

Central Arkansas Water

PRE-ISSUANCE VERIFICATION LETTER

WATER INFRASTRUCTURE CRITERIA OF THE CLIMATE BONDS STANDARD

Type of engagement: Assurance Engagement

Period engagement was carried out: September - October 2020

Approved verifier: Sustainalytics

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Scope and Objectives

Central Arkansas Water ("CAW") has engaged Sustainalytics to review and verify that CAW's green bond meets the requirements under the Water Infrastructure criteria of the Climate Bonds Standard.¹

CAW is a metropolitan water system provider which serves a population of nearly 500,000. It has approximately 125,000 residential, commercial, industrial, and wholesale customers in Pulaski, Saline and Perry counties in Arkansas, USA.

Proceeds from the CAW green bond will be used to finance projects in the areas of water infrastructure, water storage and nature-based water infrastructure with the goal of increasing resilience through built and natural infrastructure. CAW has identified a portfolio of potentially eligible Water Infrastructure projects ("Nominated Projects") that may receive allocations from the proceeds of its potential green bond. Please see Schedule 1 for examples of Nominated Projects.

Climate Bonds Standards Criteria

Pre-issuance requirements under Version 3.0:2

- Water Infrastructure
 - Water treatment
 - Water storage
 - Water distribution systems
 - Nature-based water infrastructure

Issuing Entity's Responsibility

CAW was responsible for providing information and documents relating to:

- The details concerning the selection process for the Nominated Projects;
- The details of the Nominated Projects;
- The management systems for internal processes and controls for Nominated Projects, including: tracking of proceeds, managing unallocated proceeds and Earmarking funds to Nominated Projects; and
- The details of commitments for reporting prior to issuance, including: investment areas, management of unallocated proceeds and frequency of periodic Assurance Engagements.

Independence and Quality Control

Sustainalytics, a leading provider of ESG and corporate governance research and ratings to investors, conducted the verification of CAW's green bond, issued to finance water infrastructure projects, and provided

¹ Climate Bonds Standard, Water Infrastructure Criteria under the Climate Bonds Standard. See more, at: https://www.climatebonds.net/files/files/files/Climate%20Bonds%20Water%20Infrastructure%20Full%20Criteria%20February%202020.pdf
² Climate Bonds Standard, Climate Bonds Standard Version 3.0. See more, at:

https://www.climatebonds.net/files/files/Climate%20Bonds_Standard_Version%203_0_December%202017.pdf



an independent opinion informing CAW as to the conformance of the green bond with the Pre-Issuance requirements and Water Infrastructure criteria of the Climate Bonds Standard.

Sustainalytics has relied on the information and the facts presented by CAW. Sustainalytics is not responsible if any aspect of the Nominated Projects referred to in this opinion including estimates, findings, opinions, or conclusions are incorrect. Thus, Sustainalytics shall not be held liable if any of the information or data provided by CAW's management and used as a basis for this assessment were not correct or complete.

Sustainalytics makes all efforts to ensure the highest quality and rigor during its assessment process and enlisted its Sustainability Bonds Review Committee to provide oversight over the assessment of the bond.

Verifier's Responsibility

The work undertaken as part of this engagement included conversations with relevant CAW employees and review of relevant documentation to confirm the green bond's conformance with the Climate Bonds Certification Pre-Issuance Requirements, which include:

- Conformance of CAW's green bond with the Climate Bonds Standard Version 3.0;
- Conformance with the Water Infrastructure Technical Criteria;
- Conformance with the Internal Processes & Controls requirements; and
- Conformance with Reporting Prior to Issuance requirements.

Basis of the Opinion

Sustainalytics conducted the verification in accordance with the Climate Bond Standard Version 3.0 and with International Standard on Assurance Engagements 3000 – Assurance Engagements other than Audits or Reviews of Historical Information.

Sustainalytics planned and performed the verification by obtaining evidence and other information and explanations that Sustainalytics considers necessary to give limited assurance that CAW's green bond meets the requirements of the Climate Bond Standard. Upon reviewing evidence and other information, Sustainalytics is of the opinion that CAW will ensure compliance with Climate Bond Standard requirements.

Conclusion

CAW is aiming to finance various water infrastructure projects with the goal of improving source water protection, improving transportation and delivery systems, and increasing the resiliency of CAW's resources.

Based on the limited assurance procedures conducted of CAW's green bond under the Water Infrastructure criteria of the Climate Bonds Standard, nothing has come to Sustainalytics' attention that causes us to believe that, in all material aspects, CAW's green bond is not in conformance with the Water Infrastructure of the Climate Bond Standard's Pre-Issuance Requirements.



Schedule 1: Detailed Overview of Nominated Projects and Assets

CAW's nominated projects and assets will fall into one or more of the following sub-categories:

- Water Infrastructure: Installation or upgrade of water treatment infrastructure
- Water Infrastructure: Water saving technologies
- Improvement on water distribution systems
- Nature-based solutions: Water treatment by natural filtration systems
- Nature-based solutions: Stormwater management by erosion control measures

CAW's current list of nominated projects and assets are:

Nominated Projects & Assets Description	Total (USD)
Improve Booster Pump Station No. 11	350,000
Install 24-inch Transmission Main - N. Locust Street/Pump Station No. 23 - North Little Rock	2,000,000
Install Watermain 12" Morgan / NLR Int. Looping	700,000
Install - 12" WM to WM Pressure Zone Connection	250,000
Relocate Water Mains - Bowman Rd Improvements - LR	250,000
2022 Relocate 24-inch Transmission Main Along Interstate 30 (I-30) Ark River Bridge	805,000
Improve Lake Winona Spillway	500,000
Install 8-inch Water Main Across I-40 at Harris Road	250,000
Improve Raw Water Pump Station No. 12 – Jackson Resvr.	1,500,000
Install 8-inch Panther Mtn to Maumelle Connection	550,000
Replacement of GALV & CIP Water Mains	7,219,250
Relocate Water Mains - Rodney Parham Rd., Rocky Valley to Cantrell	500,000
Replace 12-inch Water Main at 8101 Stagecoach	250,000
Replace Wilson Filter Control Solenoid Valves	96,000
Relocate 16/12/8-inch Water Mains - Cantrell Rd/AR Hwy 10/Sam Peck/Taylor Loop - Phase 2	1,800,000
Relocate Water Mains - 24" Along Hemphill Rd - Sherwood	500,000
Relocate Water Mains - Country Club Rd - N. Hills to Beaconsfield - Sherwood	850,000
Relocate Water Mains - Park Hill Jump Start - JFK Blvd - NLR	225,000
Improve Intake Gates at Lake Maumelle, Lake Winona, & Jackson Resv.	500,000
Lake Maumelle Pump Station Intake Rehab. & Parking Lot Foundation Repair	250,000
Generator at Pump Station 16A	70,000
Highland Ridge Pump Station 17A	600,000
Watershed Protection: Purchase Rattlesnake Ridge Conservation Easement	600,000
Watershed Protection: Purchase watershed land or Conservation Easement	500,000
Watershed Protection: Forest Legacy Large Acre Property Purchase	6,000,000
Refunding Series 2018A (proceeds purchased 460 acres of forest lands for watershed protection)	3,509,397
Total	30,624,647



Schedule 2A: Pre-Issuance General Requirements

1. Use of Proceeds 1.1 The Issuer shall document the Nominated Projects & Assets which are proposed to be associated with the Bond and which have been assessed as likely to be Eligible Projects & Assets. The Issuer shall establish a list of Nominated Projects & Assets which can be kept up-to-date during the term of the Bond.

- 1.2 The expected Net Proceeds of the Bond shall be no greater than the Issuer's total investment exposure to the proposed Nominated Projects & Assets, or the relevant proportion of the total Market Value of the proposed Nominated Projects & Assets which are owned or funded by the Issuer.
- 1.3 Nominated Projects & Assets shall not be nominated to other Certified Climate Bonds, Certified Climate Loans, Certified Climate Debt Instruments, green bonds, green loans or other labelled instruments (such as social bonds or SDG bonds) unless it is demonstrated by the Issuer that:
 - 1.3.1 distinct portions of the Nominated Projects & Assets are being funded by different Certified Climate Bonds, Certified Climate Loans, Certified Climate Debt Instruments, green bonds, green loans or other labelled instruments; or,
 - 1.3.2 the existing Certified Climate Bond, Certified Climate Loan or Certified Climate Debt Instrument is being refinanced via another Certified Climate Bond, Certified Climate Loan or Certified Climate Debt Instrument.

2. Process for Evaluation and Selection of Projects & Assets

- 2.1 The Issuer shall establish, document and maintain a decision-making process which it uses to determine the eligibility of the Nominated Projects & Assets. The decision-making process shall include, without limitation:
 - 2.1.1 A statement on the climate-related objectives of the Bond;
 - 2.1.2 How the climate-related objectives of the Bond are positioned within the context of the Issuer's overarching objectives, strategy, policy and/or processes relating to environmental sustainability;
 - 2.1.3 The Issuer's rationale for issuing the Bond;
 - 2.1.4 A process to determine whether the Nominated Projects & Assets meet the eligibility requirements specified in Part C of the Climate Bonds Standard.

Note to 2.1: A wide variety of climate-related objectives are possible. These can vary from increasing the installed capacity of low carbon assets, such as solar power facilities, to having a specific objective focused on the operations or indirect effects of the projects & assets, such as emissions reductions.

The climate-related objectives of the Bond, as stated by the Issuer, have implications for the reporting requirements under the Climate Bonds Standard. See Clauses 2.3, 5.2, 5.8, 6.1.1 and 8.4.

- 2.2 The Issuer should include under Clause 2.1 further aspects of the decision-making process, including:
 - 2.2.1 related eligibility criteria, including, if applicable, exclusion criteria or any other process, applied to identify and manage potentially material environmental, social or governance risks associated with the Nominated Projects & Assets;



		2.2.2	any green standards or certifications referenced in the selection of Nominated Projects & Assets.
	2.3	associa Clause	uer shall assess that all proposed Nominated Projects & Assets to be ted with the Bond meet the documented objectives as stated under 2.1.1 and are likely to conform to the relevant eligibility requirements Part C of the Climate Bonds Standard.
3. Management of Proceeds	3.1	Proceed	stems, policies and processes to be used for management of the Net ds shall be documented by the Issuer and disclosed to the Verifier, and clude arrangements for the following activities:
		3.1.1	Tracking of proceeds: The Net Proceeds of the Bond can be credited to a sub-account, moved to a sub-portfolio, or otherwise tracked by the Issuer in an appropriate manner and documented.
		3.1.2	Managing unallocated proceeds: The balance of unallocated Net Proceeds can be managed as per the requirements in Clause 7.3.
		3.1.3	Earmarking funds to Nominated Projects & Assets: An earmarking process can be used to manage and account for funding to the Nominated Projects & Assets and enables estimation of the share of the Net Proceeds being used for financing and refinancing.
4. Reporting	4.1	availabl	suer shall prepare a Green Bond Framework and make it publicly le prior to Issuance or at the time of Issuance. The Green Bond work shall include, without limitation:
		4.1.1	Confirmation that the Bonds issued under the Green Bond Framework are aligned with the Climate Bonds Standard. This may include statements of alignment with other applicable standards, such as the EU Green Bond Standard, the ASEAN Green Bond Standard, Chinese domestic regulations, Japanese Green Bond Guidelines, etc.;
		4.1.2	A summary of the expected use of proceeds, as defined under Clause 1.1, and the expected contribution of the relevant sectors or subsectors to the rapid transition required to achieve the goals of the Paris Climate Agreement;
		4.1.3	A description of the decision-making process, as defined under Clause 2.1, with particular reference to the requirements in Clause 2.1.2;
		4.1.4	Information on the methodology and assumptions to be used for: confirming, where required by relevant Sector Eligibility Criteria, the characteristics or performance of Nominated Projects & Assets required to conform to the relevant eligibility requirements under Part C of the Climate Bonds Standard; and any other additional impact metrics that the issuer will define.
		4.1.5	A summary of the approach to the management of unallocated Net Proceeds in accordance with Clause 3.1;
		4.1.6	The intended approach to providing Update Reports to reaffirm conformance with the Climate Bonds Standard while the Bond remains outstanding;
		4.1.7	The list of proposed Nominated Projects & Assets associated with the Bond and the investment areas, as provided in Clause 9.1, into which the Nominated Projects & Assets fall. Where there are limits on the amount of detail that can be made available about specific Nominated Projects & Assets, information shall be presented on the investment areas which the Nominated Projects & Assets fall into, as provided in Clause 9.1, and the Issuer shall provide an explanation of why detail on Nominated Projects & Assets is limited;
		4.1.8	Where a proportion of the Net Proceeds are used for refinancing, an estimate of the share of the Net Proceeds used for financing and refinancing, and the relevant Nominated Projects & Assets or investment areas which may be refinanced. This may also include the



expected look-back period for refinanced Nominated Projects & Assets.

Note: Issuers are encouraged to disclose as much information as possible with respect to Nominated Projects & Assets. However, in many cases it is not possible for the Issuer to disclose detailed information about specific projects & assets prior to the issuance of the Bond. This limitation may be due to confidentiality arrangements with owners of projects & assets, the dynamic nature of the project portfolio, competitive considerations, or other legal provisions which limit the disclosure of detailed information.

- 4.2 The Issuer shall include in the Disclosure Documentation:
 - 4.2.1 The investment areas, as provided in Clause 9.1, into which the Nominated Projects & Assets fall;
 - 4.2.2 The intended types of temporary investment instruments for the management of unallocated Net Proceeds in accordance with Clause 7.3;
 - 4.2.3 The Verifier engaged by the Issuer for the mandatory verification engagements;
 - 4.2.4 The intended approach to providing Update Reports to reaffirm conformance with the Climate Bonds Standard while the Bond remains outstanding, including the location of the published documents;
 - 4.2.5 The Climate Bonds Initiative Disclaimer provided in the Certification Agreement.

Note to 4.2.4: Issuers are encouraged to provide their Update Reports through existing reporting channels for the bond markets, such as the Electronic Municipal Market Access (EMMA) website for the US Municipality sector.



Schedule 2B: Conformance to the Pre-Issuance Requirements

Procedure Performed	Factual Findings	Error or Exceptions Identified
1. Use of Proceeds	 1.4 CAW has developed a list of proposed Nominated Projects & Assets which comply with the Water Infrastructure sector criteria of the Climate Bond Standard. CAW intends to keep this list updated with all the financed projects that fall within the scope of CAW's green bond program and Framework. The proposed Nominated Projects and Assets include: Water Infrastructure: Installation or upgrade of water treatment infrastructure Water Infrastructure: Water saving technologies Improvement on water distribution systems Nature based solutions: Water treatment by natural filtration systems Nature based solutions: Stormwater management by erosion control measures 1.5 CAW's management confirms that the net proceeds of the future bond will not be greater than the total investment exposure to the proposed Nominated Projects & Assets. 1.6 CAW's management confirms that the Nominated Projects & Assets will not be nominated to other certified Climate Bonds, certified Climate Loans, certified Climate Debt Instrument, green bonds, green loans or other labelled instruments unless it is demonstrated by CAW that distinct portions of the Nominated Projects & Assets are being funded by different instruments or that the existing instrument is being refinanced via another labelled instrument. 	None
2. Process for Evaluation and Selection of Projects & Assets	2.1.1. The Green Bond Framework states that the intention of the green bonds are to increase resiliency through built and natural infrastructure.	None
T Tojecis & Assets	2.1.2. CAW's environmental objectives are summarized in the Green Bond Framework.	
	2.1.3. CAW's rationale for issuing green bonds is to meet its strategic goals of source water protection, improved delivery and transportation systems, and enhanced utilization of CAW resources to increase resiliency.	
	2.1.4. The Green Bond Framework includes a process for project evaluation and selection in which projects are selected based on alignment with CAW's strategic plan, facilities plan and asset management needs, and the current Watershed Management Plan. CAW also draws on business case studies and identifies community benefits when determining eligibility. CAW's budget staff, Chief Executive Officer and Commissioners are responsible for overseeing this process, and Commisioners must approve all projects over USD 100,000 prior to signing contracts.	
	2.2.1. CAW has sufficient measures in place to manage and mitigate environmental and social risks that are commonly associated with the eligible category.	



	2.2.2.	The Green Bond Framework references the Climate Bond Standard version 3.	
	2.3	CAW will engage an accredited external reviewer in order to verify that all proposed Nominated Projects & Assets conform to the Climate Bonds Taxonomy and Water Infrastructure sector criteria.	
3. Management of Proceeds	3.1.1	The Green Bond Framework outlines a process by which proceeds will be tracked.	None
	3.1.2	A project account, debt service reserve account, and fund account are established for each series of debt. The bond proceeds for the green bond will be maintained in a separate project account, and the interest earned on that account will be added directly to the account to support project spending. The unallocated net proceeds are invested per CAW's financial policy as outlined by Commissioners, including government obligiations and obligiations whereas the principal and interest are fully guaranteed by the United States government or agency.	
	3.1.3	The Green Bond Framework details the process CAW will use to allocate and manage green bonds proceeds. This will enable the estimation of the share of the Net Proceeds being used for financing and refinancing.	
Reporting Prior to Issuance	4.1.1.	Bonds issued under the Green Bond Framework are intended to align with the Climate Bonds Standard.	None
	4.1.2.	The Green Bond Framework indicates that green bond proceeds will be used, as defined under Clause 1.1, and the expected contribution of the relevant sectors or sub-sectors to the rapid transition required to achieve the goals of the Paris Climate Agreement.	
	4.1.3.	The Green Bond Framework provides detail on its decision-making process, in which CAW will engage its budget staff, Chief Executive Officer and Commissioners during the process to ensure alignment with the eglibility criteria.	
	4.1.4.	CAW's Nominated Projects & Assets will conform with the Water Infrastructure sector criteria.	
	4.1.5.	CAW will manage unallocated net proceeds in accordance with Clause 3.1	
	4.1.6.	CAW will engage an accredited external reviewer to evaluate how selected projects meet the specific criteria for the Climate Bonds Initiative sector criteria, within 24 months of issuance, in accordance with the Climate Bonds Initiative certification.	
	4.1.7.	CAW's Nominated Projects & Assets fall under Water Infrastructure sector criteria. CAW will report on the investment areas which the Nominated Projects & Assets fall into by producing an annual report with details on the green bond proceeds, as well as by engaging an accredited external reviewer to evaluate how selected projects meet the specific criteria.	
	4.1.8.	CAW has estimated that 87-89% of the green bond proceeds will be used to finance new projects, while 11-13% will be used to refinance a 2018 bond whose proceeds purchased 460 forested acres as a natural filtration system and eroision prevention.	



- 4.2.1. CAW's Nominated Projects & Assets will conform with the Water Infrastructure sector criteria.
- 4.2.2. The intended types of temporary investment instruments for the management of unallocated Net Proceeds are in accordance with Clause 7.3 of the Climate Bonds Standard.
- 4.2.3. CAW has confirmed that an approved third party verifier will conduct periodic assurance within a year to reaffirm conformance of the bond with the Water Infrastructure criteria of the Climate Bonds Standard.
- 4.2.4. CAW will produce an annual report that will include information on how the green bond proceeds were used to finance the selected projects, a description of the selected projects, and details of the environmental benefits resulting from the projects. The report will be posted on the CAW website.
- 4.2.5. Sustainalytics has communicated to CAW that under the terms of its certification, CAW must include the CBI Disclaimer provided in the Certification Agreement in its disclosure documentation.



Schedule 3: Mitigation Assessment and Scorecard for evaluating the Issuer's Vulnerability Assessment & Adaptation Plan

	Vulnerability Assessment SECTION 1: ALLC (To be completed for all Water Infrastructure			
	(10 be completed to all water immediation	Max Score	Actual Score	Requirement: Evidence and/or Disclosure
1.1	Are there accountability mechanisms in place for the management of water allocation that are effective at a sub-basin and/or basin scale? Yes – There are a number of state plans including the Arkansas Water Plan and associated regulations such as the Rules for the Utilization of Surface Water.	1	1	Arkansas Water Plan Arkansas State Water Plan: River Basin Arkansas Water Plan: Natural Resources Arkansas Natural Resources Commission Rules for the Utilization of Surface Water Arkansas Water Plan: Update
	Are the following factors taken into account in the definition of the available resource pool?			
1.2	a) Non-consumptive uses (e.g., navigation, hydroelectricity) • No, not relevant as all uses are consumptive. b) Environmental flow requirements • Yes, Lake Winona must maintain a discharge (no volume attached to it) c) Dry season minimum flow requirements • This is not applicable as there is no dry season. d) Return flows (how much water should be returned to the resource pool, after use) • Yes, this only applies to Lake Winona. e) Inter-annual and inter-seasonal variability • Yes, safe yields. Refer to CAW 2018 Source Water Assessment. This document has been reviewed by the verifier. f) Connectivity with other water bodies • Yes, this only applies to Lake Winona. g) Climate change impacts • These are contemplated in CAW's Risk Resilience Assessment Report, a confidential document which has been reviewed by the verifier.	5	5	Evidence CAW 2018 Source Water Assessment CAW Risk Resilience Assessment Report
1.3	Are arrangements in place to accommodate the potentially adverse impacts of climate change on the resource pool? (E.g. using best available science to plan for future changes in availability, undertaking periodic monitoring and updating of available pool.) Yes – these are contemplated in CAW's Risk Resilience Assessment Report, a confidential document which has been reviewed by the verifier.	1	1	Evidence CAW Risk Resilience Assessment Report
1.4	Is there a distinction between the allocation regimes used in "normal" times and in times of "extreme/severe" water shortage?		1	Evidence
1.7	Yes – This is differentiated in the "Safe Yield Report" Included in 2010 Master Plan. This document has been reviewed by the verifier.	1	ı	CAW 2010 Master Plan
1.5	Are there plans to define "exceptional" circumstances, such as an extended drought, that influence the allocation regime? (E.g., triggers water use restrictions, reduction in allocations according to pre-defined priority uses, suspension of the regime plan, etc.)	1	1	Evidence CAW 2010 Master Plan
	Yes – Same as above. "Safe Yield Report" Included in 2010 Master Plan. This document has been reviewed by the verifier.			



1.6	For international / trans boundary basins, is there a legal mechanism in place to define and enforce water basin allocation agreements?	N/A	N/A	N/A
	N/A – CAW does not have any international / trans boundary basins.			
1.7	Are water delivery agreements defined on the basis of actual in situ seasonal / annual availability instead of volumetric or otherwise inflexible mechanisms?	N/A	N/A	N/A
	N/A – not relevant to CAW's operations.			
1.8	Has a formal environmental flows (e- flows)/sustainable diversion limits or other environmental allocation been defined for the relevant sub-basin or basin? (If there is a pre- existing plan, then has the environmental flows program been updated to account for the new project?) Yes – Refer to "Safe Yield Report" Included in 2010 Master Plan. This document has been reviewed by the verifier. In addition, individual state plans mandate how water must be managed for water quality.	1	1	Evidence CAW 2010 Master Plan Arkansas Water Plan Arkansas State Water Plan: River Basin Arkansas Water Plan: Natural Resources Arkansas Natural Resources Commission Rules for the Utilization of Surface Water Arkansas Water Plan: Update
1.9	Have designated environmental flows / allocation programs been assured / implemented? Yes – Refer to "Safe Yield Report" Included in 2010 Master Plan. This document has been reviewed by the verifier.	1	1	Evidence or Disclosure CAW 2010 Master Plan
1.10	Has a mechanism been defined to update the environmental flows plan periodically (e.g., every 5 to 10 years) in order to account for changes in allocation, water timing, and water availability? Yes – Refer to "Safe Yield Report" Included in 2010 Master Plan. This document has been reviewed by the verifier.	1	1	Evidence CAW 2010 Master Plan
1.11	Is the amount of water available for consumptive use in the resource pool linked to a public planning document? (E.g., a river basin management plan or another planning document – please indicate).	1	1	Evidence CAW Lake Manumelle
	Yes. Included in the Pulaski County Comprehensive Land Use Plan for the Lake Maumelle Watershed (2011). This document has been reviewed by the verifier.			Watershed (2011)
1.12	If present, is the river basin plan a statutory instrument that must be followed rather than a guiding document? Yes – Regulation 6 – Regulation for State Administration of the National Pollutant Discharge Elimination System (NPDES).	1	1	Disclosure Arkansas Energy & Environment: Regulation 67
Total A	oplication Score	14	14/14	
	Crtierion 1 passed/not passed		100%	
			1	1



	Vulnerability Assessment SECTION 2: GOVERNANCE (To be completed for all Water Infrastructure assets)					
	(10 be completed for all water illinastructure	Max Score	Actual Score	Requirement: Evidence and/or Disclosure		
2.1	Have water entitlements been defined according to one of the following? Purpose that water may be used for Maximum area that may be irrigated Maximum volume that may be taken in a nominated period Proportion of any water allocated to a defined resource pool Yes – water entitlements have been defined according to the purpose that water may be used for, in line with the 'Water Law in Arkansas' report.	1	1	Disclosure Water Law in Arkansas Water Rights in Arkansas		
2.2	Is the surface water system currently considered to be neither over allocated nor over-used? N.B. Over-allocated would be if e.g. current use is within sustainable limits but there would be a problem if all legally approved entitlements to abstract water were used. Over-used would be if existing abstractions exceed the estimated proportion of the resource that can be taken on a sustainable basis. Yes, refer to safe yields 120M gallons/day on annual average, CAW use is 60M gallons/day on annual average basis (refer to word doc on average daily use).	1	1	Evidence CAW 2010 Master Plan		
2.3	If monitored and the investment uses groundwater, is the groundwater water system currently considered to be neither over- allocated nor over-used? N.B. Over-allocated would be if e.g. current use is within sustainable limits but there would be a problem if all legally approved entitlements to abstract water were used. Over-used would be if existing abstractions exceed the estimated proportion of the resource that can be taken on a sustainable basis. N/A – not applicable to the projects.	N/A	N/A	N/A		
2.4	Is there a limit to the proportion (e.g. percentage) of water that can be abstracted? Yes, the Arkansas Natural Resources Commission (ANRC), has the legislative authority to limit the proportion of water that can be abstracted, and can take measures, including but not limited to the following: allocate surface water from streams during times of shortage based on the reasonable use concept; develop a comprehensive groundwater protection program designate critical groundwater areas; cost-share on installation of water conservation practices and establish groundwater rights within critical areas.	1	1	Evidence Water Rights in Arkansas		
2.5	Are governance arrangements in place for dealing with exceptional circumstances (such as drought, floods, or severe pollution events), especially around coordinated infrastructure operations? Yes, there are government regulations in place. Refer to Pulaski County Floodplain Ordinance.	1	1	Disclosure Pulaski County Document		
2.6	Is there a process for re-evaluating recent decadal trends in seasonal precipitation and flow OR recharge regime, in order to evaluate "normal" baseline conditions? Yes – safe yield accounts for seasonal variation. Refer to "Safe Yield Report" included in 2010 Master Plan. This document has been reviewed by the verifier.	1	1	Evidence CAW 2010 Master Plan		
2.7	Is there a formal process for dealing with new entrants? N/A – not relevant as there are no new entrants.	N/A	N/A	N/A		
2.8	For existing entitlements, is there a formal process for increasing, varying, or adjusted use(s)? Yes. Refer to "Safe Yield Report" included in 2010 Master Plan. This document has been reviewed by the verifier.	1	1	Disclosure CAW 2010 Master Plan		
2.9	Is there policy coherence across sectors (agriculture, energy, environment, urban) that affect water resources allocation, such as a regional, national, or basin-wide Integrated Water Resources Management (IWRM) plan? Yes, the Pulaski Country regulations address multiple sectors:	1	1	Evidence Pulaski County Planning and Development		



2.10	Are obligations for return flows and discharges specified and enforced? Yes, Lake Winona has a specification (Not applicable to Lake Maumelle).	1	1	Disclosure
2.11	Is there a mechanism to address impacts from users who are not required to hold a water entitlement but can still take water from the resource pool? N/A – all users are required to hold a water entitlement.	N/A	N/A	N/A
2.12	Is there a pre-defined set of priority uses within the resource pool? (E.g., according to or in addition to an allocation regime) Yes, drinking water	1	1	Disclosure
2.13	If there are new entrants and/if entitlement holders want to increase the volume of water they use in the resource pool and the catchment is open, are these entitlements conditional on either assessment of third party impacts, an Environmental Impact Assessment (EIA) or an existing user(s) forgoing use? N/A – see points above.	N/A	N/A	N/A
2.14	Are withdrawals monitored, with clear and legally robust sanctions? Yes, withdrawals are appropriately governed. Refer to 'Water Law in Arkansas', 'Water Rights in Arkansas' and 'Arkansas Public Water System Compliance Summary'	1	1	Evidence Water Law in Arkansas Water Rights in Arkansas Arkansas Public Water System Compliance Summary
2.15	Are there conflict resolution mechanisms in place? N/A	N/A	N/A	N/A
Total G	overnance Score	10	10/10	
Eligibili	ty Criterion 2 passed / not passed		100%	

	Vulnerability Assessment SECTION 3: TECHNICAL (To be completed for all Water Infrastructure		Actual Score	Requirement: Evidence and/or Disclosure
3.1	Does a water resources model of the proposed investment and ecosystem (or proposed modifications to existing investment and ecosystem) exist? Specify model types, such as WEAP, SWAT, RIBASIM, USACE applications). Scale should be at least sub-basin. Yes, water resource models include: CE-QUAL-W2 for Lake and Hydrologic Simulation Program-FORTRAN (HSPF) for watershed Tetratech model USGS models: Simulated effects of hydrologic, water quality, and land-use changes of the Lake Maumelle watershed, Arkansas, 2004 Water-quality assessment of Lakes Maumelle and Winona, Arkansas, 1991 through 2003	1	1	Evidence Lake Maumelle Watershed Management Plan: Teratech model USGS (2004-10) USGS (1991-2003)
3.2	Can the system model the response of the managed water system to varied hydrologic inputs and varied climate conditions? Yes. Refer to 3.1 for more information.	1	1	Evidence



3.3	Are environmental performance limits (ecosystem, species, ecological community) and/or ecosystem services specified? Yes. Refer to 3.1 for more information.	1	1	Evidence
3.4	Can these performance limits be defined and quantified using the water resoruces model? Yes. Refer to 3.1 for more information.	1	1	Evidence
3.5	Have these limits been defined based on expert knowledge and/or scientific analysis? Yes. Refer to 3.1 for more information.	1	1	Evidence
3.6	Are these performance limits linked to infrastructure operating parameters? Yes, operating capacity is linked to storage capability - does not pull more than the safe yields as identified in "Safe Yield Report" Included in 2010 Master Plan.	1	1	Evidence CAW 2010 Master Plan
3.7	Are these limits linked to an environmental flows regime? Yes, as per 3.6 above.	1	1	Evidence
3.8	For new projects, is there an ecological baseline evaluation describing the pre- impact state? Yes, refer to 2007 Watershed Management Plan. This document has been reviewed by the verifier.	1	1	Evidence CAW Lake Maumelle Watershed Management Plan 2007
3.9	For rehabilitation / reoperation projects, is there an ecological baseline evaluation available before the projects was developed? Yes, refer to CAW's monitoring program and Winrock Grassfarm Master Plan. These documents have been reviewed by the verifier.	1	1	Evidence CAW Monitoring Program Winrock Grassfarm Master Plan
3.10	Has there been an analysis that details impacts related to infrastructure construction and operation that has been provided? Yes, CAW has developed a replacement methodology as part of a wider Comprehensive Asset Management Plan. The replacements are assessed and prioritized as needed based on water main service life expectancy as well as mains that experience numerous leaks and breaks, resulting in uncontrolled loss of water service.	1	1	Evidence CAW Comprehensive Asset Management Plan
3.11	Are lost species and/or lost or modified ecosystem functions specified for restoration in the environmental evaluation? Yes, refer to CAW's monitoring program and Winrock Grassfarm Master Plan. These documents have been reviewed by the verifier.	1	1	Evidence CAW Monitoring Program Winrock Grassfarm Master Plan
3.12	Have regional protected areas / nature reserves been included in the analysis for impacts from the investment asset and future climate impacts? Yes, the investment in assets will increase the wildlife management area that is already within the bounds of CAW.	1	1	Evidence
3.13	Does the model include analysis of regression relationships between climate parameters and flow conditions using time series of historical climate and stream flow data? Yes, all models use historical data from numerous USGS stations.	1	1	Evidence
3.14	Does the model include climate information from a multi modal ensemble of climate projections (eg from the Climate Wizard or the World Bank's Climate Portal) to assess the likelihood of climate risks for the specified investment horizons (s)? No	1	0	Evidence
3.15	Are changes in the frequency and severity of rare weather events such as droughts and floods included? Yes - these are contemplated in CAW's Risk Resilience Assessment Report, a confidential document which has been viewed by the verifier	1	1	Evidence CAW Risk Resilience Assessment Report
3.16	Are sub-annual changes in precipitation seasonality included? Yes	1	1	Evidence
				1



3.17	Is GCM climate data complemented with an analysis of glacial melt water and sea level rise risks, where appropriate (e.g., high or coastal elevation sites)? N/A – not relevant for CAW.	N/A	N/A	N/A
3.18	Is paleo-climatic data (e.g., between 10,000 and >1000 years before present) included? No	1	0	Evidence
3.19	Is the number of model runs and duration of model runs disclosed? Yes	1	1	Evidence
3.20	Has a sensitivity analysis been performed to understand how the asset performance and environmental impacts may evolve under shifting future flow conditions? Yes – models are based upon and are designed to evaluate shifting future flow conditions. Refer to Watershed Management Plan and Maumelle Watershed Lake Modelling Calibration Report.	1	1	Evidence CAW Lake Maumelle Watershed Management Plan 2007 CAW Maumelle Watershed Lake Modelling Calibration Report
3.21	Is directly measured climate data available for more than 30 years and incorporated into the water resources model? Yes - the model includes over 30 years of USGS data.	1	1	Evidence
3.22	Has evidence demonstrated that climate change has already had an impact on operations and environmental targets? Are these impacts specified and, to the extent possible, quantified? These impacts should be responded to directly in the Adaptation Plan. Yes, an increase in water availability.	1	1	Evidence
3.23	Does the evidence suggest that climate change will have an impact on operations and environmental targets over the operational lifespan? Are these impacts specified and, to the extent possible, quantified? These impacts should be responded to directly in the Adaptation Plan. Yes, evidence suggests that climate change may cause an impact to environmental targets over the operational lifespan but these impacts have not been not quantified.	1	1	Evidence
3.24	Is there a discussion of the uncertainties associated with projected climate impacts on both operations and environmental impacts? Yes, risk and resiliency assessment planning process is in place.	1	1	Evidence CAW Risk Resilience Assessment Report
otal G	overnance Score	23	21/23	
	ty Criterion passed / not passed		91%	
	-		1	<u> </u>



	SECTION 4.1: SITE INVENTORY			
	How well do we understand the systems and processes	Max Score	Actual Score	Requirement: Evidence and/or Disclosure
4.1.1	Is this a "greenfield site" (i.e., undeveloped land used for agriculture, landscape design, or left to evolve naturally)? If so, will existing ecosystem services be expanded / supported / maintained?	1	1	Evidence
	Yes, bond proceeds will be utilized to expand ecosystem services.			
4.1.2	Has an eco-hydrological model been developed? Yes, see Watershed Management Plan and Lake Maumelle Watershed and Lake Modeling – Model Calibration Report.	4	4	Evidence CAW Lake Maumelle Watershed Management Plan 2007 CAW Maumelle Watershed Lake Modelling Calibration Report
4.1.3	Specify model type, such as WEAP, SWAT, RIBASIM, USACE. Issuer has confirmed that model is HSPF & CE-QUAL-W2.	1	1	Evidence
4.1.4	Have sources of pollution been analysed for the following (even if none have been found)? • Point source • Nonpoint source Yes, see Lake Maumelle Watershed and Lake Modeling – Model Calibration Report, which analyzes both point and nonpoint source pollution.	2	2	Evidence CAW Lake Maumelle Watershed Management Plan 2007 CAW Maumelle Watershed Lake Modelling Calibration Report
Total Sit	e Inventory Score	8	8 /8	
Eligibilit	y Criterion passed / not passed		100%	

SECTION 4.2: ECOLOGICAL BASELINES FOR MANAGEMENT Do we understand how the ecological characteristics of the site will evolve over time?				
	3	Max Score	Actual Score	Requirement: Evidence and/or Disclosure
4.2.1	Is there an inventory of species that can be used as a baseline for vegetation and animal species? Yes, CAW has collected macroinvertebrate, fish, and forestry vegetation plots in 2019-2020 to be used as baseline data for trend analysis. Additionally, the Arkansas Game and Fish Commission periodically monitors game fish species in the lake. CAW has contracted with consultants to inventory bats, fish, birds, and macroinvertebrates in the Lake Maumelle Watershed.	1	1	Evidence CAW Lake Maumelle Watershed Management Plan 2007
4.2.2	If there is an inventory of species that can be used as a baseline for vegetation and animal species, does it specify or identify endangered / threatened species, ecological communities, or categories of species?	1	1	Evidence
4.2.2	Yes, CAW documents and reports all species of greatest conservation need observed to the Arkansas Natural Heritage Commission to be included in their databases.	1	ı	Arkansas Natural Heritage Commission
4.2.3	Have studies on current or potential climate impacts on key species (e.g., endangered or threatened species) been included? No. Key species have been located or documented, and CAW is constantly monitoring and partnering with State agencies, but not all species have been studied per se.	1	0	Evidence
4.2.4	Is the flow regime used as a basis for ecological management? No.	1	0	Evidence



4.2.5	Is there a climate trends analysis for the site or region based on at least 30 years of climate data? Yes. This has been included in the Risk Resilience Assessment Report, which has been reviewed by the Verifier.	1	1	Disclosure CAW Risk Resilience Assessment Report
4.2.6	Is there an assessment of exotic invasive species? Yes, exotic invasive species are documented by CAW personnel throughout the watershed using GIS Survey123 software.	1	1	Evidence
4.2.7	If there is an assessment of exotic invasive species, has a plan been developed to cope with exotic invasive species? Yes, ongoing and adaptive efforts to control terrestrial invasive species has been undertaken by CAW and various contractors.	1	1	Evidence
4.2.8	Has there been an assessment of trade-offs between reliability vs environmental benefits to support decision making processes? There is not an assessment of the trade-offs as it is believed that there are no trade-offs required in this region between reliability and environmental benefits. Improving water quality for aquatic species is in-line with the goals of a drinking watershed.	1	1	Evidence
Total Ed	cological Management Score	8	6/8	
Eligibili	ty Criterion passed / not passed		75%	

SECTION 4.3: DATA INVENTORIES OF LOCALISED & INDIGENOUS ASSETS				
		Max Score	Actual Score	Requirement: Evidence and/or Disclosure
4.3.1	Is there an inventory of existing water-related ecosystem services based on 30 or more years of data? Yes. Inventory of ecosystem services conducted in report titled "THE ECONOMIC VALUE OF THE LAKE WINONA AND MAUMELLE WATERSHEDS" prepared by Earth Economics in 2015 and documented in the Safe Yield report, which utilizes water-related ecosystem data reaching back to at least 1962. These documents have been reviewed by the verifier.	1	1	Evidence The Economic Value of the Lake Winoma and Maumelle Watersheds CAW 2010 Master Plan
4.3.2	Does any existing inventory of water-related ecosystem services related to runoff / land-use include the following data? Fire regime Sediment / erosion load Nutrient load Land-use change Yes. The Watershed Management Plan includes data for sediment/erosion load, nutrient load and land-use change and the "Economic Value" report summarizes data related to sediment/erosion load and land-use change. See the 2007 Watershed Panagement Plan + 2012 USGS modeling study for more information. Fire regime is reviewed in the CAW Fire Management Plan of 2013.	1	1	Evidence CAW Lake Maumelle Watershed Management Plan 2007 USGS 2004-10 CAW Fire Management Plan 2013
4.3.3	Do inventories of water-related ecosystem services related to water <i>quality</i> include the following data: Water quality for environmental services (e.g., habitat, ecological communities, erosion) Water quality for human needs / services (e.g., drinking water, agriculture) Yes. Both are considered in the 2007 Watershed Management Plan. This document has been reviewed by the verifier	2	2	Evidence CAW Lake Maumelle Watershed Management
4.3.4	Is there an existing inventory of water-related ecosystem services related to water quantity? Water quantity for environmental services (e.g., habitat, flow regime) Water quality for human needs / services (e.g., service reliability) Yes. The Safe yields analysis supports the population and environment.	2	2	Evidence CAW 2010 Master Plan
	isting Inventories Score	8	8/8	
Eligibilit	y Criterion passed / not passed		100%	



SECTION 4.4: BROADER ECOSYSTEM IMPACTS Do we understand how the project's impacts may extend beyond the site?				
		Max Score	Actual Score	Requirement: Evidence and/or Disclosure
4.4.1	Has there been a determination of proposed / estimated impacts from project construction and operations regarding local, upstream, and downstream species / ecological communities? Yes. CAW plans to get SFI certification for acquired watershed, restoration to native species (see details in CAW's Forest Legacy Program application). This document has been reviewed by the verifier.	1	1	Evidence CAW Forest Legacy Program application
4.4.2	Has there been a determination of proposed / estimated impacts on existing local, upstream, and downstream eco-hydrological systems from modification regarding: Pollution Downstream flow regime Groundwater impacts Land tenure (e.g., public vs private) Yes. Pollution, downstream flow regime, groundwater impacts, and land tenure have been analyzed for potential impacts. See Watershed Management Plan and Lake Maumelle Watershed and Lake Modelling – Model Calibration Report and USGS modelling study. These docuemnts have been reviewed by the verifier.	1	1	Disclosure CAW Lake Maumelle Watershed Management Plan 2007 CAW Maumelle Watershed Lake Modelling Calibration Report
4.4.3	Has there been a determination of proposed / estimated impacts and benefits on ecohydrological systems from changes in allocation via the following? Relevant environmental flows management plans Groundwater management plans Yes - refer to point above.	2	2	Disclosure
4.4.4	Has the monitoring system contributed to the development and goals of the basin management plan? Yes – included in Watershed Management plan. This document has been reviewed by the verifier.	1	1	Disclosure CAW Lake Maumelle Watershed Management Plan 2007
Total Br	oader Impacts Systems Score	8	8/8	
Eligibilit	y Criterion passed / not passed		100%	

SECTION 4.5: MONITORING & MANAGEMENT SYSTEMS Do we have effective management processes and tools to maintain ecological integrity over time?				
		Max Score	Actual Score	Requirement: Evidence and/or Disclosure
4.5.1	Have target performance indicators been explicitly defined for: • Infrastructure services • Ecosystem services Yes – for infrastructure services, target performance indicators have been set to monitor rate and water loss, and operational efficiencies at the plants. For ecosystem services, target performance indicators have been set to define acres to be protected, as well as targets for total nitrogen. Refer to the Watershed Management Plan. This document has been reviewed by the verifier.	1	1	Evidence CAW Lake Maumelle Watershed Management Plan 2007
4.5.2	Is there a monitoring plan in place for infrastructure performance indicators? Yes - refer to Watershed Management Plan and Silviculture Management Plan. These documents have been reviewed by the verifier.	1	1	Evidence CAW Lake Maumelle Watershed Management Plan 2007 CAW Silviculture Management Plan
4.5.3	Is there a monitoring plan in place for ecosystem performance indicators? Yes - refer to Watershed Management Plan and Silviculture Management Plan. These documents have been reviewed by the verifier.	2	2	Evidence CAW Lake Maumelle Watershed Management Plan 2007 CAW Silviculture Management Plan



4.5.4	Are monitoring outcomes connected to the decision making and management / operations process? Yes – adaptative management philosophy	1	1	Evidence
4.5.5	Is there a multi-stakeholder basin management plan? Yes – refer to Watershed Management Plan. This document has been reviewed by the verifier.	1	1	Disclose CAW Lake Maumelle Watershed Management Plan 2007
Total Mo	onitoring and Management Systems Score	6	6/6	
Eligibilit	ty Criterion passed / not passed		100%	

SECTION 5: ADAPTATION PLAN (To be completed for all Water Infrastructure assets)				
	, , ,	Max Score	Actual Score	Requirement: Evidence and/or Disclosure
AP.1	Is there a plan to restore or secure lost/modified ecosystem functions / species? Yes, see draft Forest Legacy Proposal. This document has been reviewed by the verifier.	1	1	Evidence CAW Forest Legacy Proposal
AP.2	Is the adaptation plan for environmental targets / infrastructure robust across specified <u>observed</u> / recent climate conditions? Confer VA Yes – these are contemplated in CAW's Risk Resilience Assessment Report, a confidential document which has been reviewed by the verifier.	1	1	Evidence CAW Risk Resilience Assessment Report
AP.3	Is the adaptation plan for environmental targets / infrastructure robust across specified projected climate conditions? Confer VA. Yes – these are contemplated in CAW's Risk Resilience Assessment Report, a confidential document which has been reviewed by the verifier.	1	1	Evidence CAW Risk Resilience Assessment Report
AP.4	Is there a monitoring plan designed to track ongoing progress and impacts to inform future decisions? Yes.	1	1	Evidence
AP.5	Is there a plan to reconsider on a periodic basis the VA for operational parameters, governance and allocation shifts, and environmental performance targets? Yes, mandated to do that every 4 years (AWIA requires it). See Natural Hazards Threats. This document has been reviewed and verified.	1	1	Evidence CAW Natural Hazards Threats
Total Ad	aptation Plan Score	5	5/5	
Eligibility	y Criterion passed / not passed		100%	



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