance groundwater supplies. Without the project, it is anticipated that groundwater pumping would continue to exceed recharge during dry period that would result in increased groundwater storage deficits.	
Describe, if applicable, the expected with-project groundwater conditions (after project implementation) in 2030 within the claimed project improvement area, including: the factors addressed for current conditions (above); how the project would coordinate with the appropriate GSA; how the project complies with SGMA if a GSA has not yet been assigned; and how the project would improve conditions in a groundwater basin/subbasin where undesirable results (as defined in Water Code 10721(x)(1-6)) caused by extraction have occurred.	
The Site project could potentially assist Participants achieve compliance under SGMA. Some of the participants are designated as a Groundwater Sustainability Agency (GSA) for affected groundwater basins, including but not limited to Colusa County, Colusa County Water District, Santa Clara Valley Water District, and Zone 7. Many other agencies participating in the Sites Project also participate in GSAs. These member agencies will be involved in the future integration of the Sites Project into their respective Ground Water Sustainability Plans (GSPs). In addition, Sites participants: Desert Water Agency, California Water Service, San Bernardino Valley Municipal Water District, Metropolitan Water District and San Gorgonio Pass Water Agency are affiliated with adjudicated groundwater basins. Antelope Valley - East Kern Water Agency is affiliated with a groundwater basin that is pending adjudication. The associated operations by participating agencies with adjudicated basins would be included in annual monitoring and reporting activities. Coachella Valley Water District, Desert Water Agency, Santa Clara Valley Water Agency, and Zone 7 Water Agency have submitted requests for an Alternative strategy to the GSP. The Alternative strategy could consist of a groundwater management plan or law authorizing ground water management within a specific basin. The Sites project could also be incorporated into the overall groundwater management strategy for the groundwater basins associated with these Participants.	
Additional locations in the application where data and relevant supporting information, including attachments, are documented (document name, page number, table number, etc.).	Application Reference: Sites_A1 WQ Priority 6, "WSIP Data and Information Summary Table: Water Quality Priority 6 –Groundwater" uploaded under the PHYSICAL PUBLIC BENEFITS TAB. Sites_A6C, "Groundwater Basins Affected by the Sites Reservoir Project" uploaded under the ELIGIBILITY AND GENERAL PROJECT INFORMATION TAB