

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)



Audit Number: AO-000536

SITE DETAILS

Site: **Apple - Maiden Data Center**
Address: 5977 Startown Rd, 28650, Maiden, North Carolina, UNITED STATES
Contact Person: Marin Williams
AWS Reference Number: AWS-000568
Site Structure: Single Site

CERTIFICATION DETAILS

Certification status: **Certified Core**
Date of certification decision: 2023-Jul-12
Validity of certificate: 2026-Jul-12

AUDIT DETAILS

Audited Service(s): AWS Standard v2.0 (2019)
Audit Type(s): Initial Audit
Audit Start Date: 2023-Apr-25
Lead Auditor: Warrick Stewart
Audit team participants:
Kimberly Worsham, Local Auditor
Warrick Stewart, Lead Auditor
Monserrath Zamora, Observer
Site Participants:

AUDIT TIMES

Dates	Audit from	Duration	Auditor	Description
2023-Apr-25	09:00:00 - 17:30:00	08:30	Warrick Stewart	
2023-Apr-26	08:30:00 - 17:00:00	08:30	Warrick Stewart	

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ADDITIONAL INFO

Summary of Audit Findings: A total of 24 findings were raised during the certification audit, 0 major non-conformities, 6 minor non-conformities, and 18 observations.

The Client is requested to perform a root cause analysis and define corrective actions for each of the non-conformities and to submit these to WSAS within 60 days of receipt of the audit report by 13 August 2023.

Minor non-conformities must be closed out by the time of the next annual (surveillance) audit in April 2024.

The audit team currently recommends certification of Apple Maiden at Core level pending approval of the corrective actions plan.

CLOSURE OF FINDINGS AND CORRECTIVE ACTION PLAN:

The Client has successfully submitted the corrective action plans addressing all findings. Proof of implementation has been requested for the Minors and this will be evaluated during the Surveillance Audit. The client is requested to upload evidence of implementation prior to the Surveillance Audit.

Scope of Assessment: The scope of services covers the Initial certification audit for assessing conformity of the Apple Maiden Data Center against the AWS International Water Stewardship Standard Version 2.

Apple's Maiden Data Center is located at 5977 Startown Rd, Maiden, North Carolina, USA, 28650. Water is primarily provided by the City of Hickory and treated at the city's water treatment plant. Water discharged from the facility is handled by the Town of Maiden wastewater treatment facility, which discharges to Clark Creek, a tributary of the South Fork Catawba River. The site's stormwater discharges directly into the South Fork Catawba River, after first passing through on-site collection ponds.

The facility is located on the South Fork Catawba River in North Carolina.

The audit was conducted on-site on April 25 and 26, 2023.

The onsite site visit included the assessment of three primary buildings, and several smaller service buildings as part of the audit.

FINDINGS

NUMBER OF FINDINGS PER LEVEL

Table with 2 columns: Observation, Minor. Row 1: Observation, 18. Row 2: Minor, 6.

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FINDING DETAILS

Finding No: TNR-004336
Checklist Item No: 1.2.1
Status: In Progress - CA plan approved
Finding level: Minor
Due date: 2024-Apr-22
Checklist item: Stakeholders and their water-related challenges shall be identified. The process used for stakeholder identification shall be identified. This process shall:
- Inclusively cover all relevant stakeholder groups including vulnerable, women, minority, and Indigenous people;
- Consider the physical scope identified, including stakeholders, representative of the site's ultimate water source and ultimate receiving water body or bodies;
- Provide evidence of stakeholder consultation on water-related interests and challenges;
- Note that the ability and/or willingness of stakeholders to participate may vary across the relevant stakeholder groups;
- Identify the degree of stakeholder engagement based on their level of interest and influence.
Findings: The stakeholder list was generally comprehensive. However, none of the site's neighbours were identified as stakeholders, nor were other relevant vulnerable, women, or other minority peoples reflected in the stakeholder mapping process as having been considered.
Corrective action: The site's neighbors are typically individual families and therefore engaging one would mean engaging all of them, which could be time consuming and challenging. We will take this finding under consideration and evaluate.

Finding No: TNR-003885
Checklist Item No: 1.3.4
Status: Open
Finding level: Observation
Checklist item: Water quality of the site's water source(s), provided waters, effluent and receiving water bodies shall be quantified. Where there is a water-related challenge that would be a threat to good water quality status for people or environment, an indication of annual, and where appropriate, seasonal, high and low variances shall be quantified.
Findings: Future updates to the Lake Hickory (the site's water source) water quality data (along with other lakes on the Catawba River) should be provided when they become available.

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Finding No:	TNR-004258
Checklist Item No:	1.3.6
Status:	Open
Finding level:	Observation
Checklist item:	On-site Important Water-Related Areas shall be identified and mapped, including a description of their status including Indigenous cultural values.
Findings:	The site should consider whether the "watercourses" on site, beyond just the ponds/wetlands, are also on-site IWRAs.
Finding No:	TNR-004259
Checklist Item No:	1.3.7
Status:	Open
Finding level:	Observation
Checklist item:	Annual water-related costs, revenues, and a description or quantification of the social, cultural, environmental, or economic water-related value generated by the site shall be identified and used to inform the evaluation of the plan in 4.1.2.
Findings:	Direct and indirect water-related costs were documented by the site. A description of the social, cultural, and/or environmental water-related value generated by the site was identified for some of the targets, but not for all, despite being relevant for all.
Finding No:	TNR-003890
Checklist Item No:	1.5.5
Status:	In Progress - CA plan approved
Finding level:	Minor
Due date:	2024-Apr-24
Checklist item:	Important Water-Related Areas shall be identified, and where appropriate, mapped, and their status assessed including any threats to people or the natural environment, using scientific information and through stakeholder engagement.
Findings:	Relevant content in the Catawba River Basinwide Water Quality Plan September 2010 and NC DWQ CATAWBA RIVER BASIN PLAN: Catawba River Headwaters Subbasin HUC 03050101 (2010) plans should also be included for this indicator, to reflect a more comprehensive overview of the assessed status of the above IWRAs and associated threats to people or the natural environment.
Corrective action:	Review and add any IWRAs or context/status of already included IWRAs from the "Catawba River Basinwide Water Quality Plan" (2010), specifically Chapter One ("Catawba River Headwaters Subbasin HUC 03050101).

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Finding No:	TNR-004260
Checklist Item No:	1.5.6
Status:	Open
Finding level:	Observation
Checklist item:	Existing and planned water-related infrastructure shall be identified, including condition and potential exposure to extreme events.
Findings:	In the future, the site should update the current information on potential exposure of relevant infrastructure to extreme events. Also, current leaks in municipal stormwater lines that affect the South Fork River, which have led to erosion and sinkholes in some locations as reflected in one of the stakeholder interviews, was not documented.
Finding No:	TNR-003892
Checklist Item No:	1.8.1
Status:	In Progress - CA plan approved
Finding level:	Minor
Due date:	2024-Apr-24
Checklist item:	Relevant catchment best practice for water governance shall be identified.
Findings:	While the site has identified one particular example of Best Practice for Water Governance it is required to have identified possible Best Practice for the catchment using research, consultation with stakeholders and agencies, benchmarking with other industries or other sites internally. The site should consider whether there are any other relevant catchment best practices for water governance that could potentially be implemented.
Corrective action:	Conduct additional research to determine whether there are any additional catchment best practices for water governance and provide evidence for the inclusion of multi-stakeholder participation.
Finding No:	TNR-003893
Checklist Item No:	1.8.2
Status:	Open
Finding level:	Observation
Checklist item:	Relevant sector and/or catchment best practice for water balance (either through water efficiency or less total water use) shall be identified.
Findings:	The site should consider whether there are any other relevant sector and/or catchment best practices for water balance that could potentially be implemented.

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Finding No: TNR-004264
Checklist Item No: 1.8.3
Status: Open
Finding level: Observation
Checklist item: Relevant sector and/or catchment best practice for water quality shall be identified, including rationale for data source.
Findings: The site could benefit from explicitly documenting what "site discharge that does not contribute to water quality challenges in the catchment" would constitute in terms of specific parameters and limits for each.

Finding No: TNR-003895
Checklist Item No: 1.8.4
Status: In Progress - CA plan approved
Finding level: Minor
Due date: 2024-Apr-24
Checklist item: Relevant catchment best practice for site maintenance of Important Water-Related Areas shall be identified.
Findings: While the site has identified one particular example of Best Practice for IWRAs it is required to have identified possible Best Practice for the catchment using research, consultation with stakeholders and agencies, benchmarking with other industries or other sites internally. The site should consider whether there are any other relevant catchment best practices for site maintenance of Important Water-Related Areas that could potentially be implemented.
Corrective action: Conduct additional research to determine whether there are any additional catchment best practices for IWRAs and provide evidence for the inclusion of "restore the habitat to favorable conditions and protect and maintain them once established".

Finding No: TNR-003899
Checklist Item No: 1.8.5
Status: Open
Finding level: Observation
Checklist item: Relevant sector and/or catchment best practice for site provision of equitable and adequate WASH services shall be identified.
Findings: The site has not tangibly identified relevant sector and/or catchment best practice for site provision of equitable and adequate WASH services, only information sources that would support identification (e.g., what are the specific LEED requirements for WASH?). The site should consider whether there are any other relevant sector and/or catchment best practices for site provision of equitable and adequate WASH services that could potentially be implemented.

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Finding No:	TNR-004109
Checklist Item No:	2.3.2
Status:	Open
Finding level:	Observation
Checklist item:	A water stewardship plan shall be identified, including for each target: <ul style="list-style-type: none">- How it will be measured and monitored- Actions to achieve and maintain (or exceed) it- Planned timeframes to achieve it- Financial budgets allocated for actions- Positions of persons responsible for actions and achieving targets- Where available, note the link between each target and the achievement of best practice to help address shared water challenges and the AWS outcomes.
Findings:	Many of the targets were SMART, although some of the metrics were either not quantified to enable effective measurement of performance and associated monitoring or additional studies were still required or underway to inform the determination of appropriate metrics.
Finding No:	TNR-004337
Checklist Item No:	2.4.1
Status:	Open
Finding level:	Observation
Checklist item:	A plan to mitigate or adapt to identified water risks developed in co-ordination with relevant public-sector and infrastructure agencies shall be identified.
Findings:	Future updates to these plans should include information on potential exposure of municipal water-related infrastructure to extreme events, and the current leaks in municipal stormwater lines that affect the South Fork River that have led to erosion and sinkholes in some locations.
Finding No:	TNR-004475
Checklist Item No:	3.3.2
Status:	Open
Finding level:	Observation
Checklist item:	Where water scarcity is a shared water challenge, annual targets to improve the site's water use efficiency, or if practical and applicable, reduce volumetric total use shall be implemented.
Findings:	Despite the site provided evidence of implementation for all stated activities (short-term targets), targets in the WSP were not SMART for all indicators and associated implementation metrics. The site may review their targets to be SMART for all the indicators, considering a better approach to address this analysis.

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Finding No:	TNR-004112
Checklist Item No:	3.6.2
Status:	Closed
Finding level:	Minor
Due date:	2024-Apr-24
Checklist item:	Evidence that the site is not impinging on the human right to safe water and sanitation of communities through their operations, and that traditional access rights for indigenous and local communities are being respected, and that remedial actions are in place where this is not the case, and that these are effective.
Findings:	The site indicated that its discharge agreement and the potable water agreement demonstrate that they are respecting water and sanitation rights of the community. However, the site did not provide its wastewater discharge agreement with the City of Maiden.
Corrective action:	Agreement with City of Maiden is provided and have added it to evidence.
Evidence of implementation:	Agreement with City of Maiden is provided and have added it to evidence.
Finding No:	TNR-004051
Checklist Item No:	3.9.1
Status:	Open
Finding level:	Observation
Checklist item:	Actions towards achieving best practice, related to water governance, as applicable, shall be implemented.
Findings:	As the site has received a finding on 1.8.1. for not having identified sufficient examples of Best Practice in Water Governance the site will be expected to expand its implementation as the identification process is strengthened.
Finding No:	TNR-004484
Checklist Item No:	3.9.4
Status:	Open
Finding level:	Observation
Checklist item:	Actions towards achieving best practice, related to targets in terms of the site's maintenance of Important Water-Related Areas shall be implemented.
Findings:	The site provided examples of improving on site IWRAs. As the site has received a finding on 1.8.4. for not having identified sufficient examples of Best Practice in IWRA maintenance the site will be expected to expand its implementation as the identification process is strengthened, including for IWRAs in the catchment.

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Finding No:	TNR-003903
Checklist Item No:	4.1.1
Status:	Open
Finding level:	Observation
Checklist item:	Performance against targets in the site's water stewardship plan and the contribution to achieving water stewardship outcomes shall be evaluated.
Findings:	<p>The link between the proposed short-term targets and AWS Outcomes has been documented, but not how the actual actions implemented to date have contributed to achieving water stewardship outcomes.</p> <p>It is recognized though that the site has not reached a full year of implementation yet, at which point a more comprehensive assessment of performance against targets and how the actual actions implemented to date have contributed to achieving water stewardship outcomes is expected.</p>
Finding No:	TNR-004343
Checklist Item No:	4.1.2
Status:	Open
Finding level:	Observation
Checklist item:	Value creation resulting from the water stewardship plan shall be evaluated.
Findings:	The value creation information does not include a financial water cost-benefit component.
Finding No:	TNR-004344
Checklist Item No:	4.3.1
Status:	Open
Finding level:	Observation
Checklist item:	Consultation efforts with stakeholders on the site's water stewardship performance shall be identified.
Findings:	The site's neighbours, of which some have a potential role in water quality within the South Fork River, were not identified in the site's stakeholder mapping, and were not consulted on the site's water stewardship performance. This was not identified as a minor finding, as the lack of identification of the site's neighbour/s as stakeholders was raised under indicator 1.2.1.

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Finding No:

TNR-003906

Checklist Item No:

5.1.1

Status:

Closed

Finding level:

Minor

Due date:

2024-Apr-24

Checklist item:

The site’s water-related internal governance, including positions of those accountable for compliance with water-related laws and regulations shall be disclosed.

Findings:

The site has not explicitly disclosed the positions of those accountable for compliance with water-related laws and regulations, or specified if the above persons/roles are also responsible for such compliance.

Corrective action:

In our stakeholder disclosure letter, we will note that the site EHS manager is responsible for compliance with water-related laws and regulations.

Finding No:

TNR-003907

Checklist Item No:

5.2.1

Status:

Open

Finding level:

Observation

Checklist item:

The water stewardship plan, including how the water stewardship plan contributes to AWS Standard outcomes, shall be communicated to relevant stakeholders.

Findings:

The site documented that disclosure emails have been sent to those stakeholders that were engaged as part of the AWS process. These emails include a description of the five AWS outcomes and the site's water stewardship objectives and progress/performance. The site will establish a mechanism to share a summary of its water stewardship performance annually."

Going forward, the site should disclose a greater level of detail of the content of the WSP, as the information shared to date is highly summarized.

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Finding No:

Checklist Item No:

Status:

Finding level:

Checklist item:

TNR-003908

5.3.1

Open

Observation

A summary of the site's water stewardship performance, including quantified performance against targets, shall be disclosed annually at a minimum.

Findings:

The site documented that emails have been sent to those stakeholders that were engaged as part of the AWS process. These emails include a description of the five AWS outcomes and the site's water stewardship objectives and progress/performance. The site will establish a mechanism to share a summary of its water stewardship performance annually."

It is recognized that the site has not reached a year of implementation yet. A high-level summary of actions undertaken to date by the site was shared with key stakeholders, but this did not include quantified performance against targets. Going forward, the site should disclose greater detail of its water stewardship performance, including quantified performance against targets, annually at a minimum.

Finding No:

Checklist Item No:

Status:

Finding level:

Checklist item:

TNR-003909

5.4.1

Open

Observation

The site's shared water-related challenges and efforts made to address these challenges shall be disclosed.

Findings:

Going forward, greater detail on the links between these actions (efforts) and the site's shared water-related challenges should be documented.

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Report Details

Report	Value
Report prepared by	Warrick Stewart
Report approved by	Lurdes Guerra
Report approved on (Date)	13/06/2023

Surveillance

Proposed date for next audit
2024-Apr-23

Stakeholder Announcements

Date of publication	Location
16/04/2023	Limnotech's website (https://www.limno.com/aws-certification-on-apple-data-center-north-carolina/)
16/04/2023	Limnotech's Twitter account (https://twitter.com/LimnoTech/status/1636414103005675523?s=20)
10/03/2023	WSAS and AWS Website
Comment	The stakeholder announcement was published on Limnotech's website (https://www.limno.com/aws-certification-apple-data-center-north-carolina/) and Twitter account (https://twitter.com/LimnoTech/status/1636414103005675523?s=20) on 16 March 2023.
Comment	Stakeholder interviews were conducted with the following key stakeholders during and/or shortly after the on-site audit: <ul style="list-style-type: none">- Town of Maiden: Bryan Duckworth, Todd Herms, Blake Wright- Duke Energy: Ed Bruce, Jeff Lineberger- Catawba-Wateree Water Management Group (CWWMG): Ed Bruce (Duke Energy) & Jeff Lineberger (Duke Energy)- Catawba Riverkeepers: Ryan Carter.

Catchment Information

Catchment Information

The site is located in the South Fork Catawba River Basin. The site's source water is Lake Hickory (via the City of Hickory) and on-site groundwater (emergency use only). Discharge is to Clark Creek (via Town of Maiden), which connects to South Fork of Catawba River.

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Client Description and Site Details

Client/Site Background

Apple's Maiden Data Center is located adjacent to the South Fork Catawba River in North Carolina at 5977 Startown Rd, Maiden, North Carolina, USA, 28650. The facility has been in operation for 12 years and consists of three primary data center buildings, two small data center buildings (no longer in use), a logistics building, and several smaller service buildings. Water is primarily provided by the City of Hickory and treated at the city's water treatment plant. Water discharged from the facility is handled by the Town of Maiden wastewater treatment facility, which discharges to Clark Creek, a tributary of the South Fork Catawba River. The site's stormwater discharges directly into the South Fork Catawba River, after first passing through on-site collection ponds.

Summary of Shared Water Challenges

Summary of Shared Water Challenges

Key Shared Water Challenges identified include: Impaired surface water quality; Flood-related impacts; Impaired natural habitat; Recreation; Water scarcity and resilience.

0.1 General Requirements for Single Sites, Multi-Sites and Groups

0.1.1 Eligibility Criteria

0.1.1.1 *The site(s) occupy one catchment OR an exception has been granted.*



Yes

Comment The site occupies one catchment.

0.1.1.2 *The scope of the proposed certification shall be under the control of a single management system.*



Yes

Comment The site, and consequent scope of the proposed certification, is under the control of a single management system.

0.1.1.3 *The scope of the proposed certification shall be homogeneous with respect to primary production system, water management, product or service range, and the main market structures.*



Yes

Comment The site's operation, and consequent scope of the proposed certification, is homogeneous with respect to primary production system, water management, product or service range, and the main market structures.

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1 STEP 1: GATHER AND UNDERSTAND

1.1 *Gather information to define the site's physical scope for water stewardship purposes, including: its operational boundaries; the water sources from which the site draws; the locations to which the site returns its discharges; and the catchment(s) that the site affect(s) and upon which it is reliant.*

1.1.1 *The physical scope of the site shall be mapped, considering the regulatory landscape and zone of stakeholder interests, including:*

- Site boundaries;
- Water-related infrastructure, including piping network, owned or managed by the site or its parent organization;
- Any water sources providing water to the site that are owned or managed by the site or its parent organization;
- Water service provider (if applicable) and its ultimate water source;
- Discharge points and waste water service provider (if applicable) and ultimate receiving water body or bodies;
- Catchment(s) that the site affect(s) and is reliant upon for water.



Comment The site provided map reflects the full spatial extent of the site. The site map includes sewer lines.

The site location is 5977 Startown Rd, Maiden, NC 28650 and the coordinates are 35.588 N, 81.263 W.

The water source is provided by the City of Hickory, with water received from Lake Hickory (a dammed portion of the Catawba River). The site map illustrates surface water sources in the catchment in relation to the site.

The site owns on-site water sources.

The relevant site map illustrates the potable and fire water mains.

Site fire & water map reflects the location of the underground on-site wells.

Site fire & water map shows domestic water supply.

The locations of storm water discharge from/on the site are reflected spatially on the relevant site water map via the stream and its tributaries on site, natural wetlands, artificial ponds, and related stormwater infrastructure on site.

The discharge at the site goes to the Town of Maiden Wastewater Treatment Facility. This facility discharges into Clark Creek, a tributary of the South Fork Catawba River.

The site's stormwater discharges directly into the South Fork Catawba River, after first passing through on-site collection ponds.

Water-related infrastructure on-site includes: cooling equipment.

Catchments: The site is reliant on water from the upper Catawba River watershed, and affects water directly in the South Fork Catawba River watershed, as well as the remainder of the Catawba River watershed downstream of the facility.

The requirements of this indicator have been met.

1.2 *Understand relevant stakeholders, their water related challenges, and the site's ability to influence beyond its boundaries.*

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1.2.1

Stakeholders and their water-related challenges shall be identified. The process used for stakeholder identification shall be identified. This process shall:

- Inclusively cover all relevant stakeholder groups including vulnerable, women, minority, and Indigenous people;
- Consider the physical scope identified, including stakeholders, representative of the site's ultimate water source and ultimate receiving water body or bodies;
- Provide evidence of stakeholder consultation on water-related interests and challenges;
- Note that the ability and/or willingness of stakeholders to participate may vary across the relevant stakeholder groups;
- Identify the degree of stakeholder engagement based on their level of interest and influence.

 in progress

Comment

A stakeholder mapping exercise was conducted in a workshop setting, using input from site staff and desktop research. A comprehensive list of potential stakeholders was compiled based on the knowledge of site staff, corporate staff, consultants, and desktop research. Care was taken to ensure that tribal groups, less vocal organizations, and under-represented people were considered.

Stakeholders were prioritized using the interest and influence of each stakeholder. The results are included in the Deliverables workbook.

A stakeholder outreach plan was developed for high priority stakeholders.

Initial meetings with stakeholders were conducted.

Site documentation was updated with notes from these meetings.

The stakeholder list was generally comprehensive. However, none of the site's neighbors were identified as stakeholders, despite the site having engaged with at least one neighbor regarding flooding and drainage improvements. Relevant vulnerable women, or other minority peoples were reflected in the stakeholder mapping process as having been considered.

Finding No: TNR-004336

1.2.2

Current and potential degree of influence between site and stakeholder shall be identified, within the catchment and considering the site's ultimate water source and ultimate receiving water body for wastewater.

 Yes

Comment

A stakeholder mapping exercise was conducted in a workshop setting, using input from site staff and desktop research. A comprehensive list of potential stakeholders was compiled based on the knowledge of site staff, corporate staff, consultants, and desktop research. Care was taken to ensure that tribal groups, less vocal organizations, and under-represented people were considered.

Stakeholders were prioritized using the interest and influence of each stakeholder.

A stakeholder outreach plan was developed for high priority stakeholders.

Initial meetings with stakeholders were conducted.

Site documentation was updated with notes from these meetings.

Stakeholders were placed into the following categories:

- Key Player: active dialogue and engagement
- Involve: keep informed and explore opportunities
- Consult: anticipate needs and consult
- Monitor: minimal contact and information gathering.

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1.3 *Gather water-related data for the site, including: water balance; water quality, Important Water-Related Areas, water governance, WASH; water-related costs, revenues, and shared value creation.*

1.3.1 *Existing water-related incident response plans shall be identified.*



Yes

Comment The site has a Spill Prevention, Control, and Countermeasure Plan (SPCC) in accordance with the Clean Water Act (CWA). The site also has inclement weather response plans (checklists), including a FEMA Hurricane Preparedness Checklist, a Fuel Inventory Checklist, Hurricane Florence Checklist, and Hurricane Florence Fuel Inventory. The inclement weather response plans make reference to Emergency action and facility recovery plans.

These plans address pollution events, flooding, and water suppression systems for fire incidents.

A water supply interruption is not covered in these plans, but is addressed via on-site residual storage capacity and the groundwater wells for sanitary water provision.

1.3.2 *Site water balance, including inflows, losses, storage, and outflows shall be identified and mapped*



Yes

Comment The site has identified and mapped its water balance, including inflows, losses, storage, and outflows.

1.3.3 *Site water balance, inflows, losses, storage, and outflows, including indication of annual variance in water usage rates, shall be quantified. Where there is a water-related challenge that would be a threat to good water balance for people or environment, an indication of annual high and low variances shall be quantified.*



Yes

Comment The site uses a real-time water management system, including meters for water inputs into major water infrastructure. Triggers are set for each meter, which when exceeded result in an alert to the operator, who will then investigate such exceedances and identify and action measures to rectify the system to within the required operating parameters.

Water use and discharge data was provided for FY22. This new data will be used by the site.

A plot of monthly water use is found in the relevant site documentation. This illustrates monthly inflow volumes from the City of Hickory and monthly effluent to the town of Maiden wastewater treatment system. Additional monthly water data usage was provided by site staff.

1.3.4 *Water quality of the site's water source(s), provided waters, effluent and receiving water bodies shall be quantified. Where there is a water-related challenge that would be a threat to good water quality status for people or environment, an indication of annual, and where appropriate, seasonal, high and low variances shall be quantified.*






Obs.

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Comment	<p>Water Sources: There have been historical issues with Lake Hickory (the site's water source) being subjected to nutrient loading and corresponding algae growth. A link to Lake Hickory water quality data (along with other lakes on the Catawba River).</p> <p>However, treatment process changes implemented by the City of Hickory have prevented major impacts. The water received by the site is in compliance with EPA requirements.</p> <p>Provided waters: Water quality reporting for 2021 from the site's water source, the City of Hickory, can be found in the relevant document. The City of Hickory reported that the water system had no quality violations during the 2021 reporting period.</p> <p>There is on-site water testing for Maiden water use facilities. An example of monthly reporting can be found in the relevant site documentation.</p> <p>Key high and low values of key parameters for water within site facilities from January through March 2022 (the most recent available 2022 data) are shown in the relevant documents.</p> <p>The majority of the sites wastewater discharge is tested before being sent to the Town of Maiden's wastewater treatment facility. Domestic sewage is not tested before being sent to the Town of Maiden for treatment, but is a minor portion of effluent and is combined prior to discharge, so there are no plans in the near term to test the additional domestic sewage.</p> <p>Effluent: Data from the Town of Maiden wastewater treatment are found in the relevant documents.</p> <p>Future updates to the Lake Hickory (the site's water source) water quality data (along with other lakes on the Catawba River) should be provided when they become available.</p>	
1.3.5	<i>Potential sources of pollution shall be identified and if applicable, mapped, including chemicals used or stored on site.</i>	 Yes
Comment	<p>Potential sources of pollution were identified by the site as the many chemicals on-site that require documentation.</p> <p>The site has documented and map the primary locations where chemicals are located on site in the relevant documents.</p>	
1.3.6	<i>On-site Important Water-Related Areas shall be identified and mapped, including a description of their status including Indigenous cultural values.</i>	 Obs.
Comment	<p>The site identified three on-site IWRAs, namely two delineated wetlands and one historic farm pond. They are illustrated in the relevant document.</p> <p>The site stated that the wetlands are in good condition, whilst the historic farm pond is in need of improvement due to excess sediment, trash, and debris within and around the pond; and poor water flow and quality.</p> <p>The site should consider whether the "watercourses" on site, beyond just the ponds/wetlands, are also on-site IWRAs.</p>	
1.3.7	<i>Annual water-related costs, revenues, and a description or quantification of the social, cultural, environmental, or economic water-related value generated by the site shall be identified and used to inform the evaluation of the plan in 4.1.2.</i>	 Obs.

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Comment	<p>A table showing monthly costs for incoming water from the City of Hickory and outgoing water to the Town of Maiden is illustrated in the relevant documentation. Full water use data can be found in the appropriate document.</p> <p>An example of a water bill for the site can be found on site.</p> <p>Site staff expect overall water treatment costs to remain steady or increase slightly.</p> <p>A description or quantification of the social, cultural, and/or environmental water-related value generated by the site was not identified, as the site did not believe it had undertaken any significant actions that reflected substantial value.</p> <p>Direct and indirect water-related costs were documented by the site. A description of the social, cultural, and/or environmental water-related value generated by the site was identified for some of the targets, but not for all, despite being relevant for all. The site noted that it is too early in the process to quantify the value created for most.</p>	
1.3.8	<i>Levels of access and adequacy of WASH at the site shall be identified.</i>	 Yes
Comment	<p>The site documented that "WASH on site is adequate and the Maiden 1 location has been LEED platinum certified. The site complies with all local and state building, plumbing, and sewer codes. There is potable water, flushable toilets, and showers available for use on site."</p> <p>Sanitary provisions are documented and also broken down per building.</p> <p>There are also other water points on site.</p> <p>Detailed information about the water systems on-site can be found in the relevant document, which include statistics of all water-related (industrial and domestic) infrastructure (e.g., sinks, toilets, coffee machines, cooling systems etc.).</p> <p>Evidence of the maintenance of WASH facilities is reflected in the appropriate documents.</p>	
1.4	<i>Gather data on the site's indirect water use, including: its primary inputs; the water use embedded in the production of those primary inputs the status of the waters at the origin of the inputs (where they can be identified); and water used in out-sourced water-related services.</i>	
1.4.1	<i>The embedded water use of primary inputs, including quantity, quality and level of water risk within the site's catchment, shall be identified.</i>	 Yes
Comment	<p>The site uses 100% renewable electricity since opening in 2010 and has no primary inputs.</p> <p>No other potential embedded water use of primary inputs was identified by the site.</p>	
1.4.2	<i>The embedded water use of outsourced services shall be identified, and where those services originate within the site's catchment, quantified.</i>	 Yes
Comment	It's identified that the facility has an external drinking water provider.	
1.5	<i>Gather water-related data for the catchment, including water governance, water balance, water quality, Important Water-Related Areas, infrastructure, and WASH</i>	
1.5.1	<i>Water governance initiatives shall be identified, including catchment plan(s), water-related public policies, major publicly-led initiatives under way, and relevant goals to help inform site of possible opportunities for water stewardship collective action.</i>	 Yes

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Comment A suite of key relevant water-related public policies were documented by the site, including links to the relevant plans, protocols, and agreements.

The site identified the following water-related governance initiatives in the catchment:

- The Catawba-Wateree Water Management Group Water Supply Master Plan (2014), which is currently being updated as part of a 2020-2021 Integrated Water Resources Plan initiative, is primarily designed to ensure adequate water supply and is intended to operate in the larger context of other existing and future plans, regulations, and requirements pertaining to the Basin. While the Master Plan does not directly address flow and water issues related to a healthy environment and ecosystem, nor recreation and economic interests, it is designed at the least to be compatible with those interests and in most cases enhance those interests.

- Duke Energy operates the Catawba-Wateree Hydro Project, which includes the chain of lakes along the Catawba where the site receives its water. Duke received its Federal Energy Regulatory Commission (FERC) license for the project in 2008 and received a FERC license renewal in 2018. The FERC license includes reservoir elevation agreements, flow agreements, and water use agreements, amongst other agreements that must be upheld by Duke Energy in the Catawba-Wateree basin.

- The Catawba-Wateree Hydroelectric Project Low Inflow Protocol establishes procedures for reductions in water use during periods of low inflow to the Catawba-Wateree Project lakes that provide a reliable supply of cooling water for Duke Energy's fossil and nuclear power plants.

- The North Carolina Department of Environmental Quality created a Catawba River Basin wide Water Quality Plan, which includes sampling and tracking a variety of chemical, physical and biological quality parameters in the basin.

Links were provided to 3 websites of Duke Energy, which reflect various governance aspects, and these were also provided as PDFs.

A 5-year process is underway to update the Catawba Plan, including an annual water summit and 4 stakeholder meetings, and a new model is being run. This new plan will inform future actions by the site.

1.5.2 *Applicable water-related legal and regulatory requirements shall be identified, including legally-defined and/or stakeholder-verified customary water rights.*


Yes

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Comment The site identified the following relevant water-related legal and regulatory requirements:

- Duke Energy completed the relicensing effort in 2006 to allow their 13 hydroelectric plants along the Catawba-Wateree River Basin to continue meeting the needs of more than 2 million electric customers in the Carolinas (Duke Energy). No specific requirements for the site but does support the site's water supply.
- Federal Regulations (relevant to catchment but not site): U.S. Environmental Protection Agency Clean Water Act; 303d Impaired Waters, Total Maximum Daily Loads (NC TMDL Program & Listed TMDLs); Safe Drinking Water Act
- NC Drinking Water Act: Regulates water systems within NC, which supply drinking water that may affect the public health
- NC Water Quality Standards Regulations: Compilation of NC and EPA criteria and concentrations of priority pollutants
- NC 2007 Drought Preparedness Session Law: Act to improve Drought preparedness and response; Water conservation reporting requirements; Water withdrawal and transfer rules
- NCDEQ Stormwater Rules and Regulations: Site required to conduct monthly and annual stormwater inspections.

The potable water supply agreement between Apple and the City of Hickory is reflected in the relevant document.

The Town of Maiden does not require Apple to hold a permit for discharge of blowdown.

The site provided a copy of its water supply agreement, which is a non-regulatory agreement.

During the on-site audit and via

the site listed a suite of water-related legal and regulatory requirements, including explaining those that are applicable to the site.

1.5.3 *The catchment water-balance, and where applicable, scarcity, shall be quantified, including indication of annual, and where appropriate, seasonal, variance.*


Yes

Comment The site documented that "Lake Hickory is the main source of water for the site and also a main lake along the Catawba-Wateree Basin chain of lakes. Charlotte is the largest municipality that draws water from the basin before it reaches Lake Wateree. The system, overall, is highly managed by Duke Energy and the management of the Catawba-Wateree Basin results in water levels that do not fluctuate drastically and provide an overall reliable source of water. As an example of the level of management, Duke Energy alerted the public that Lake Wateree would be managed at a lower water level for construction activities on its website, to ensure that individuals were aware of the reasons behind the water level changes.

Due to the management and connectedness of the system, reservoir water level can be used as a proxy for the catchment's water balance (assessment of water inflows, throughflows and outflows, and water storage). Based on 13 months of historic lake level data for Lake Hickory, there is minimal annual and seasonal variance of the reservoir level, with the average water level minimally below the target lake level (less than 0.5 ft below target) only 16% of the year and never below the minimum lake level.

1.5.4 *Water quality, including physical, chemical, and biological status, of the catchment shall be identified, and where possible, quantified. Where there is a water-related challenge that would be a threat to good water quality status for people or environment, an indication of annual, and where appropriate, seasonal, high and low variances shall be identified.*


Yes

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Comment The site identified that "Water quality data for the Catawba River basin is compiled and summarized by Catawba Riverkeeper in the annual State of the River report (<https://www.catawbariverkeeper.org/state-of-the-river>). The 2022 report can be viewed as a story map at <https://storymaps.arcgis.com/stories/0fc8552946314594b9b4beab6c6ec80e>. Lake Hickory is located within the Northern Catawba basin.

In general, the Catawba River Basin water quality is impacted by point and nonpoint pollution sources that stem mainly from urban development and agriculture. With the increase in basin population, stormwater runoff has increased, and sewer spills have threatened the water quality in areas throughout the basin (Carolina Public Press, 2018). Land conservation is one way that the basin is taking action to address this concern. Agriculture and poultry farms have also led to nutrient level concerns in the basin during stormwater flows (Catawba Riverkeeper, 2021 [<https://www.catawbariverkeeper.org/state-of-the-river>], NC DEQ, 2010 [<https://deq.nc.gov/media/3926/download>]).

Lake Hickory, the site's water source, has had algae issues in the past due to high nutrient levels associated with agricultural stormwater runoff (NC DEQ, 2010 [<https://deq.nc.gov/media/3926/download>]). The Lake Hickory - Hickory Water Filtration Plant is sampled weekly from May 21-September 10 each year by the Catawba Riverkeeper Foundation. Parameters include pH, DO, temp, conductivity, and E. coli. The location has passed water quality tests at least 95% of the time the last 3 years (2020-2022). There has been no significant difference in whether tests are passed based on the month or quarter. Data can be accessed at <https://www.theswimguide.org/beach/9675>.

Flooding and related turbidity from flood waters have been noted as issues in the region of the site."

1.5.5 *Important Water-Related Areas shall be identified, and where appropriate, mapped, and their status assessed including any threats to people or the natural environment, using scientific information and through stakeholder engagement.*


Obs.

Comment The site identified that "The Catawba Nation has land along the Catawba River Basin (Catawba Nation; <https://www.catawba.com/about-the-nation>). The Catawba River chain of lakes are important ecological & drinking water resources for the area. Lake James, Lake Rhodhiss, Lake Hickory, Lookout Shoals, Lake Norman, Mt. Island Lake, Lake Wylie. Clark Creek, where the site discharges, is an important ecological area, & it has had nutrient problems. The catchment contains fish species of recreational importance and a few endangered species: Federally endangered Carolina Heel-Splitter Mussel (extirpated from Catawba, but still found in Lake Wateree) and Sturgeon, Globally rare Edmund's snaketail dragonfly, and Endangered salamander in the basin. Catchment IWRAs mapped on site's catchment map Sources: American Rivers, 2022 -<https://www.americanrivers.org/river/catawba-river/>; NC DEQ, 2018 - <https://files.nc.gov/deqee/documents/files/catawba-river-basin.pdf>).

Relevant content in the Catawba River Basinwide Water Quality Plan September 2010 and NC DWQ CATAWBA RIVER BASIN PLAN: Catawba River Headwaters Subbasin HUC 03050101 (2010) plans should also be included for this indicator, to reflect a more comprehensive overview of the assessed status of the above IWRAs and associated threats to people or the natural environment.

1.5.6 *Existing and planned water-related infrastructure shall be identified, including condition and potential exposure to extreme events.*


Obs.

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Comment The site identified that "The site's water source, Lake Hickory, is a reservoir formed by a dam at the Oxford Hydro Station. There is no current information related to any concerns about the condition of the dam. There are 194 dams in North Carolina listed as having "poor" or "unsatisfactory" status by an AP study of the state's dams, but Oxford Hydro Station is not among those dams with concerns. Source: <https://www.wunc.org/news/2022-06-01/north-carolina-has-194-high-hazard-dams-in-poor-or-unsatisfactory-condition>

Site source water is treated at the City of Hickory Water Treatment Plant. There are no current issues with the condition of this facility. The Hickory WTP treatment capacity is 32 MGD and treats an average of 17 MGD (NC DEQ <https://www.ncwater.org/WUDC/app/LWSP/report.php?pwsid=01-18-010&year=2021>)

Site effluent is treated at the City of Maiden Wastewater Treatment Plant. There are no current issues with the condition of this facility. The Town of Maiden WWTP treatment capacity is 1 MGD and treats an average of 0.44 MGD (Town of Maiden https://maidennc.com/wastewater_treatment.html#:~:text=The Town of Maiden currently,Maiden's Domestic and Industrial Wastewater] and WWTP Annual Report <https://maidennc.com/PDF/WWTP Annual Report 2022.pdf>)

The Catawba-Wateree Hydro Project: 13 hydroelectric stations to be used along the Catawba River (Duke Energy <https://deq.nc.gov/media/6169/download>). The Catawba-Wateree hydroelectric stations are approaching 100 years old, they are still very important elements in Duke's generation mix and have high performance characteristics (Duke Energy <https://www.duke-energy.com/community/lakes/hydroelectric-relicensing/catawba>)).

The site advised that they are not aware of any water-related planned infrastructure because the catchment is already overbuilt in water-infrastructure owing to the fact that it is equipped to serve higher water demand because of historical textile industry.

Apple has met with the local utility providers to review the Risk and Resilience Assessments and Emergency Response plans applicable to supporting the Data Center. During the meeting and review of the documents, no significant risks were identified.

The site is also aware of the requirements of the America's Water Infrastructure Act of 2018, the related obligations of state utilities, and associated site considerations.

During the on-site audit, the site reflected knowledge of existing water related infrastructure. They are not aware of any water-related planned infrastructure because the catchment is already overbuilt in terms of water-infrastructure due to it having been equipped to serve higher water demand because of the historical textile industry.

The site did not include any information on the above infrastructure regarding potential exposure to extreme events related to water, but did in terms of vandalism and IT attack. Importantly, one of the stakeholder interviews reflected that leaks in municipal stormwater lines that affect the South Fork River are leading to erosion and sinkholes in some locations, which has not been reflected in the site's information on the condition of municipal water-related infrastructure.

In the future, the site should update the current information on infrastructure condition and the potential exposure of relevant infrastructure to extreme (water-related) events.

1.5.7 *The adequacy of available WASH services within the catchment shall be identified.*


Yes

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Comment The identified that "The State of North Carolina overall has high WASH service access (as confirmed by multiple stakeholders), with a 2017 grant from U.S. EPA to help enforce the Safe Drinking Water Act and oversee the state's water systems (<https://www.wunc.org/environment/2017-07-18/north-carolina-gets-3m-to-enforce-safe-drinking-water-act>).

U.S. Census Bureau provided data of the number of complete plumbing facilities for occupied housing units in North Carolina, with statistics provided (<https://data.census.gov/table?q=clean+water+in+north+carolina+in+2021&tid=ACSDT1Y2021.B25048>).

Catawba County representatives noted there are some communities on wells as their water source, with elevated iron, which are not out of compliance levels, but are not pleasant to taste. The iron threshold has not met the threshold to connect them to the system (<https://epi.dph.ncdhhs.gov/oeep/programs/wellwater.html>).

1.6 *Understand current and future shared water challenges in the catchment, by linking the water challenges identified by stakeholders with the site's water challenges.*

1.6.1 *Shared water challenges shall be identified and prioritized from the information gathered.*



Yes

Comment The site documented that "Shared water challenges were identified and prioritized through a workshop with site staff, desktop research, and stakeholder meetings. The results are included in the Deliverables workbook.

These included:

- Impaired surface water quality
- Flood-related impacts
- Impaired natural habitat
- Recreation
- Water scarcity and resilience

The Impacts, the Drivers or Cause for Challenge, the Priority of each, and the Rationale for Prioritization were described by the site.

1.6.2 *Initiatives to address shared water challenges shall be identified.*



Yes

Comment The site documented that "Initiatives to address shared water challenges, informed by desktop research and stakeholder meetings, are included in the Deliverables workbook."

1.7 *Understand the site's water risks and opportunities: Assess and prioritize the water risks and opportunities affecting the site based upon the status of the site, existing risk management plans and/or the issues and future risk trends identified in 1.6.*

1.7.1 *Water risks faced by the site shall be identified, and prioritized, including likelihood and severity of impact within a given timeframe, potential costs and business impact.*



Yes

Comment The site documented that "Site water risks were identified and scored through a workshop with site staff, desktop research, and stakeholder meetings. The results are included in the Deliverables workbook".

1.7.2 *Water-related opportunities shall be identified, including how the site may participate, assessment and prioritization of potential savings, and business opportunities.*








Yes

Comment The site documented that "Site water opportunities were identified and prioritized through a workshop with site staff, desktop research, and stakeholder meetings. The results are included in the Deliverables workbook. Estimate of potential savings / value creation is included for high priority opportunities".

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1.8	<i>Understand best practice towards achieving AWS outcomes: Determining sectoral best practices having a local/catchment, regional, or national relevance.</i>	
1.8.1	<i>Relevant catchment best practice for water governance shall be identified.</i>	 in progress
Comment	<p>The site documented that "The catchment best practice for water governance is multi-stakeholder participation in water-related initiatives. For Apple in Maiden, this means continuing water-specific stakeholder engagement and identifying opportunities for collaboration, efforts on stormwater legislation (where applicable for Apple).".</p> <p>The site should consider whether there are any other relevant catchment best practices for water governance that could potentially be implemented.</p> <p style="text-align: right;">Finding No: TNR-003892</p>	
1.8.2	<i>Relevant sector and/or catchment best practice for water balance (either through water efficiency or less total water use) shall be identified.</i>	 Obs.
Comment	<p>The site should consider whether there are any other relevant sector and/or catchment best practices for water balance that could potentially be implemented.</p>	
1.8.3	<i>Relevant sector and/or catchment best practice for water quality shall be identified, including rationale for data source.</i>	 Obs.
Comment	<p>The catchment best practice for water quality is to ensure that site discharge does not contribute to water quality challenges in the catchment. Three major parameters of concern for the Catawba River Basin are turbidity, low pH, and copper. Turbidity is caused by storm events.</p> <p>Data Center blowdown is typically high pH. Copper is not a concern with the discharge. We do not have any requirements for wastewater monitoring or pretreatment (treatment before discharge into the sewer). (https://files.nc.gov/ncdeq/Water%20Quality/Planning/BPU/BPU/Catawba/Catawba%20Plans/2010%20Plan/Entire%202010-Catawba%20Plan.pdf).</p> <p>Additional best practices include:</p> <ul style="list-style-type: none"> - Implement stormwater turbidity control - Minimize chemical use in water treatment - Support implementation of the South Fork River Health Committee Action Plan. <p>The site could benefit from explicitly documenting what "site discharge that does not contribute to water quality challenges in the catchment" would constitute in terms of specific parameters and limits for each as well as the relevant actions in the South Fork Collective Action Plan.</p>	
1.8.4	<i>Relevant catchment best practice for site maintenance of Important Water-Related Areas shall be identified.</i>	 in progress
Comment	<p>The site documented that "The catchment best practice for on-site and off-site IWRAs is to restore the habitat to favorable conditions and protect and maintain them once established.".</p> <p>The site should consider whether there are any other relevant catchment best practices for site maintenance of Important Water-Related Areas that could potentially be implemented.</p> <p style="text-align: right;">Finding No: TNR-003895</p>	
1.8.5	<i>Relevant sector and/or catchment best practice for site provision of equitable and adequate WASH services shall be identified.</i>	 No

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Comment The site documented that "The sector/catchment best practice for site provision of WASH is provided in local building code, with which the site is compliant.

Globally, there is strong guidance from UN-Water on provision of WASH. Evaluate relevance of WBCSD WASH Pledge and whether that exceeds current building code and Apple standards.

Apple has been meeting regularly about equitable and adequate WASH challenges in the USA, including learning about WASH needs in Appalachia, a region adjacent to the Maiden Data Center with significant unmet needs for clean water supply.



Maiden DC is LEED certified gold, which is included in best practice in the commercial building industry. "The project complies with Case 1: Commercial or Institutional Projects. Bicycle storage facilities have been provided to serve 6.9% of the LEED project FTE and transient occupants, measured at peak occupancy, and shower facilities have been provided for 3.45% of the LEED project FTE occupants."

Finding No: TNR-003899

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2	STEP 2: COMMIT & PLAN - Commit to be a responsible water steward and develop a Water Stewardship Plan	
2.1	<i>Commit to water stewardship by having the senior-most manager in charge of water at the site, or if necessary, a suitable individual within the organization head office, sign and publicly disclose a commitment to water stewardship, the implementation of the AWS Standard and achieving its five outcomes, and the allocation of required resources.</i>	
2.1.1	<i>A signed and publicly disclosed site statement OR organizational document shall be identified. The statement or document shall include the following commitments:</i> <ul style="list-style-type: none"> - That the site will implement and disclose progress on water stewardship program(s) to achieve improvements in AWS water stewardship outcomes - That the site implementation will be aligned to and in support of existing catchment sustainability plans - That the site's stakeholders will be engaged in an open and transparent way - That the site will allocate resources to implement the Standard. 	 Yes
Comment	<p>The site documentation that "A commitment to water stewardship, the implementation of the AWS Standard and achieving its five outcomes, and the allocation of required resources has been developed, and posted at the publicly accessible guard shack to the site. Additionally, Apple plans to publicly disclose A4WS commitments in its annual environmental report in April 2023."</p> <p>The site provided evidence that the signage was laminated and posted with tape at the front of the gatehouse. This statement included the following commitments:</p> <ul style="list-style-type: none"> - That the site shall implement and disclose progress on water stewardship program(s) to achieve improvements in AWS water stewardship outcomes - That the site implementation shall be aligned to and in support of existing catchment sustainability plans - That the site's stakeholders shall be engaged in an open and transparent way - That the site will allocate resources to implement the Standard. 	
2.2	<i>Develop and document a process to achieve and maintain legal and regulatory compliance.</i>	
2.2.1	<i>The system to maintain compliance obligations for water and wastewater management shall be identified, including:</i> <ul style="list-style-type: none"> - Identification of responsible persons/positions within facility organizational structure - Process for submissions to regulatory agencies. 	 Yes
Comment	<p>The site provided an XLS table with water-related compliance requirements, including spill prevention, stormwater inspection, water supply, and onsite water quality. The submission process was documented, including that the potable water supply agreement with Catawba County would expire after 30 years. In addition, the site provided evidence of a detailed process for compliance for spill prevention and linked evidence of testing for different water-related compliance aspects that had been implemented.</p> <p>Also, the site documented the Legionellosis water management plan and the water quality testing schedule. The Legionellosis documentation indicated the general persons responsible, which included a person with senior organizational leadership authority. It also indicated the submission process to ASHRAE Standard 188 and established minimum Legionellosis risk management requirements for building water systems.</p>	
2.3	<i>Create a water stewardship strategy and plan including addressing risks (to and from the site), shared catchment water challenges, and opportunities.</i>	

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2.3.1	<i>A water stewardship strategy shall be identified that defines the overarching mission, vision, and goals of the organization towards good water stewardship in line with this AWS Standard.</i>	 Yes
Comment	<p>The site documented that "A site water stewardship strategy was developed through a workshop with site staff. Vision: Apple's Water Strategy is to advance water security in the places we operate through actions that improve availability, quality and equity."</p> <p>The strategy indicates the overarching mission, vision and goals of the organization in line with the AWS Standard.</p>	
2.3.2	<i>A water stewardship plan shall be identified, including for each target:</i> <ul style="list-style-type: none"> - How it will be measured and monitored - Actions to achieve and maintain (or exceed) it - Planned timeframes to achieve it - Financial budgets allocated for actions - Positions of persons responsible for actions and achieving targets - Where available, note the link between each target and the achievement of best practice to help address shared water challenges and the AWS outcomes. 	 Obs.
Comment	<p>The site documented the following "A site water stewardship plan was developed through information collected in Step 1, a workshop with site staff, and follow up discussions. The plan is included in the Deliverables workbook. Monitoring for each objective will happen in the Water Stewardship Plan."</p> <p>The site's Water Stewardship Plan included short-term and long-term targets for each objective. The site indicated that the long-term targets were the targets to focus on, while the short-term targets represented the actions taken to achieve the target.</p> <p>Many of the targets were SMART, although some of the metrics were either not quantified to enable effective measurement of performance and associated monitoring or additional studies were still required or underway to inform the determination of appropriate metrics.</p> <p>The following required targets were included:</p> <ul style="list-style-type: none"> - How each target will be measured and monitored. - Actions to achieve and maintain (or exceed) it were labelled as "Short Term Target" - Planned timeframes - Financial budgets allocated for actions (some were indicated through estimated staff salary time). - Positions of persons responsible for actions and achieving targets - The links between each target and the achievement of best practices to help address shared water challenges and the AWS were included for all objectives. <p>It was unclear if, as per AWS Standard Indicator 2.3.2, the data reflects "Financial budgets allocated for actions" or proposed but not formally budgeted resource allocations.</p>	
2.4	<i>Demonstrate the site's responsiveness and resilience to respond to water risks</i>	
2.4.1	<i>A plan to mitigate or adapt to identified water risks developed in co-ordination with relevant public-sector and infrastructure agencies shall be identified.</i>	 Obs.

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Comment The site documented that "The Catawba-Wateree Water Management Group's Water Supply Master Plan (2014), which is currently being updated as part of a 2020-2021 Integrated Water Resources Plan initiative, is primarily designed to ensure adequate water supply and is intended to operate in the larger context of other existing and future plans, regulations, and requirements pertaining to the Basin. This plan seeks input from a variety of stakeholders."

Other actions the site has implemented include:

- A source vulnerability assessment was undertaken for the site that highlights water risks to the site.
- Apple to develop a water risk assessment for assets of the company as a whole.
- Apple to develop a company-wide corporate water strategy.
- Consultation was also undertaken regarding water system reliability and availability to customers and response times to an incident within the utility system.

The site provided evidence of these risk mitigation plans, which included site-specific and corporate-wide risks and the CW's Low-Inflow Protocol. The site-wide assessment aligned with local public-sector plans, including the Catawba-Wateree Water Management Group's Water Supply Master Plan.



Apple indicated that their Senior Civil Engineer held weekly update meetings with the city to discuss water-related risks and mitigations, which were specifically considered in their Apple Source Vulnerability Assessment - they shared evidence shared with a screenshot of the recurring event and an email started by Apple with the city on their risks, including water.

Future updates to these plans should include information on potential exposure of municipal water-related infrastructure to extreme events, and the current leaks in municipal stormwater lines that affect the South Fork River that have led to erosion and sinkholes in some locations.

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3 STEP 3: IMPLEMENT - Implement the site's stewardship plan and improve impacts
<p>3.1 <i>Implement plan to participate positively in catchment governance.</i></p>
<p>3.1.1 <i>Evidence that the site has supported good catchment governance shall be identified.</i></p> <p style="text-align: right;">  Yes </p>
<p>Comment The site noted the following governance activities: analysing the policies, processes, and discussions around the catchment's water resources; and engaging with the Catawba-Wateree Water Management Group (CWWMG).</p> <p>The site provided evidence of governance work in the catchment, including emails connecting internally within Apple, confirmations of Apple corporate teammates, and confirmation of Apple's Senior Civil Engineer joining advisory committees. They also shared correspondence about the Catawba-Wateree Basin's water availability within the context of Apple's AWS certification and the CWWMG's Integrated Water Resources Plan development.</p> <p>However, the site's identified good water governance activities and the proposed policy analysis have not been undertaken yet. These are the only actions undertaken and completed to date in support of good catchment governance.</p> <p>Also to note, the site indicated that these good governance actions are at the Apple corporate and site levels.</p>
<p>3.1.2 <i>Measures identified to respect the water rights of others including Indigenous peoples, that are not part of 3.2 shall be implemented.</i></p> <p style="text-align: right;">  Yes </p>
<p>Comment The site stated in its documentation that "There are no non-regulatory water rights to consider. Water rights in the eastern US are riparian rights based on the reasonable use doctrine. Landowners using water are adjacent to the river and may access water directly as per the doctrine. As a complaint-driven system, other water users feeling that their water rights have been affected by another's withdrawal would lodge a complaint with relevant authorities. However, stakeholders interviewed indicated that there is no competition over water in the basin. Apple is located within the Town of Maiden and is a customer of the local water utility. As such it does not have water rights. Stakeholder interviews, as well as online research, revealed that there are no federally recognized Indian Tribes in the vicinity. Interviews with local interviews (sic) reveals that at present water use by customers is only one half that of the permitted and available amount. It is therefore unlikely that the site's water use is affecting the water rights of others.</p> <p>Evidence: We asked our stakeholders about indigenous peoples and none were recognized in the vicinity.</p> <p>There are no Federally or state-recognized tribes in Catawba or Lincoln county, in the basin.</p> <p>Evidence that the water is provided by the City of Hickory:</p> <p>However, the file 3.1.2 Laura Catawba County_tribal evidence notes was not provided by the auditee.</p> <p>This information confirmed that the Catawba County does not have a registered tribal organization located in it, which substantiates the site not having any indigenous water rights of concern.</p> <p>The site also indicated that previous stakeholder interviews indicated no competition for water in the basin. Apple indicated they have evidence of these stakeholder engagements in their stakeholder conversations, particularly with Catawba County.</p>

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3.2 *Implement system to comply with water-related legal and regulatory requirements and respect water rights.*

3.2.1 *A process to verify full legal and regulatory compliance shall be implemented.*



Yes

Comment The site provided documentation that stated regarding water quality, confirmation that the full legal and regulatory compliance has been implemented.

The site provided evidence of stormwater inspection reports.

3.2.2 *Where water rights are part of legal and regulatory requirements, measures identified to respect the water rights of others including Indigenous peoples, shall be implemented.*



Yes

Comment The site indicated in its documentation that "Water rights are not part of the site's legal and regulatory requirements, as water is supplied by the City of Hickory. Typically in most municipalities, if a site is within the service territory of a municipal water company, it must first seek service from that entity before developing its own supply. Consequently, the Maiden data center has a water supply agreement with City of Hickory, which is the public agency with jurisdiction over service to the location of the data center. Evidence that the water is provided by the City of Hickory.

They are not considered an enlargement of water right that would impinge on the water rights of others. Apple respects water rights of others by ensuring that it does not over-withdraw from its wells or its municipal supply, though monitoring.

Water rights in the eastern US are riparian rights based on the reasonable use doctrine. Landowners using water are adjacent to the river and may access water directly as per the doctrine. As a complaint-driven system, other water users feeling that their water rights have been affected by another's withdrawal would lodge a complaint with relevant authorities. However, stakeholders interviewed indicated that there is no competition over water in the basin. Apple is located within the Town of Maiden and is a customer of the local water utility. As such it does not have water rights. Stakeholder interviews, as well as online research, revealed that there are no federally recognized Indian Tribes in the vicinity. Interviews with local interviews reveals that at present water use by customers is only one half that of the permitted and available amount. It is therefore unlikely that the site's water use is affecting the water rights of others."

The site indicated during the visit that all water systems created for North Carolina properties required the municipality to obtain permits. The municipality must have confirmed that they could honour the requested water rights for new developments, with an understanding of the maximum withdrawals needed and their compliance. However, the site confirmed the daily abstraction limits and advised that the abstraction rates are greater than the flow rates of the the installed pumps and the specific capacity of the wells.

The site provided evidence of a water and sewer bill from the City of Hickory from 2020 and 2023, and test reports for the capacities. Apple also provided evidence of stakeholder calls related to the replenishment of freshwater withdrawals to support respecting water rights.

3.3 *Implement plan to achieve site water balance targets.*

3.3.1 *Status of progress towards meeting water balance targets set in the water stewardship plan shall be identified.*



Yes

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Comment The site provided documentation that stated, Water Stewardship Plan indicates which line items are related to Sustainable Water Balance. The status of progress towards these objectives and targets is stated.

The site supported sustainable water balance by:

- Maintaining efficient water operations | Determine and maintain a target WUE...
- Maintain good water quality status onsite.

The site provided evidence and confirmation that it works. Various additional evidence was provided of actions implemented to date. The site provided evidence of meetings with key stakeholders and proof of these calls, in particular regarding the upcoming project.

3.3.2 *Where water scarcity is a shared water challenge, annual targets to improve the site's water use efficiency, or if practical and applicable, reduce volumetric total use shall be implemented.*



Yes

Comment The site documented that "the Water Stewardship Plan indicates which line items are related to Sustainable Water Balance. Short-term and long-term targets are listed.

Interviews with stakeholders revealed little immediate concern over water scarcity and ongoing analysis by Apple with CWWMG data suggest low stress levels in the basin. As a result Apple is revising its plans for addressing water scarcity. More generally the CWWMG put forth a variety of measures in the 2014 Basin plan including improving various facilities access to water from reservoirs should they fall to low levels during drought years and implementation of other demand management measures recommended by CWWMG. These are in various stages of implementation and Apple will certainly monitor water scarcity and needed implementation going forward.

The site is supporting sustainable water balance by:
Water efficiency targets.

- Maintaining efficient water operations
 - Short term target: have been analysed;
 - Long term target: Determine and maintain/improve target WUE

Maintain good water quality status on-site.

The site advised that initial conversations with likely respondents are underway.

Targets in the WSP were not SMART for all indicators and associated implementation metrics. However, the site provided evidence of implementation for all stated activities (short-term targets).

3.3.3 *Legally-binding documentation, if applicable, for the re-allocation of water to social, cultural or environmental needs shall be identified.*



Yes

Comment The site documented that "The site does not re-allocate water directly, so this indicator is not relevant for the site."

3.4 *Implement plan to achieve site water quality targets*

3.4.1 *Status of progress towards meeting water quality targets set in the water stewardship plan shall be identified.*



Yes





Comment The site documentation indicates which line items are related to Good Water Quality Status. Status of progress towards these objectives and targets are stated.

The site is supporting site water quality by reducing various bacterial count incidents and use of chemical treatment through implementation.

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3.4.2	<i>Where water quality is a shared water challenge, continual improvement to achieve best practice for the site's effluent shall be identified and where applicable, quantified.</i>	 Yes
Comment	<p>Water quality was identified by the site as a shared water challenge .</p> <p>The catchment best practice for water quality is to ensure that site discharge does not contribute to water quality challenges in the catchment. It should be noted that the site does not have any direct effluent into catchment water bodies.</p> <p>- Maintain good water quality status on-site.</p>	
3.5	<i>Implement plan to maintain or improve the site's and/or catchment's Important Water-Related Areas.</i>	
3.5.1	<i>Practices set in the water stewardship plan to maintain and/or enhance the site's Important Water-Related Areas shall be implemented.</i>	 Yes
Comment	<p>The site documented that "the Water Stewardship Plan indicates which line items are related to Site IWRAs. Status of progress towards these objectives and targets are stated.</p> <p>For the purposes of the A4WS certification process, the data center only includes land west of Startown Road.</p> <p>The site is supporting site IWRAs by protecting and improving the on-site farm pond.</p> <p>The farm pond's rehabilitation was included in the WSP as a catchment IWRA ("Protect and improve on-site farm pond").</p>	
3.6	<i>Implement plan to provide access to safe drinking water, effective sanitation, and protective hygiene (WASH) for all workers at all premises under the site's control.</i>	
3.6.1	<i>Evidence of the site's provision of adequate access to safe drinking water, effective sanitation, and protective hygiene (WASH) for all workers onsite shall be identified and where applicable, quantified.</i>	 Yes
Comment	<p>The site documented that "WASH on site is adequate (to be confirmed during on-site audit). The site complies with all local and state building, plumbing, and sewer codes. There is potable water, flushable toilets, and showers available for use on site.</p> <p>Maiden Data Center is LEED Platinum certified and number of showers are toilets are part of adhering to the certification.</p> <p>*Number of FTE provided verbally to WSAS during the audit."</p> <p>Based on Indicator 1.3.8's data, the site has sanitary and washing facilities.</p> <p>The ratio of each type of WASH facilities relative to the number of employees on site was deemed adequate.</p>	
3.6.2	<i>Evidence that the site is not impinging on the human right to safe water and sanitation of communities through their operations, and that traditional access rights for indigenous and local communities are being respected, and that remedial actions are in place where this is not the case, and that these are effective.</i>	 closed

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Comment The site documented that "The site does not have direct withdrawal from source water bodies and does not discharge wastewater directly to water bodies, and thus is not impinging on the human right to safe water and sanitation of communities.

See Town of Maiden Wastewater Discharge Agreements, and City of Hickory Water Agreements."

The site indicated that its discharge agreement and the potable water agreement demonstrate that they are respecting water and sanitation rights of the community. However, the site did not provide its wastewater discharge agreement with the City of Maiden.

Finding No: TNR-004112

3.7 *Implement plan to maintain or improve indirect water use within the catchment:*

3.7.1 *Evidence that indirect water use targets set in the water stewardship plan, as applicable, have been met shall be quantified.*


Yes

Comment The site documented that "The site's energy supply is 100% renewable (Page 92 of the Environmental Progress Report).

3.7.2 *Evidence of engagement with suppliers and service providers, as well as, when applicable, actions they have taken in the catchment as a result of the site's engagement related to indirect water use, shall be identified.*


Yes

Comment The site documented that "Apple does engage with its suppliers globally, but those engagements do not directly relate to this site.

The site did not identify indirect water use. Therefore, indirect water use targets were not included in the water stewardship plan."

3.8 *Implement plan to engage with and notify the owners of any shared water-related infrastructure of any concerns the site may have.*

3.8.1 *Evidence of engagement, and the key messages relayed with confirmation of receipt, shall be identified.*


Yes

Comment The site documented that "The following owners of shared water-related infrastructure were included in stakeholder outreach.

The site provided evidence of its engagement regarding the AWS Standard and shared water challenges, and agreements from the City and County about shared water-related infrastructure.

The Stakeholder Engagement log reflected details of conversations with stakeholders, including some shared infrastructure details (but not the wastewater discharge details).

Site documentation reflects engagement regarding Apple and the site's concerns about utility vulnerabilities, the likelihood of service interruption, and the timing to repair and the resumption of service.

3.9 *Implement actions to achieve best practice towards AWS outcomes: continually improve towards achieving sectoral best practice having a local/catchment, regional, or national relevance.*




3.9.1 *Actions towards achieving best practice, related to water governance, as applicable, shall be implemented.*


Obs.


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Comment	<p>The site documented that “The catchment best practice for water governance is multi-stakeholder participation in water-related initiatives. For Apple in Maiden, this means continuing water-specific stakeholder engagement and identifying opportunities for collaboration, on stormwater legislation (where applicable for Apple). Actions taken towards achieving best practice include:</p> <ul style="list-style-type: none"> - Development of site water stewardship plan and the A4WS process in consultation with key stakeholders (Indicator 1.2.1) <p>In order to contribute to good governance, Apple first needs to assess and understand relevant challenges in Catawba-Wateree Basin (CWB), including the watershed in which the facility is located and the watershed from which the facility draws and recharges its water/wastewater. To this end, Apple has been working to assess the degree of water stress in the basin using data collected locally for the CWB by the Catawba-Wateree Water Management Group (CWWMG). Apple is evaluating if water stress and, therefore, water quantity is a significant challenge as is suggested by the Water Resource Institute's Aqueduct Water Risk Tool. So far local stakeholders and querying of local data suggests this concern may be misplaced. Once Apple has a better and more accurate diagnosis of the water-related challenges in the Maiden geography it can better target its governance work, including the other items mentioned here.”.</p>	
3.9.2	<i>Actions towards achieving best practice, related to targets in terms of water balance shall be implemented.</i>	 Yes
Comment	<p>The site documented that “The best practice for water balance is to ensure a positive impact in the basin.</p> <p>Actions taken towards achieving best practice include:</p> <ul style="list-style-type: none"> - Maintaining metering to understand water use - Multiple actions in place to maintain efficient water operations and reduce freshwater withdrawals and discharges. <p>The site provided evidence for all of the activities above.</p>	
3.9.3	<i>Actions towards achieving best practice, related to targets in terms of water quality shall be implemented.</i>	 Yes
Comment	<p>The site documented that “The catchment best practice is to ensure that site discharge does not contribute to water quality challenges in the catchment. Additional best practices include: Minimize chemical use in water treatment, and Support implementation of the South Fork River Health Committee Action Plan.</p> <p>Actions taken towards achieving best practice include:</p> <ul style="list-style-type: none"> - Multiple actions in place to maintain efficient water operations and reduce freshwater withdrawals and discharges, including: - The site has extensive Best Management Practices for Stormwater control with multiple stormwater basins. <p>The site provided evidence of the majority of the actions above, except for their stormwater control.</p>	
3.9.4	<i>Actions towards achieving best practice, related to targets in terms of the site's maintenance of Important Water-Related Areas shall be implemented.</i>	 Obs.
Comment	<p>The site documented that “The catchment best practice for on-site and off-site IWRAs is to restore the habitat to favorable conditions and protect and maintain them once established.</p> <p>The WSP also indicated that no practices related to maintaining the wetlands would happen for now.</p>	

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3.9.5	Actions towards achieving best practice related to targets in terms of WASH shall be implemented.	 Yes
Comment	<p>The site documented that “The sector/catchment best practice for site provision of WASH is provided in local building code, with which the site is compliant. Globally, there is strong guidance from UN-Water on provision of WASH. Evaluate relevance of WBCSD WASH Pledge and whether that exceeds current building code and Apple standards. Actions taken towards achieving best practice include:</p> <ul style="list-style-type: none">- Maintaining good water quality status on-site- The site is supporting site water quality by reducing various bacterial count incidents and use of chemical treatment- Maiden DC is LEED certified gold, which is included in best practice in the commercial building industry.	

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4 STEP 4: EVALUATE - Evaluate the site's performance.

4.1 *Evaluate the site's performance in light of its actions and targets from its water stewardship plan and demonstrate its contribution to achieving water stewardship outcomes.*

4.1.1 *Performance against targets in the site's water stewardship plan and the contribution to achieving water stewardship outcomes shall be evaluated.*

 Obs.

Comment The site documented that "The Water Stewardship Plan describes the objectives and targets for each line item in the plan. The metrics used to evaluate each item are listed, performance against the targets is listed, evaluation of progress is listed, and linkage to water stewardship outcomes is listed.

Summary of performance against objectives/targets:

Strong performance:

- Maintain efficient water operations.

Moderate performance:

In progress:

- Maintain good water quality status on-site
- Analyze the policies, processes, and discussions related to water resources in the catchment

*Note that the plan is in its early stages of implementation (within year 1). Thus, a fuller evaluation is expected in future years.".

The site provided descriptive (qualitative) explanations of performance against targets in the site's water stewardship plan in relation to the short term and long terms targets and the associated implementation timeline. Links between each target and Water Stewardship Outcomes are also documented.

For "Analyze the policies, processes, and discussions related to water resources in the catchment", the site was scheduled to "Research riverkeepers effort regarding stormwater legislation. "Beginning analysis process. In order to contribute to good governance, Apple first needs to assess and understand relevant challenges in Catawba-Wateree Basin (CWB), including the watershed in which the facility is located and the watershed from which the facility draws and recharges its water/wastewater. To this end, Apple has been working to assess the degree of water stress in the basin using data collected locally for the CWB by the Catawba-Wateree Water Management Group (CWWMG). Apple is evaluating if water stress and, therefore, water quantity is a significant challenge as is suggested by the Water Resource Institute's Aqueduct Water Risk Tool. So far local stakeholders and querying of local data suggests this concern may be misplaced. Once Apple has a better and more accurate diagnosis of the water-related challenges in the Maiden geography it can better target its governance work, including the other items mentioned here. The site has reflected that these actions are on track.

In conclusion, the site has documented an Evaluation of Progress Against Targets. For all short-term targets with timelines that have passed, the required actions have been completed.





However, the link between the proposed short-term targets and AWS Outcomes has been documented, but not how the actual actions implemented to date have contributed to achieving water stewardship outcomes.

It is recognized though that the site has not reached a full year of implementation yet, at which point a more comprehensive assessment of performance against targets is expected.

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4.1.2	<i>Value creation resulting from the water stewardship plan shall be evaluated.</i>	 Obs.
Comment	<p>The site documented in the WSP describes the value created from the actions in the plan. The costs and resources that went towards achieving this target is described.</p> <p>*Note that the plan is in its early stages of implementation (within year 1). Thus, a fuller evaluation of value creation is expected in future years."</p> <p>The site's financial investments in water stewardship are documented for each target, but do not clearly differentiate between current and proposed financial investments.</p> <p>The value creation information in "Value Created for Site (e.g., volumetric, financial, other)" does not include a financial water cost-benefit component except for an estimate although the site documented that "Once more data is available, value may be calculated ...".</p>	
4.1.3	<i>The shared value benefits in the catchment shall be identified and where applicable, quantified.</i>	 Yes
Comment	<p>The site documented that "The water Stewardship Plan describes the shared value created for the catchment from the actions in the plan.</p> <p>*Note that the plan is in its early stages of implementation (within year 1). Thus, a fuller evaluation of value creation is expected in future years."</p> <p>The shared value benefits in the catchment were identified in the WSP (Shared Value Created for Catchment) for each of the site's objectives and targets.</p>	
4.2	<i>Evaluate the impacts of water-related emergency incidents (including extreme events), if any occurred, and determine the effectiveness of corrective and preventative measures.</i>	
4.2.1	<i>A written annual review and (where appropriate) root-cause analysis of the year's emergency incident(s) shall be prepared and the site's response to the incident(s) shall be evaluated and proposed preventative and corrective actions and mitigations against future incidents shall be identified.</i>	 Yes
Comment	<p>The site documented that "There have been no water related emergency incidents over the past year.". Consequently, no written annual review and (where appropriate) root-cause analysis of the year's emergency incident(s) has need to be prepared.</p>	
4.3	<i>Evaluate stakeholders' consultation feedback regarding the site's water stewardship performance, including the effectiveness of the site's engagement process.</i>	
4.3.1	<i>Consultation efforts with stakeholders on the site's water stewardship performance shall be identified.</i>	 Obs.

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Comment The site documented that "Correspondence has been sent to those stakeholders that were engaged as part of the A4WS process. These emails include a description of the site's water stewardship objectives and progress/performance. The site will establish a mechanism to share a summary of its water stewardship performance annually."

This evidence includes a high-level summary of implementation to date. However, it is recognized that the site has not reached a year of implementation yet since finalization of the WSP, at which time more comprehensive consultation with stakeholders on the site's water stewardship performance would be expected.

The site's neighbours, of which some have a potential role in water quality within the South Fork River, were not identified in the site's stakeholder mapping, and were not consulted on the site's water stewardship performance. This was not identified as a minor finding, as the lack of identification of the site's neighbour/s as stakeholders was raised under indicator 1.2.1

4.4 Evaluate and update the site's water stewardship plan, incorporating the information obtained from the evaluation process in the context of continual improvement.

4.4.1 The site's water stewardship plan shall be modified and adapted to incorporate any relevant information and lessons learned from the evaluations in this step and these changes shall be identified.

Yes

Comment The site documented that "Because the plan is in its early stages of implementation (within year 1), there is currently no need for plan updates. Updates will be made as feedback is received and progress is made."

It is recognized that the site has not reach a year of implementation yet since finalization of the WSP, at which time the site's water stewardship plan should be modified and adapted to incorporate any relevant information and lessons learned from the evaluations in Step 4 and these changes identified.

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5		STEP 5: COMMUNICATE & DISCLOSE - Communicate about water stewardship and disclose the site's stewardship efforts	
5.1	Disclose water-related internal governance of the site's management, including the positions of those accountable for legal compliance with water-related local laws and regulations.		
5.1.1	The site's water-related internal governance, including positions of those accountable for compliance with water-related laws and regulations shall be disclosed.		<div><div></div><div>closed</div></div>
Comment	<p>The site documented that "Correspondence has been sent to those stakeholders that were engaged as part of the A4WS process. Those emails include a description of the site's water-related internal governance."</p> <p>The emails to key stakeholders reflect that "At Apple, we're committed to stewarding water resources responsibly. Apple's Global Water and Zero Waste Manager oversees the strategic direction of water stewardship programs across Apple's facilities, including the implementation of the Water Stewardship Plan. The Maiden Data Center Site Manager, is responsible for the day-to-day water onsite stewardship-related activity and operations."</p> <p>The site has not explicitly disclosed the positions of those accountable for compliance with water-related laws and regulations, or specified if the above persons/roles are also responsible for such compliance.</p> <p>Finding No: TNR-003906 Finding No: TNR-004485</p>		
5.2	Communicate the water stewardship plan with relevant stakeholders.		
5.2.1	The water stewardship plan, including how the water stewardship plan contributes to AWS Standard outcomes, shall be communicated to relevant stakeholders.		<div><div></div><div>Obs.</div></div>
Comment	<p>The site documented that "Correspondence has been sent to those stakeholders that were engaged as part of the A4WS process. These emails include a description of the five AWS outcomes and the site's water stewardship objectives and progress/performance. The site will establish a mechanism to share a summary of its water stewardship performance annually."</p> <p>Going forward, the site is recommended to disclose a greater level of detail of the content of the WSP, as the information shared to date is highly summarized.</p>		
5.3	Disclose annual site water stewardship summary, including: the relevant information about the site's annual water stewardship performance and results against the site's targets.		
5.3.1	A summary of the site's water stewardship performance, including quantified performance against targets, shall be disclosed annually at a minimum.		<div><div></div><div>Obs.</div></div>
Comment	<p>The site documented that "Correspondence been sent to those stakeholders that were engaged as part of the A4WS process. These emails include a description of the five AWS outcomes and the site's water stewardship objectives and progress/performance. The site will establish a mechanism to share a summary of its water stewardship performance annually."</p> <p>It is recognized that the site has not reached a year of implementation yet. A high-level summary of actions undertaken to date by the site was shared with key stakeholders, but this did not include quantified performance against targets. Going forward, the site should disclose greater detail of its water stewardship performance, including quantified performance against targets, annually at a minimum.</p>		

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- 5.4** *Disclose efforts to collectively address shared water challenges, including: associated efforts to address the challenges; engagement with stakeholders; and co-ordination with public-sector agencies.*

- 5.4.1** *The site's shared water-related challenges and efforts made to address these challenges shall be disclosed.*

Q
Obs.

Comment The site documented that "Correspondence has been sent to those stakeholders that were engaged as part of the A4WS process. These emails include a description of the five AWS outcomes and the site's water stewardship objectives and progress/performance. The site will establish a mechanism to share a summary of its water stewardship performance annually."

This correspondence with key stakeholders includes a list of the site's shared water-related challenges and the objectives set in the WSP to address these. The actions implemented to date against the water stewardship plan and current achievements were also shared in a highly summarized form.

Going forward, greater detail on the links between these actions (efforts) and the site's shared water-related challenges should be documented.

- 5.4.2** *Efforts made by the site to engage stakeholders and coordinate and support public-sector agencies shall be identified.*

✓
Yes

Comment The site documented that "Efforts made by the site to engage stakeholders is demonstrated through notes in their documentation. It is further summarized in the Stakeholder Disclosure Emails have been sent to those stakeholders that were engaged as part of the A4WS process. These emails include a description of the site's engagement with stakeholders as part of the A4WS process.

Efforts made to coordinate and support public sector agencies, are also demonstrated in those materials. However, the structure of water supply, treatment and regulatory action in this region is such that they (sic) agencies represented do not typically lend themselves to requesting 'support or coordination' from private sector entities, other than through the specified regulatory processes that exist at the state and local level. The cities noted how we would be "hard-pressed to find another basin as well managed as the Catawba", and NC DEQ mentioned that occasionally Clark Creek, a tributary, is impacted by stormwater runoff and impaired for macro-invertebrates, so stormwater is an issue they are paying attention to, but they did not ask for any support or coordination. The County noted it is looking to better understand how future investments in the region may affect economic priorities, but did not indicate that was water-related.

Where there may be an opportunity to 'support and coordinate'.

In particular, the following actions undertaken by the site address the need to co-ordinate with and support public-sector agencies:

- To inform Apple's water stewardship actions in co-ordination with and in support of public-sector agencies and other relevant role-players.
- Engagement with the Town of Hickory regarding evaluation of utility vulnerabilities, the likelihood of service interruption, and the timing to repair and the resumption of service.

- 5.5** *Communicate transparency in water-related compliance: make any site water-related compliance violations available upon request as well as any corrective actions the site has taken to prevent future occurrences.*



- 5.5.1** *Any site water-related compliance violations and associated corrections shall be disclosed.*

✓
Yes

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Comment	<p>The site documented that "The site has not had any water-related compliance violations in the past year, so there is nothing to disclose."</p> <p>Consequently, no disclosure related to water-related compliance violations and associated corrections has been necessary.</p>	
5.5.2	<p><i>Necessary corrective actions taken by the site to prevent future occurrences shall be disclosed if applicable.</i></p>	<div> Yes</div>
Comment	<p>The site documented that "The site has not had any water-related compliance violations in the past year, so there is nothing to disclose."</p> <p>Consequently, no disclosure related to necessary corrective actions taken by the site to prevent future occurrences has been necessary.</p>	
5.5.3	<p><i>Any site water-related violation that may pose significant risk and threat to human or ecosystem health shall be immediately communicated to relevant public agencies and disclosed.</i></p>	<div> Yes</div>
Comment	<p>The site documented that "The site has not had any water-related compliance violations in the past year, so there is nothing to disclose."</p> <p>Consequently, no disclosure to relevant public agencies related to site water-related violation/s that may pose significant risk and threat to human or ecosystem health has been necessary.</p>	

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Photographic Evidence from Audit



Potable water inlet to the site.jpg



Washroom hand towels and airblade hand drier.jpg

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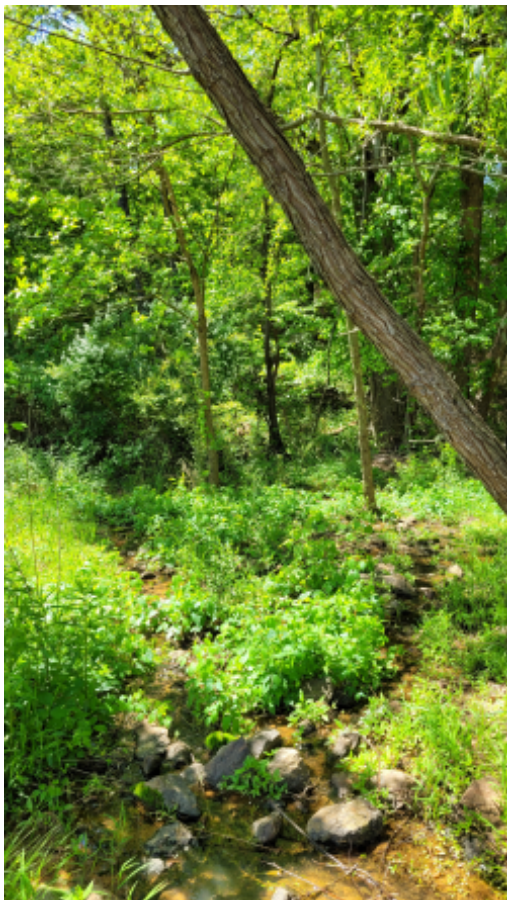


Chilled Water pipework in a data centre hallway.jpg

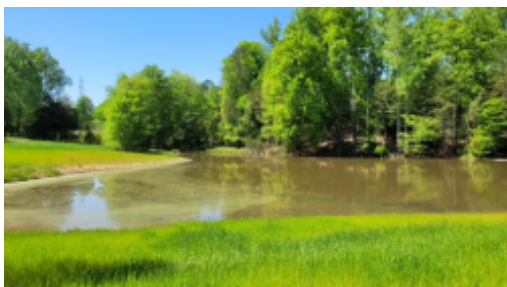
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IMMEDI~1.JPG



FARMPO~2.JPG



Bioretention pond.jpg

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RIPRAP~1.JPG

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Second spill kit.jpg

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Chiller undergoing maintenance.jpg

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Chemicals stored in spill trays.jpg



Rip rap downstream of wet (stormwater) pond leading to site boundary and South Fork (Catawba) River.jpg



Battery room.jpg

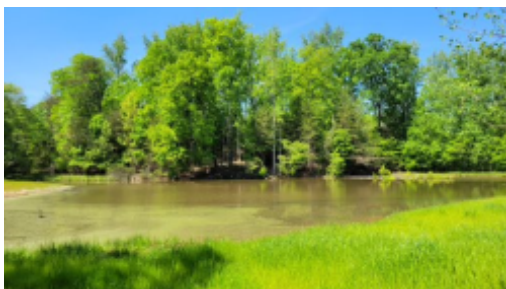
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Stomwater drain outside a chiller room.jpg



Farm pond on-site that leads into the South Fork (Catawba) River .jpg

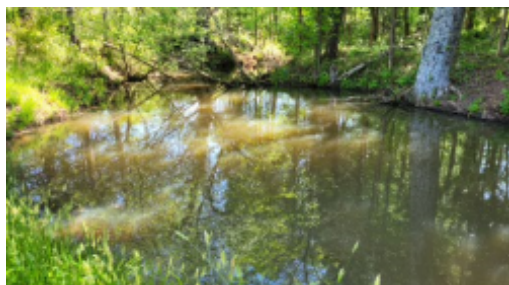


Mens washroom basins and sinks.jpg

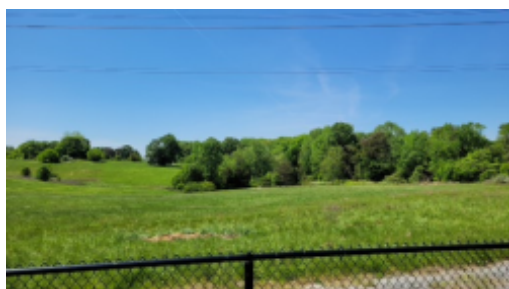
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LANDSC~1.JPG



UPPERR~1.JPG



Washroom sharps disposal unit.jpg

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Canteen facility with basin dishwasher water cooler hot water coffee and drinks dispensers.jpg



Wet (stormwater) pond within lining.jpg



Tower at which a pilot project is being implemented.jpg

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Washroom hygiene gym.jpg

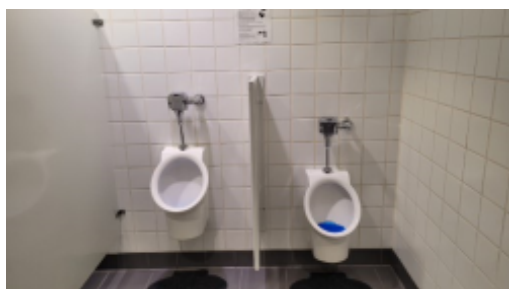
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Storm water channel leading to a further stormwater pond angle 2.jpg



Mens washroom urinals.jpg



Further stormwater pond currently dry angle 1.jpg

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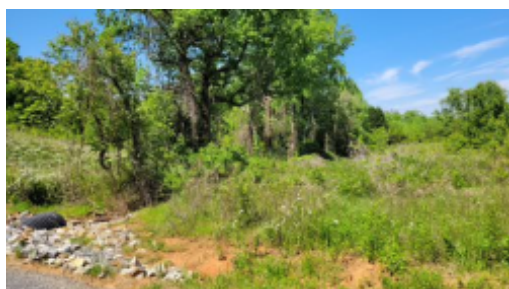
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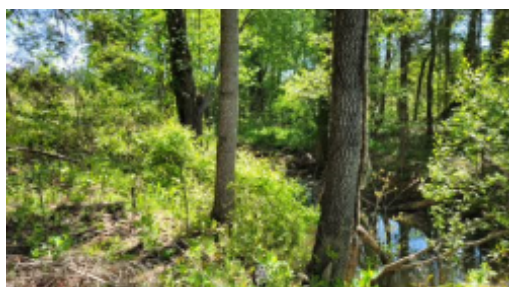
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Bioretention Pond landscape view.jpg



UPPERR~2.JPG



LANDSC~2.JPG



ProMoss water treatment system.jpg



Diesel Underground Storage Tank (UST) with bunding for fuel delivery.jpg

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Washroom hand basin soap dispenser and tap.jpg



Conventional water treatment in a chiller room where ProMoss has not been installed yet.jpg

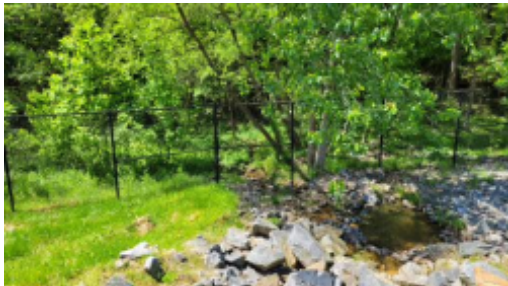


Bunded chemicals in a chiller room.jpg

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RIPRAP~2.JPG



Eye wash station with maintenance card up to date.jpg

Yes

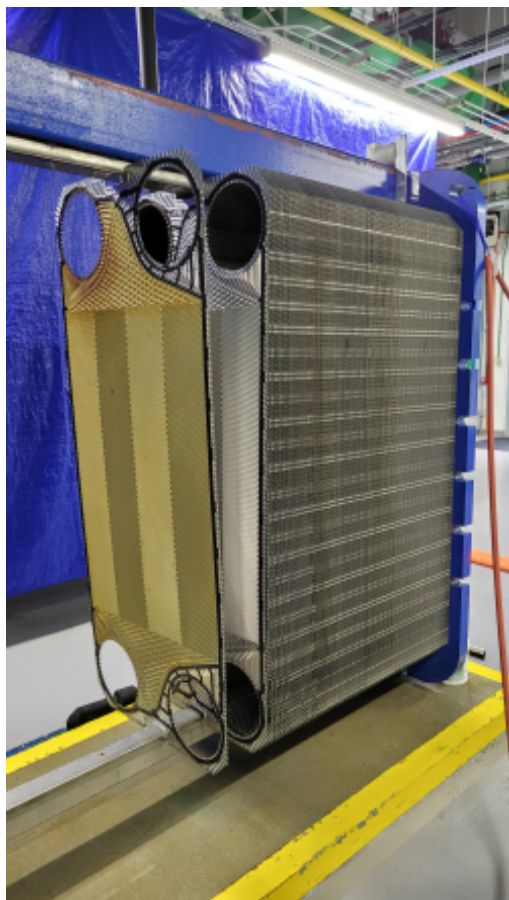
Comment

Photographic evidence has been uploaded of the various on-site IWRAs, water-related infrastructure, WASH facilities observed during the on-site audit.

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Chiller undergoing maintenance photo 2.jpg

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Fuel oil pipes in generator room.jpg

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Tributary that flows into the farm pond on-site that leads into the South Fork (Catawba) River .jpg

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Storm water channel leading to a further stormwater pond.jpg

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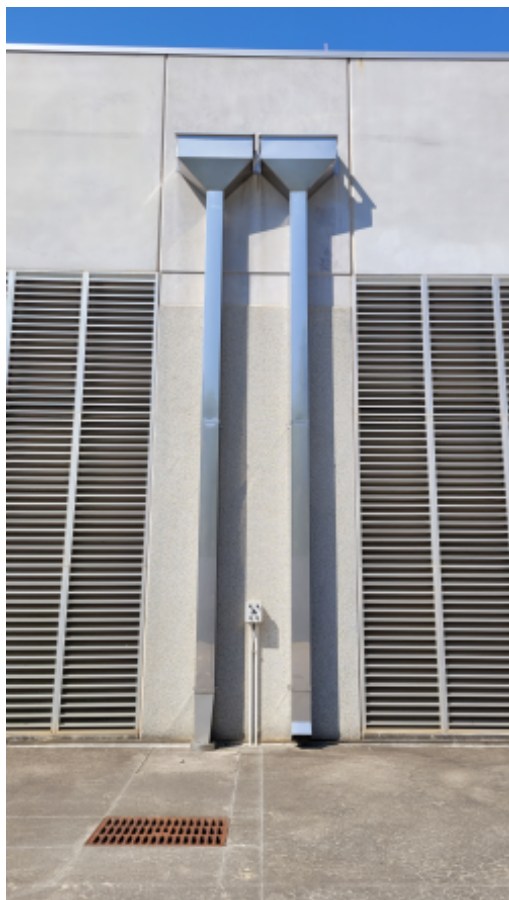


Water dispenser in canteen.jpg

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Overflow downpipes for roof stormwater.jpg

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Tank into which ProMoss is placed in a chiller room.jpg

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ProMoss used in the pilot project.jpg



Sodium Hypochlorite storage tank in a chiller room.jpg



Wet (stormwater) pond within lining landscape view.jpg

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Further stormwater pond.jpg



ProMoss water treatment system adjacent to a chiller.jpg



STORMW~3.JPG

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Metering of pipework.jpg



Generator in generator room.jpg

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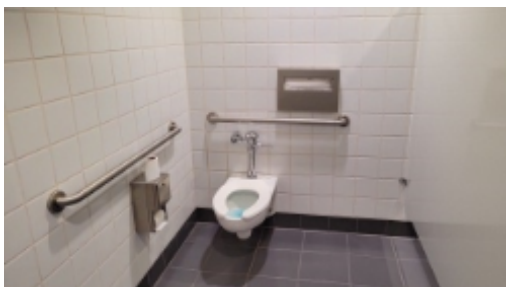
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Spill kit on site.jpg



Domestic effluent (sewer) prior to entry into bioretention pond 3.jpg



Washroom disabled toilet.jpg

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Further stormwater pond currently dry angle 2.jpg



Bioretention Pond angle 3.jpg