

Metropolitan Water District of Southern California CAMP4W Comprehensive Assessment

Metropolitan is committed to meeting its mission in the face of a changing climate by developing projects and programs that advance Time-Bound Targets, consistent with the Board's priorities. This comprehensive assessment is a key part of the Climate Decision-Making Framework and will be used to support Board deliberations on which projects and programs Metropolitan should pursue.

Project/Program/Portfolio at a Glance

Title of Project/Program/Portfolio

SWPDA Equitable Supply Reliability Near-Term Portfolio

Status (planning/design/implementation)

Implementation

Capacity (if applicable)

109 TAFY of delivery (system flexibility portfolio)

Capital Cost (2024) Operation/Maintenance or Ongoing Cost (2024)

\$200 Million \$2 Million to \$4 Million per year estimate

Description and how the project/program/portfolio supports water supplies, reliability and/or delivery

The portfolio is comprised of two actions, including: delivery of DVL storage to Rialto Pipeline service area (87 TAFY) with four projects and Sepulveda Feeder Pumping Stage 1 project with two new pump stations delivering Common Pool area supply to western SWPDA agencies (44 TAFY).

Portfolio view and additional potential companion projects/programs/portfolios

Scenario C: Modeling shows pairing projects with additional supply can eliminate or nearly eliminate shortages for the region and SWPDA in years 2035 and 2045.
Scenario D: When paired with supply projects under scenario D, the projects show improved reliability in both 2035 and 2045 compared to modeling without new supplies.

Summary of Assessment and Staff Recommendation

Each criteria and attribute presented on the following pages includes a description of the quantitative and qualitative measures relevant to the proposed project or programs, as well as, Metropolitan staff's recommendation.

The portfolio allows the delivery of available CRA supply, DVL storage, and potential purified water to the SWPDA, which could achieve the near-term time-bound target of equitable supply reliability.

The portfolio receives a high mark on Reliability because it offers a timely solution to achieving the near-term Time-Bound Target (TBT) of equitable supply reliability for SWPDA. It is expected to have a higher cost/benefit ratio because it is only needed for drought relief. However, its unit cost is similar to that of OSCOP, also a limited use program, which suggests a cost-effective solution. Therefore, it receives a mixed score on Affordability. The portfolio enhances system flexibility and improves earthquake and drought resilience. Hence, a high mark on Flexibility. The directly benefited areas are in a region with a high percentage of disadvantaged communities and Metropolitan's Project Labor Agreement (PLA) will apply to all construction contracts to develop local workforce. Therefore, the portfolio receives a relatively high mark on Equity.

Note: DVL=Diamond Valley Lake; SWPDA=State Water Project Dependent Area; OSCOP = Operational Shift Cost Offset Program; CRA = Colorado River Aqueduct

What Time-Bound Targets Does the Project/Program/Portfolio Address?



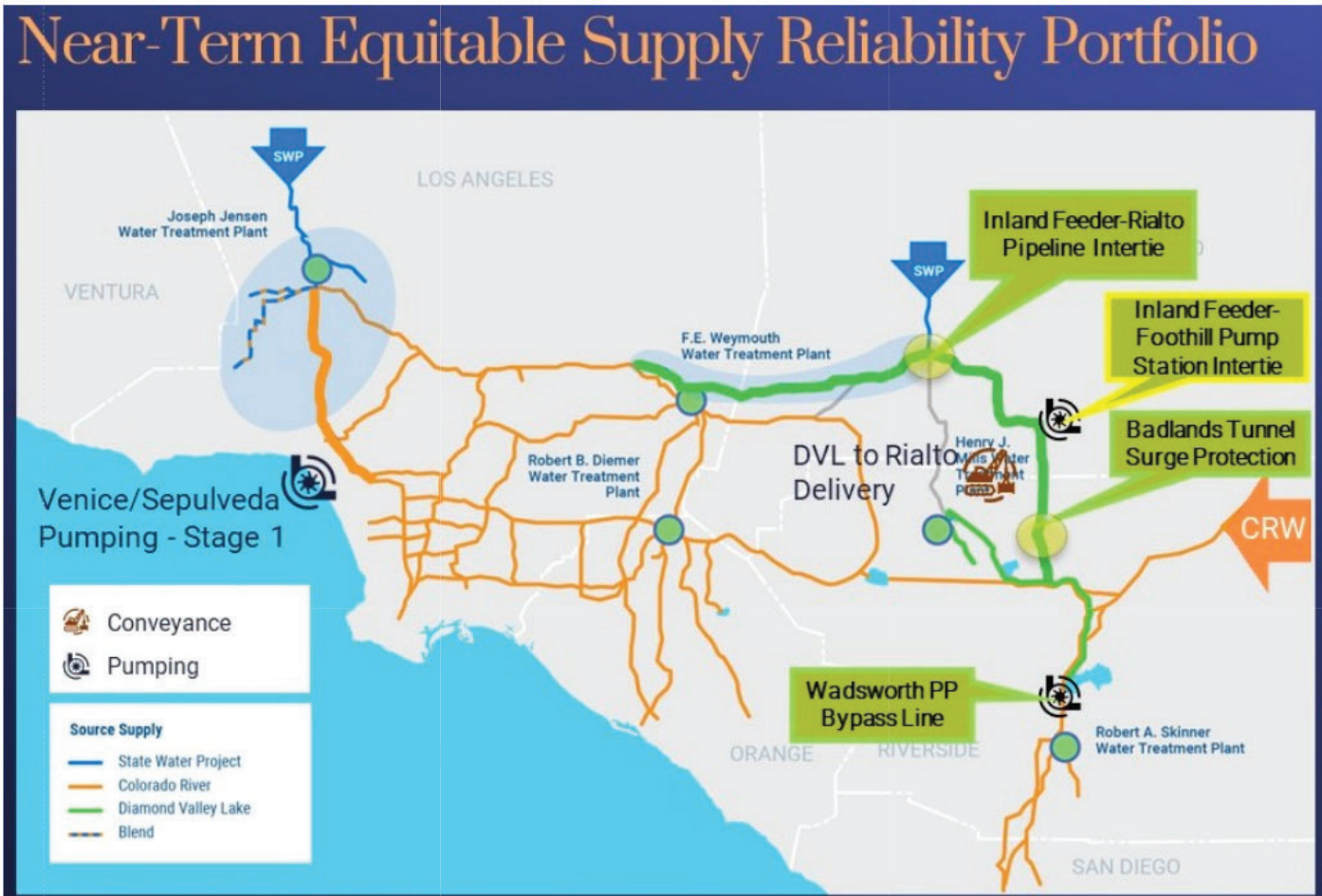
Summary of Assessment and Staff Recommendation (see footnote on Page 2 for ranking guidelines)

Reliability	Resilience	Financial Sustainability and Affordability	Adaptability and Flexibility	Equity	Environmental Co-Benefits
Significant	Significant	Significant	Exceptional	Significant	Limited

See the following pages for a detailed assessment across each Evaluative Criteria category.

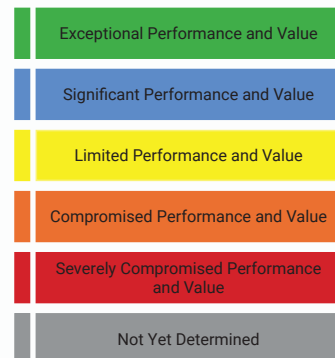
Map or Location Information Related to the Project, Program or Portfolio

Project, Program or Portfolio Location Information




Footnote: Ranking Guidelines Overall

These **rankings** define which level a project, program or portfolio will deliver CAMP4W objectives overall.



Comprehensive Assessment by Evaluative Criteria

Assessment

Evaluative Criteria	Attributes	Assessment	Value
 <p>Reliability Supply Performance Equitable Reliability</p>	1. To what degree does it advance equitable supply reliability?	The portfolio can contribute significantly to achieving the near-term Time-Bound Targets (TBT) of equitable reliability. Modeling of the projects under Scenario D of the IRP shows that in 2030, the SWPDA would see a 39% reduction in the magnitude of shortage compared to a baseline of no projects. By 2045, the shortage reduction lowers to 17% due to deteriorating supply to meet demands for the entire region. Under Scenario C, modeling indicates that Metropolitan would be able to meet the needs of the entire region under most hydrologies without the development of the portfolio projects, suggesting that if this scenario were to occur, the portfolio would provide less value. However, with shortages experienced in recent droughts, it is reasonable to anticipate that the projects would provide future benefits and mitigate shortages compared to existing conditions (e.g. baseline conditions with no projects). When considering the impacts of the severe drought experienced between 2020 and 2022, the portfolio along with other operational adjustments implemented or identified since the drought would have avoided mandatory conservation across the SWPDA.	Significant
	2. To what extent does it help meet supply reliability objectives based upon Average and Dry Year conditions?	The portfolio does not add new supply. The projects included in the portfolio, however, improve access to available supplies from the Colorado River or Diamond Valley Lake to the SWPDA during low-supply SWP years. As a result, they will help meet reliability goals for the SWPDA areas under certain dry conditions.	Limited
	3. How reliable is the source of the supply in projected climate conditions? • Provide data on the frequency with which the source is available under multiple conditions.	The supply sources of the portfolio are from CRA, DVL, and potential purified water. The CRA supply and the ability to fill DVL are susceptible to future climate conditions. The portfolio has diversified supply sources which improves delivery reliability.	Limited
	4. Describe the potential portfolio benefits (e.g., how does it perform alone, with another project, or only with the other project)?	Scenario C: Modeling shows that pairing the projects with additional supply can eliminate or nearly eliminate shortages for the region and SWPDA in years 2035 and 2045. Scenario D: When paired with supply projects under scenario D, the projects show improved reliability in both 2035 and 2045 compared to modeling without new supplies.	Exceptional
Overall Assessment	Overall Assessment Summary		Value
	The portfolio provides important reliability benefits to the SWPDA area, which experienced shortages during the most recent drought. This advances the Time-Bound Target of Equitable Supply Reliability. Pairing the portfolio with an additional supply would further enhance the benefits of the project. Therefore, given these critical factors are address by the portfolio, the overall staff assigned value is "Significant" for Reliability.		Significant

Examples of sources of information and/or content to be provided in the assessment field:

1. IRPSIM
2. Historical drought sequence data
3. Qualitative description of reliability attributes and/or limitations

Additional Information

<p>Please describe how the proposed project or program advances the CAMP4W Time-Bound Targets, develops new or improves existing partnerships or collaborations, and builds on existing plans, policies and initiatives at Metropolitan.</p>	<p>When considering the impacts of the severe drought experienced between 2020 and 2022, the portfolio would have been effective in mitigating the SWPDA supply shortages. Under Scenario D, the portfolio would reduce shortages in the near-term and long-term, as stated above. Under Scenario C, modeling indicates that Metropolitan would be able to meet the needs of the entire region under most hydrologies without the development of the portfolio projects, indicating that were Scenario C to occur, the benefits derived by implementing the projects included in the portfolio would be less than were Scenario D to occur. However, given the shortages experience during the most recent drought, the need for the projects is evident in order to maintain equitable supply reliability since those more extreme conditions have already occurred.</p> <p>In terms of alignment with Metropolitan's policies, the portfolio contributes to the Board's Drought Mitigation directive (August 2022 Board Resolution) to address the SWPDA shortages. Collaboration between Metropolitan and the impacted Member Agencies through a series of workshops in 2022 and 2023 resulted in the proposed portfolio.</p>
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Key

Exceptional	Significant	Limited	Compromised	Severely Compromised	Undetermined or Not Applicable
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Ranking Guidelines at the Attribute Level

Defining to which level a project, program or portfolio will deliver CAMP4W objectives for each attribute category.

Exceptional	The project/program/portfolio directly and completely addresses the benefits being assessed by the question/statement.
Significant	The project/program/portfolio directly addresses most elements of the benefits being assessed by the question/statement.
Limited	The project/program/portfolio only addresses limited elements of the benefits being assessed by the question/statement or addresses them indirectly.
Compromised	The project/program/portfolio only addresses few or minor elements of the benefits being assessed by the question/statement or provides minor indirect benefits.
Severely Compromised	The project/program/portfolio does not provide any or very limited benefits to those being assessed by the question/statement.
Undetermined or Not Applicable	The ranking for this project/program/portfolio is not determined at this time.

Comprehensive Assessment by Evaluative Criteria

Assessment

Evaluative Criteria	Attributes	Assessment	Value
 <p>Resilience Addresses known vulnerabilities</p> <p>Project's or Program's ability to perform under climate impacts</p>	1. Indicate which and to what degree it addresses an identified climate vulnerability (e.g., extreme heat, wildfire, sea level rise, atmospheric rivers, runoff shifts).	These projects increase the flexibility of the system and diversify the points of connection to our SWPDA, offering redundant supply to the SWPDA. If wildfires, floods, or other climate impacts cut off SWP supply, these projects provide an alternate delivery source to most of the SWPDA.	Significant
	2. To what degree will it continue to operate and perform under various climate change conditions, including potential compounding impacts?	These projects should operate well under most climate events, although the power that runs these projects is vulnerable to fires and heat/power emergencies. The system can be operated such that the projects in the portfolio will allow Metropolitan to access and deliver to the SWPDA supplies from the Colorado River, as well as stored supplies in DVL, and Lake Mathews. Access to multiple supply sources enhances the portfolio's resilience against changing conditions that impact the various supply sources.	Significant
	3. What other hazards, including earthquakes, does it improve resilience to?	The project improves the seismic resilience of the eastern and western SWPDAs by providing alternative supplies to the region in the event Metropolitan experiences a loss in supply from the State Water Project due to natural or man-made hazards. An example would be a major event at the San Andreas Fault, which could cause significant damage to both the East and West Branches.	Exceptional
	4. What water quality considerations does it address and to what extent?	Water from DVL delivered to the Rialto area will likely be at a lower total dissolved solid level than water delivered through Silverwood Lake during a drought year. This provides significant benefit to the agencies in this area.	Significant
Overall Assessment	Overall Assessment Summary		Value
	The portfolio is expected to provide Resilience benefits by diversifying the connection points to the SWPDA, offering a redundant supply. It is expected to operate well under most climate events. The flexibility provides a water source option with a lower total dissolved solids level, which provides water quality benefits. Therefore, the overall staff assigned value is "Significant" for Resilience.		Significant

Examples of sources of information and/or content to be provided in the assessment field:

1. IRPSIM
2. Consider link to existing planning processes including system reliability, vulnerability, and flexibility assessments
3. Consider industry infrastructure standards for climate resilience and water quality
4. Consider Federal and State drinking water standards and total dissolved solids reductions
5. Qualitative description of resilience attributes and/or limitations

Additional Information

<p>Please describe how the proposed project or program advances the CAMP4W Time-Bound Targets, develops new or improves existing partnerships or collaborations, and builds on existing plans, policies and initiatives at Metropolitan.</p>	<p>This portfolio primarily addresses the Reliability goals, so the Time-Bound Targets associated with the project are discussed under Reliability. Metropolitan's Seismic Resilience Report identified that a major event at the San Andreas Fault could potentially cut off both SWP and CRA supplies. If such a scenario occurs, DVL storage could supply the region for up to six months. The portfolio of projects would allow DVL storage to be delivered to the SWPDA, drastically enhancing the region's seismic resilience. Therefore, these projects provide exceptional resilience for earthquakes and many climate events by providing an alternate source of supply to the SWPDA. The projects themselves should be reliable under most climate events, although they have some vulnerability do to their reliance on power to run pumps.</p>
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Comprehensive Assessment by Evaluative Criteria

Assessment

Evaluative Criteria	Attributes	Assessment	Value
 Financial Sustainability and Affordability Unit cost	1. What is the average annual rate impact?	Not included here	Undetermined or N/A
	2. Is the project eligible for federal and/or state grants or other funding sources or partners? If so, what are the estimated target amount(s)? Is there a local match requirement? If so, how much?	Yes. The portfolio received \$55M Federal and state grants without a local matching requirement.	Significant
	3. If applicable, what is the unit cost/af (gross and net)? For storage projects, what is the cost/capacity and cost/net yield?	The unit cost of the portfolio is similar to that of OSCOP. It is a relatively inexpensive alternative to achieve the equitable supply reliability TBT. However, were an overall cost/benefit ratio to be determined, it may be high due to its infrequent usage.	Significant
	4. Does considering life cycle cost change the overall financial impact?	The pumping operation increases the O&M cost of the portfolio during its life cycle. Since it would only operate during severe droughts, the increase of operating cost is relatively small compared to the overall investment. Additional staff will be needed to maintain and operate these new facilities as well as additional funding for ongoing maintenance to ensure the equipment is ready to operate. A rough order of magnitude estimate is \$2-4 Million per year on average for all O&M costs.	Limited
	5. Can the project be funded by tax-exempt bonds?	TBD	Undetermined or N/A
Overall Assessment	Overall Assessment Summary		Value
	The portfolio received a partial funding match. It may have a lower cost/benefit ratio due to its infrequent usage and does involve pumping, which increases the O&M costs. Therefore, the overall staff assigned value is "Limited" for Financial Sustainability and Affordability.		Significant

Examples of sources of information and/or content to be provided in the assessment field:

1. Project Costs (capital, O&M, life cycle, net present value)
2. LRFP Needs Assessment
3. Qualitative description of potential funding opportunities and/or project partners
4. Benefit-Cost Analysis

Additional Information

Please describe how the proposed project or program advances the CAMP4W Time-Bound Targets, develops new or improves existing partnerships or collaborations, and builds on existing plans, policies and initiatives at Metropolitan.

The projects in the portfolio are aligned with the state's strategy to provide timely drought relief to urban communities through interconnectivity between systems and improved flexibility in operations. Therefore, the projects qualified to receive \$50M in financial support from the state to support construction of the projects. A combination of the state financial support and the Federal grant contributes to more than 25% of the construction costs and significantly reduces the financial burden on Metropolitan.

Key

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Comprehensive Assessment by Evaluative Criteria

Assessment

Evaluative Criteria	Attributes	Assessment	Value
 Adaptability and Flexibility Flexibility of existing assets Ease / Complexity Scalability	1. Describe how the project/program works with and/or improves the flexibility of existing assets, plans, policies or programs and how it improves the ability to adjust to systemwide changes (water quality, source water, distribution interruption).	The portfolio allows for water to be pumped northward through the Sepulveda and Inland Feeders, thereby enabling greater deliveries of CRA and DVL water supplies to State Water Project-dependent agencies in Metropolitan's eastern and western service areas. The project will lessen the impacts of future low State Water Project allocations.	Exceptional
	2. Can the project be phased (e.g., is the project scalable and what is the initial vs. total investment)?	The Sepulveda Feeder Pumping Stage 1 (30 cfs) allows for future expansion up to 160 cfs capacity. For DVL/Rialto delivery, the installation of Wadsworth bypass only, allows exchange with SBVMWD to start a partial delivery to the Rialto area. Metropolitan could receive SBVMWD's SWP Table A supply in exchange for DVL storage to be delivered to SBVMWD's Citrus Reservoir. The estimated initial delivery is 10 TAFY out of a total of 87 TAFY for the full project build out. The initial investment/total project cost = 25%. Additionally the DVL to Rialto project can be improved by adding a new pump station at PC-1 on the Inland Feeder.	Exceptional
	3. Explain how complex the day-to-day operations might be (example: staffing, maintenance, preparation)?	The project is complex as it involves operating new pumps in series. Staff will need to restart the pumps after pump trips and perform periodic maintenance to ensure the pumps are available, when needed. Operational adjustments may be needed to manage potential surges caused by pump trips.	Compromised
	4. What is the implementation risk and/or complexity of implementation?	Projects in the portfolio are located on Metropolitan's existing ROW or partner agency's developed lands, which significantly lowers the implementation risk. The endangered species, Kangaroo Rat, was found near the Foothill pump station, causing implementation complexity and delays for this portion of the project. However, measures have been developed to mitigate the impact. The project schedule has built in the environmental permitting process to secure agency approvals. The risk of project delay is relatively low since the impacted areas have been defined, and the mitigation measures have been developed in consultation with jurisdictional agencies.	Significant
Overall Assessment	Overall Assessment Summary		Value
	The portfolio allows for increased flexibility by enabling greater deliveries of CRA and DVL water supply to the SWPDA. It can be phased, and has limited implementation risk. Therefore, the overall staff assigned value is "Exceptional" for Adaptability and Flexibility.		Exceptional

Examples of sources of information and/or content to be provided in the assessment field:

1. Quantitative and qualitative description of potential added system operational flexibility (redundancy, water quality, etc.) and implementation complexity and risks (ROW, timing, partners, etc.)
2. Quantitative and qualitative description of scalability (cost, benefits, impacts)
3. Qualitative description of impact on day-to-day operations
4. Ability to adapt to uncertainties and sustain a specified performance across changing conditions (e.g., demand, legislation, energy costs)

Key



Additional Information

Please describe how the proposed project or program advances the CAMP4W Time-Bound Targets, develops new or improves existing partnerships or collaborations, and builds on existing plans, policies and initiatives at Metropolitan.	This project utilizes San Bernardino Valley Municipal Water District's (SBVMWD), another State Water Contractor, and the California Department of Water Resources' existing facilities which minimizes the time and investment required to bring the DVL to Rialto delivery into service. The service areas for these projects are typically served by the terminal reservoirs, Castaic and Silverwood Lakes. If there is a water quality event at either reservoir, these projects can supplement the service area demands until the water quality event subsides.
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Comprehensive Assessment by Evaluative Criteria

Assessment

Evaluative Criteria	Attributes	Assessment	Value
 <p>Equity</p> <p>Programs for underserved communities</p> <p>Scale of community engagement</p> <p>Public health benefits</p> <p>Workforce development</p>	<p>1. To what scale does it directly or indirectly benefit underserved communities while enhancing Metropolitan's services?</p> <ul style="list-style-type: none"> Ratio of DAC population in the project area. 	<p>This portfolio of projects provides enhanced supply reliability benefits to all Member Agencies while providing enhanced reliability to the more than 6 million residents of Southern California who were asked to conserve water through mandatory emergency drought restrictions in 2022 and 2023. Approximately 43% of residents within the SWPDA are part of DACs.</p>	Significant
	<p>2. What strategies are used to engage the community, tribal groups, and other partners? What indicators are in place to measure the effectiveness of these engagement efforts?</p>	<p>Public meetings held at Metropolitan, its member agencies, and their respective retail agencies resulted in substantial public engagement, with upwards of 1,000 people in attendance at a single meeting regarding mandatory water conservation. Additionally, Metropolitan launched a >\$10 million dollar campaign through bewaterwise for water conservation opportunities.</p>	Significant
	<p>3. Describe the extent to which there is broad community support or potential for support or potential sources of opposition.</p>	<p>There is significant support for the portfolio of projects following the conditions the SWP dependent area experienced during the latest drought. Mandatory emergency drought restrictions went into effect for more than 6 million Southern California residents in Los Angeles, Ventura, and San Bernardino counties from June 1, 2022 until March 15, 2023. The DVL to Rialto Delivery and Sepulveda Pumping Stage 1 portfolio of projects have broad community support from affected communities.</p>	Significant
	<p>4. What specific community benefits such as workforce opportunities, localized resilience, public health, and quality of life measures are incorporated?</p>	<p>Both of the projects within this portfolio are part of a project labor agreement (PLA). This portfolio provides localized resilience and public health benefits to the communities impacted by the mandatory emergency drought restrictions through the diversification of imported water supply sources from the SWP alone to a combination of SWP/CRA supply sources.</p>	Limited
Overall Assessment	Overall Assessment Summary		Value
	<p>The portfolio benefits disadvantaged communities, included substantial public involvement and engagement, and has garnered significant support across the area. Therefore, the overall staff assigned value is "Significant" for Equity.</p>		Significant

Examples of sources of information and/or content to be provided in the assessment field:

- Percentage of project in CalEnviro Screen community
- Qualitative description of level of community, tribal and partner engagement
- Qualitative description of direct community benefits associated with project/program
- Consider using tool to measure / monetize co-benefits, where appropriate

Key



Additional Information

<p>Please describe how the proposed project or program advances the CAMP4W Time-Bound Targets, develops new or improves existing partnerships or collaborations, and builds on existing plans, policies and initiatives at Metropolitan.</p>	<p>The DVL to Rialto Delivery and Sepulveda Pumping Stage 1 portfolio of projects builds on Metropolitan's partnerships with the State Water Project Dependent Area member agencies. Between April 2022 and December 2023, Metropolitan held a series of workshops with the SWPDA member agencies to work toward a set of solutions for the agencies representing more than 6 million customers asked to reduce water consumption through mandatory emergency drought restrictions. The DVL to Rialto Delivery and Sepulveda Pumping Stage 1 portfolio of projects was a highly recommended solution from Metropolitan's 11 workshops with member agency managers. The portfolio of projects helps to provide an additional water supply to the SWP East and West Branch member agencies. The portfolio of projects builds on Metropolitan's existing community-based outreach through the Bewaterwise initiative. With 43% of the population within the impacted SWPDA area being part of a DAC, the portfolio provides direct benefits to these communities.</p>
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Comprehensive Assessment by Evaluative Criteria

Assessment

Evaluative Criteria	Attributes	Assessment	Value
 Environmental Co-Benefits Greenhouse gas emissions Benefits Ecosystem services Habitat/wildlife benefits	1. What are the estimated greenhouse gas emissions or enhanced carbon sequestration, and is this consistent with Metropolitan's Climate Action Plan (CAP)?	The portfolio of projects optimizes energy usage through the addition of variable frequency drives (VFDs). With California's significant adoption of time-based renewable energy technologies, mainly solar energy generation, California's grid often has a surplus of energy midday and a strained power supply system in the evenings, resulting in time-of-use energy rates meant to drive energy usage to the middle of the day. VFDs can reduce energy usage by more than 25% and can provide significant cost savings through enhanced time-of-use operational flexibility. However, specific energy use and GHG estimates are still being developed.	Undetermined or N/A
	2. In what way and to what degree does it provide additional ecosystem services and promote ecological functions, such as water quality, soil health, biodiversity, urban heat island reduction including through adding public green space and/or reducing impervious surfaces, flooding reduction, watershed protection, restoration, carbon sequestration etc.?	The DVL Delivery and Sepulveda Pumping Stage 1 portfolio of projects has the potential to promote ecological functions such as water quality, biodiversity, flooding reduction, and watershed protection through the enhanced ability to better balance SWP and CRA imported supplies to Metropolitan's service area through greater operational flexibility. The flexibility to rely on one imported supply source over another can help Metropolitan to partner with Federal, State, and local communities to increase or decrease deliveries from a particular imported supply source based on weather, climate, and environmental factors. Because a gray infrastructure approach fits this specific need the best; however, the project itself does not include direct environmental co-benefits.	Limited
	3. To what extent does it protect, improve, or expand wildlife and fish habitat and/or affect flows in ways that improve ecological functions for native species?	The portfolio of projects can affect flows from the Delta and Lake Mead in ways that improve ecological functions for native species through enhanced operational flexibility that could allow Metropolitan to partner with Federal, State, and local communities to increase or decrease flows from a particular source based on environmental benefits.	Limited
Overall Assessment	Overall Assessment Summary		Value
	The greenhouse gas emissions are not yet determined for the portfolio. The portfolio does not include direct environmental co-benefits, though it may have indirect benefits. Therefore, the overall staff assigned value is "Limited" for Environmental Co-Benefits.		Limited

Examples of sources of information and/or content to be provided in the assessment field:

1. GHG and pollutant load estimates
2. Qualitative description of ecosystem services and ecological functions provided
3. Consider using tool to measure / monetize co-benefits, where appropriate
4. Acreage land impacted; Acre-feet of water provided

Key

Exceptional	Significant	Limited	Compromised	Severely Compromised	Undetermined or Not Applicable
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Additional Information

Please describe how the proposed project or program advances the CAMP4W Time-Bound Targets, develops new or improves existing partnerships or collaborations, and builds on existing plans, policies and initiatives at Metropolitan.	The portfolio has the potential to enhance the existing partnerships between Metropolitan and the State of California's Department of Water Resources in the delivery of State Water Project supplies to preserve the Bay-Delta ecosystem. With an augmented ability to deliver either State Water Project or Colorado River supplies to an expanded portion of Metropolitan's service area, Metropolitan can better plan and collaborate with its State partner to deliver water to the Metropolitan service area while factoring in environmental requirements in the Bay-Delta area. The portfolio of projects can also deliver potential local supplies (such as purified water) to further offset the SWP supply when needed.
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Evaluative Criteria	Attributes	Assessment
 <p>Reliability Supply Performance Equitable Reliability</p>	1. To what degree does it advance equitable supply reliability?	The portfolio can contribute significantly to achieving the near-term Time-Bound Targets (TBT) of equitable reliability. Modeling of the projects under Scenario D of the IRP shows that in 2030, the SWPDA would see a 39% reduction in the magnitude of shortage compared to a baseline of no projects. By 2045, the shortage reduction lowers to 17% due to deteriorating supply to meet demands for the entire region. Under Scenario C, modeling indicates that Metropolitan would be able to meet the needs of the entire region under most hydrologies without the development of the portfolio projects, suggesting that if this scenario were to occur, the portfolio would provide less value. However, with shortages experienced in recent droughts, it is reasonable to anticipate that the projects would provide future benefits and mitigate shortages compared to existing conditions (e.g. baseline conditions with no projects). When considering the impacts of the severe drought experienced between 2020 and 2022, the portfolio along with other operational adjustments implemented or identified since the drought would have avoided mandatory conservation across the SWPDA.
	2. To what extent does it help meet supply reliability objectives based upon Average and Dry Year conditions?	The portfolio does not add new supply. The projects included in the portfolio, however, improve access to available supplies from the Colorado River or Diamond Valley Lake to the SWPDA during low-supply SWP years. As a result, they will help meet reliability goals for the SWPDA areas under certain dry conditions.
	3. How reliable is the source of the supply in projected climate conditions? • Provide data on the frequency with which the source is available under multiple conditions.	The supply sources of the portfolio are from CRA, DVL, and potential purified water. The CRA supply and the ability to fill DVL are susceptible to future climate conditions. The portfolio has diversified supply sources which improves delivery reliability.
	4. Describe the potential portfolio benefits (e.g., how does it perform alone, with another project, or only with the other project)?	Scenario C: Modeling shows that pairing the projects with additional supply can eliminate or nearly eliminate shortages for the region and SWPDA in years 2035 and 2045. Scenario D: When paired with supply projects under scenario D, the projects show improved reliability in both 2035 and 2045 compared to modeling without new supplies.

Examples of sources of information and/or content to be provided in the assessment field:

1. IRPSIM
2. Historical drought sequence data
3. Qualitative description of reliability attributes and/or limitations

Additional Information

Please describe how the proposed project or program advances the CAMP4W Time-Bound Targets, develops new or improves existing partnerships or collaborations, and builds on existing plans, policies and initiatives at Metropolitan.

When considering the impacts of the severe drought experienced between 2020 and 2022, the portfolio would have been effective in mitigating the SWPDA supply shortages. Under Scenario D, the portfolio would reduce shortages in the near-term and long-term, as stated above. Under Scenario C, modeling indicates that Metropolitan would be able to meet the needs of the entire region under most hydrologies without the development of the portfolio projects, indicating that were Scenario C to occur, the benefits derived by implementing the projects included in the portfolio would be less than were Scenario D to occur. However, given the shortages experience during the most recent drought, the need for the projects is evident in order to maintain equitable supply reliability since those more extreme conditions have already occurred.

In terms of alignment with Metropolitan's policies, the portfolio contributes to the Board's Drought Mitigation directive (August 2022 Board Resolution) to address the SWPDA shortages. Collaboration between Metropolitan and the impacted Member Agencies through a series of workshops in 2022 and 2023 resulted in the proposed portfolio.

Overall Reliability Assessment

The portfolio provides important reliability benefits to the SWPDA area, which experienced shortages during the most recent drought. This advances the Time-Bound Target of Equitable Supply Reliability. Pairing the portfolio with an additional supply would further enhance the benefits of the project. Therefore, given these critical factors are address by the portfolio, the overall staff assigned value is "Significant" for Reliability.

Overall Ranking

Significant