Exhibit C

Second Amended General Guidelines for Development of the 2026 Regional Water Plans

September 2023

This version includes updates to Sections 2.5.1; 2.5.2.7; 2.5.6; 2.10; and 2.11.

This document is subject to future revision based upon any future Legislative actions.

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SECTION 1 – Introduction

1.1 Background

The sixth cycle of regional and state water planning as defined by Senate Bill 1 of the 75th Texas Legislature commenced in 2021 and will extend through 2026. Regional water planning groups (RWPG) must prepare the 2026 Regional Water Plans (RWP) that, once approved, will become the basis for the 2027 State Water Plan.

While the RWP development is directed by the RWPGs, in order to ensure that the RWPs follow a consistent and credible approach, the TWDB's Executive Administrator prepared the following guidelines to assist with the planning process. These guidelines augment the Texas Water Code (TWC) and the administrative rules related to regional water planning and are part of the regional water planning grant contracts.

1.2 Purpose

These guidelines build upon and provide additional information and greater detail about how to implement the administrative rules, including regarding the required methods, content, and format of information to be contained and presented in each RWP to meet rule and contractual requirements including the scope of work. For convenience, the sections of this document include direct links to the relevant regional water planning rules and the Exhibit A: Scope of Work tasks, followed by 'Guidance' content provided by the Executive Administrator.

While each RWP is unique to its region, this guidance is intended to ensure that the 16 RWPs are developed in a generally consistent and similar manner to produce information that may be combined and aggregated, at the state level, to support the development of a meaningful and credible state water plan. The intent is to ensure that the 16 regions generally produce and provide 'apples to apples' data across the entire state including key information that will support the Texas Water Development Board's (TWDB) development of the state water plan.

Depending upon the nature of particular water planning rules or contract tasks, this guidance intentionally varies in its degree of specificity and flexibility. These guidelines include specific requirements that must be complied with by RWPGs as they prepare the RWP as well as guidance that the RWPGs may "consider", and that leaves certain considerations to the discretion of the planning groups.

The Initially Prepared Plans (IPP) and the final adopted RWPs will be reviewed by TWDB based on statute, regional water planning rules, as well as requirements that are included in this and all other contract documents including the scope of work.

This document augments existing statute and rules that govern regional water planning. Provisions of TWC §16.053 and 31 Texas Administrative Code (TAC) Chapters 355, 357, and 358 serve as the foundation for information in this document and are not superseded or abridged by anything contained within or excluded from this document.

1.3 General format and content of this document

This guidance consists of the following sections:

1. **Section 1 – Introduction** includes background material and a general document cross-refence that illustrates how the administrative rules, contract scope of work, and guidance documents all relate and align with one another.
2. **Section 2 – Scope of Work Task-Specific Guidelines** includes guidance organized by Scope of Work tasks and related rules sections. The section identifies various summary tables that are required to be included in the IPP and final RWP.
3. **Section 3 – Appendix** includes a listing of TWDB data resources for plan development.

1.4 General guidance

1. Development of the RWPs will be guided by the State Water Plan Guidance Principles.
2. The RWPs must include an Executive Summary including key findings and recommendations, not to exceed 30 pages.
3. The Executive Summary must include reference to the required state water planning database (DB27) reports by hyperlink to the TWDB's Database Reports application. See Section 2.14.2 for specifications on this requirement.
4. This guidance document includes the minimum reporting requirements where information and data are available. A RWPG may present more information and findings in their plan than is required by this guidance.
5. RWPGs must submit all data identified in contract Exhibit D: *Guidelines for 2026 Regional Water Planning Data Deliverables to the TWDB*.
6. The RWPs are intended to include data reflective of a planning level analysis.

1.5 Documents and files that accompany and are integral to implementing this guidance

1. **Exhibit C Tables**: An Excel template file called "2026 RWP Exhibit C Tables" accompanies this guidance document and will include templates for planning groups to use.
2. **Exhibit D: Guidelines for 2026 Regional Water Plan Data Deliverables –** this is a separate document to support this guidance.

1.6 General document cross-reference for regional water plans

For convenience Table 1 illustrates how contract tasks, guidance, administrative rules, and RWP chapters generally relate.[1] The chapter breakdown for each plan is specifically required under 31 TAC §357.22(b). Plans that are not organized in this manner will be considered administratively incomplete and will not be reviewed.

[1] Some rules (e.g., TAC §358; §357.22) apply more broadly to all regional water planning activities.

Table 1 – Regional Water Planning Document Cross-Reference

Regional Water Planning Contract Document References			2026 RWP Chapter, Associated TAC Sections, and Content		
TWDB Contract Reimbursement Accounting Number ('CAS')	Exhibit A - Contract Scope of Work Task	Exhibit C - General Guidelines for Development of the 2026 RWPs	RWP Chapter Number	Primary TAC Section	General Content
1	1	2.1	**1**	§357.30	Description of the Regional Water Planning Area
2	2A	2.2	**2**	§357.31	Projected Non-Municipal Water Demands
3	2B			§357.31	Projected Population and Municipal Water Demands
6	3	2.3	**3**	§357.32	Water Supply Analysis
7	4A	2.4	**4**	§357.33	Identification of Water Needs
8	4B	2.11	**NA**	§357.12	Identification of Infeasible Water Management Strategies in the previously adopted 2021 Regional Water Plan
9	4C	2.13.1	**NA**	contract	Technical Memorandum Deliverable
10	5A	2.5	**5**	§357.34	Identification of Potentially Feasible Water Management Strategies and Projects
11	5B			§357.34; §357.35	Evaluations of Potentially Feasible Water Management Strategies and Projects, Recommended Water Management Strategies and Projects, and Alternative Water Management Strategies and Projects
12	5C			§357.34	Conservation Recommendations *[as an individual subchapter]*
13	6	2.6	**6**	§357.40	Impacts of Regional Water Plan
				§357.41	Consistency with Protection of Water Resources, Agricultural Resources, and Natural Resources
14	7	2.7	**7**	§357.42	Drought Response Information, Activities, and Recommendations
4	8	2.8	**8**	§357.43	Policy Recommendations & Unique Sites
15	9	2.9	**9**	§357.45	Implementation and Comparison to the Previous Regional Water Plan
5	10	2.10	**10**	§357.21; §357.50	Public Participation and Plan Adoption

1.7 Definitions of terms

1.7.1 Regional water planning rule definitions

Many of the regional water planning specific terms and acronyms used in this guidance document are defined in 31 TAC §357.10. These may be viewed online at: https://texreg.sos.state.tx.us/public/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=31&pt=10&ch=357&rl=10

1.7.2 Groundwater management rule definitions

Many of the groundwater related terms and acronyms used in this guidance document are defined in 31 TAC §356.10. These may be viewed online at: https://texreg.sos.state.tx.us/public/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=31&pt=10&ch=356&rl=10

1.7.3 Non-rule definitions pertinent to regional water planning

Aquifer – Geologic formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs. The formation could be sand, gravel, limestone, sandstone, or fractured igneous rocks.

Aquifer recharge – The intentional recharge of an aquifer by means of injection well or other means of infiltration and also known as Managed Aquifer Recharge (Texas Water Code §27.201).

Aquifer storage and recovery – The storage of water in a suitable aquifer through a well during times when water is available, and the recovery of water from the same aquifer during times when it is needed (Texas Water Code §27.151).

Brackish groundwater – Groundwater containing total dissolved solids between 1,000 and 35,000 milligrams per liter.

Brackish surface water – Surface water containing between 500 and 30,000 milligrams per liter total salts.

Capital cost – Portion of the estimated cost of a water management strategy that includes both the direct costs of constructing facilities, such as materials, labor, and equipment, and the indirect costs associated with construction activities, such as engineering studies, legal counsel, land acquisition, contingencies, environmental mitigation, interest during construction, and permitting.

Conjunctive use – Combined use of surface water, groundwater, and/or reuse sources that optimizes the beneficial characteristics of each source.

Desalination – Process of removing salt and other dissolved solids from seawater, brackish groundwater, or brackish surface water.

Drought – Generally applied to periods of less than average precipitation over a certain period of time. Associated definitions include meteorological drought (abnormally dry weather), agricultural drought (adverse impact on crop or range production), and hydrologic drought (below-average water content in aquifers and/or reservoirs).

Environmental flows – An environmental flow is an amount of water that should remain in a stream or river for the benefit of the environment of the river, bay, and estuary, while balancing human needs.

Estuary – A bay or inlet, often at the mouth of a river and may be bounded by barrier islands, where freshwater and seawater mix together providing for economically and ecologically important habitats and species and which also yield essential ecosystem services.

Firm diversion (run of river availability) – Evaluated for municipal sole-source water use (i.e. not firmed up with other sources) is defined as the minimum monthly diversion amount that is available 100 percent of the time during a repeat of the drought of record. Evaluated for all other water users, the 'firm diversion' is defined as the minimum annual diversion, which is the lowest annual summation of the monthly diversions reported by the Water Availability Model over the simulation period (lowest annual summation being the calendar year within the simulation that represents the lowest diversion available).

Group quarter – A place where people live or stay in a group living arrangement that is owned or managed by an entity or organization providing housing and/or services for the residents. Group quarters include such places as college residence halls, residential treatment centers, skilled nursing facilities, group homes, military barracks, correctional facilities, and workers' dormitories.

Infrastructure – Physical means for meeting water and wastewater needs, such as dams, wells, conveyance systems, and water treatment plants.

Instream Flow – Water flow and water quality regime adequate to maintain an ecologically sound environment in streams and rivers.

Local groundwater supplies – Supplies found in local groundwater areas usually not associated with a major, minor, or other aquifer (e.g., a small local alluvial aquifer) that may still be used as a non-municipal water supply source (e.g., for livestock use), but that the groundwater management area determined to be small enough to not go through the desired future condition process.

Local surface water supplies – Limited, unnamed individual surface water supplies that, separately, are available only to particular non-municipal water user groups, such as livestock.

Major aquifer – An aquifer designated by the TWDB in the state water plan that supplies large quantities of water in large areas of the State.

Minor aquifer – An aquifer designated by the TWDB in the state water plan that supplies large quantities of water in small areas or relatively small quantities of water in large areas of the State.

Major reservoir – Reservoir having a storage capacity of 5,000 acre-feet or more.

Non-relevant aquifer – A portion of portions of a major, minor or other aquifer with aquifer characteristics, groundwater demands, and current groundwater uses that do not warrant adoption of a desired future condition by a groundwater management area. Non-relevant aquifers do not have an associated modeled available groundwater volume. In addition, this means that the associated aquifer/region/county/basin geographic unit may

or may not have a non-modeled groundwater availability volumes (as determined by the planning group) associated with it.

Other aquifer – An aquifer that has not been designated as an official major or minor aquifer.

Rainwater harvesting – A practice involving the capture, diversion, and storage of rainwater for landscape irrigation, drinking and domestic use, aquifer recharge, and in modern times, stormwater abatement.

Reuse – Domestic or municipal wastewater which has been treated to a quality suitable for beneficial use. Use of this water may or may not be for potable use.

Safe yield – Identified annual volume of water held in reserve to account for droughts worse than the drought of record.

Seawater – Water typically containing total dissolved solids of 35,000 milligrams per liter or greater. The volume of total dissolved solids may be lower than 35,000 milligrams per liter.

Sedimentation – Action or process of depositing sediment in a reservoir, usually silts, sands, or gravel.

Storage – Natural or artificial impoundment and accumulation of water in surface or underground reservoirs, usually for later withdrawal or release.

System gain – The amount of permitted water a system creates that would otherwise be unavailable if the reservoirs were operated independently and this volume must be reported separately. For multi-reservoir systems, the minimum system gain during drought of record conditions may be considered additional water available, if permitted.

Water availability model (WAM)– Numerical computer program used to determine the availability of surface water within each river basin for permitting in the state.

Water loss – The difference between Total System Input Volume and Total Authorized Consumption. It represents the total volume of potable water lost in the distribution system due to apparent losses and real losses. Water loss is best expressed in gallons per connection per day or GCD.

- Total system input is the volume of potable water entering the distribution system for use within the utility's service area. It is calculated from the corrected volume of potable water produced by the utility plus the corrected volume of potable water purchased from other retail public utilities minus the corrected volume of potable water sold to other retail public utilities; all these volumes are corrected for due to inaccuracy in the meter(s) measuring their volume.
- Total authorized consumption is the volume of potable water the utility authorized for use or consumption by the utility or its customers. It includes water use that is billed or unbilled and metered or unmetered.
- Apparent loss is the volume of potable water not accurately measured and/or recorded due to customer meter inaccuracy, data handling errors, and/or unauthorized consumption. Often referred to as paper losses, apparent loss is water consumed but not paid for due to errors or issues in quantifying the volume of water consumed. These losses cost water utilities revenue and devalue the collective measure of customer consumption in the utility's service area. These

losses are often cost effective to mitigate since they are valued at the customer retail rate.

- Real loss is the volume of potable water physically leaking from the utility's distribution network infrastructure. These leaks can occur on or at water mains, service lines before the customer meter/tap, valves, and tanks. Depending on the nature of the leakage, whether it surfaces and/or can be found using leak detection, it can be difficult to mitigate these losses. These losses effectively force the utility to treat and deliver more water than is required for consumption or use by the utility or its customers. They are typically valued at the cost to produce and/or purchase the water.

2 SECTION 2 – Scope of work task specific guidelines

Included in this section is guidance specifically addressing the following scope of work tasks. Corresponding agency rules are also shown below for convenience and reference:

- Task 1 – Description of the Regional Water Planning Area (§357.30)
- Task 2A and 2B – Projected Population and Water Demands (§357.31)
- Task 3 – Water Supply Analysis (§357.32)
- Task 4A – Needs Analysis: Comparison of Water Supplies and Demands (§357.33)
- Task 4B – Identification of Infeasible Water Management Strategies (§357.12; §357.51)
- Task 4C – Technical Memorandum Deliverable (§357.12)
- Task 5A – Identification of Potentially Feasible Water Management Strategies (§357.34)
- Task 5B – Evaluation and Recommendation of Water Management Strategies and Projects (§357.34; §357.35)
- Task 5C – Conservation Water Management Strategy Recommendations (§357.34)
- Task 6 – Impacts of Regional Water Plan (§357.40); Consistency with Long-term Protection of Water Resources, Agricultural Resources, and Natural Resources (§357.41)
- Task 7 – Drought Response Information, Activities, and Recommendations (§357.42)
- Task 8 – Regulatory, Administrative, or Legislative Recommendations (§357.43)
- Task 9 – Implementation and Comparison to the Previous Regional Water Plan (§357.45)
- Task 10 – Adoption, Submittal, and Approval of Regional Water Plans (§357.21; §357.50)

Please note that simplified planning is prohibited by rule (§357.12(e)) to occur during a census cycle of regional water planning. Therefore, simplified planning is not an option during the development of the 2026 RWPs. Guidance on this optional process will be included in Exhibit C for the 2031 RWPs.

2.1 Planning area description (Task 1)

Rule and scope of work requirements:

- §357.30: Description of the Regional Water Planning Area
- Scope of work Task 1: Planning Area Description

Guidance:

Each RWP must include a description of the regional water planning area (RWPA) including the following items:

1. social and economic aspects of a region such as information on current population, economic activity and economic sectors heavily dependent on water resources;
2. current water use and major water demand centers;
3. current groundwater, surface water, and reuse supplies including major springs that are important for water supply or protection of natural resources;
4. major water providers;
5. agricultural and natural resources;
6. identified water quality problems;
7. identified threats to agricultural and natural resources due to water quantity problems or water quality problems related to water supply;
8. summary of existing local and regional water plans;
9. the identified historic drought(s) of record within the planning area;
10. current preparations for drought within the planning area;
11. information provided by the TWDB from water loss audits performed by Retail Public Utilities pursuant to 31 TAC §358.6 (relating to water loss audits); and,
12. an identification of each threat to agricultural and natural resources and a discussion of how that threat will be addressed or affected by the water management strategies evaluated in the plan.

Major water providers

Major water providers (MWP) for the planning area are a subset of water user groups (WUG) and/or wholesale water providers (WWP) identified by the RWPGs to be of particular significance to the region's water supply. Each region must decide which entities are designated as MWPs. If the region decides not to designate any entities as MWPs, the plan needs to include discussion in chapter one of the plan as to why the planning group determined it does not have any WUGs or WWPs of significance to the region's water supply.

Wholesale water providers

Entities designated as a WWP for planning purposes must sell or deliver (or plan to sell or deliver) wholesale water at some point in the 50-year planning horizon. RWPGs will determine which WWPs they want to utilize in their plan development. Data analysis and evaluations described throughout this document are relevant to the WUGs and WWPs of the planning area. Data analyses of identified WWPs will occur in the evaluation of contractual obligations to supply water, the demands associated with WUGs served by the

WWP, the evaluation of the WWP's existing water supplies, and the evaluation of water management strategies and projects, for example.

WUG and WWP data will support compiling results to describe the MWPs of the planning area. Even though the RWPG is not required to specifically report basic information on WWP demands and supplies in the RWP, it will need to do so in at least two specific instances:

1. if that same entity is also designated by the planning group as a MWP, or
2. if that WWP is designated as the "sponsor" of any recommended water management strategy project in the plan, through TWDB-generated data reports. The WWP information will provide the basis for the WWP strategy or project.

These are minimum reporting requirements, however a RWPG may present more WWP information utilized in the development of their plan. The extent to which planning groups report on additional WWPs that have not been designated as MWPs is left largely to the discretion of the planning groups.

Drought(s) of record

When presenting information on historic drought(s) of record, the RWPG may identify other relevant (e.g., basin-level) droughts of record that impact water supplies in the planning area in addition to identifying the overall historic drought of record in the planning area.

Water loss audits

Information provided by the TWDB from water loss audits may be presented, for example, as a summary in tabular form along with a description of the information and how the RWPG considered the information in developing the RWP. Examples of water loss audit data presented include the number of entities submitting water loss audits, the total quantity of water produced, the total reported quantity of water lost, and the performance measures for water loss.

2.2 Population and water demand projections (Tasks 2A and 2B)

Rule and scope of work requirements:

- §357.31: Projected Population and Water Demands
- Scope of work Task 2A: Non-Municipal Water Demand Projections
- Scope of work Task 2B: Population and Municipal Water Demand Projections

Guidance:

The TWDB will provide an updated WUG list for use in the 2026 RWPs and 2027 State Water Plan. The definition of WUGs can be found in 31 TAC §357.10(43).

The TWDB will prepare draft population and municipal water demand projections for 2030-2080 for all municipal WUGs using data based on the new decennial census, most recent county-level population projections from the Texas Demographic Center, and the most recent utility boundary information.

Non-municipal draft water demand projections consisting of manufacturing, irrigation, livestock, and steam-electric power generation will be developed based on more recent historical water use data (2015-2019) and the same methodologies that were updated for use in developing the 2021 RWPs and 2022 State Water Plan. For the mining water use category, new projections will be developed based on a contracted mining study by the Bureau of Economic Geology.

Criteria and required data for requested changes to draft projections and revisions of approved projections

The initial list of WUGs will be prepared and provided to each RWPG along with historical water use and population data for their review. The RWPGs will review the WUG list and historical data from the TWDB and provide corrections and feedback to the TWDB.

Once the final list of WUGs is established, the TWDB will prepare draft population and water demand projections for each region. The RWPGs will then review the draft projections and may provide input to the TWDB or request specific changes to the draft projections from the TWDB. All requests to adjust draft projections must be submitted along with associated quantified data in an electronic format determined by the TWDB (e.g., Excel spreadsheets). If adequate justification is provided by the RWPGs to the TWDB, population and/or water demand projections may be adjusted by the TWDB in consultation with Texas Department of Agriculture, Texas Commission on Environmental Quality (TCEQ), and Texas Parks and Wildlife Department (TPWD). The TWDB will then incorporate approved adjustments to the projections prior to the Board's consideration of adoption of the population and water demand projections. Acceptable criteria and required data are specified for each WUG category in Sections 2.2.1 and 2.2.2.

The RWPGs must use the Board-adopted projections when preparing their RWPs. The TWDB will directly populate DB27with all Board-adopted WUG-level projections and the TWDB will make any related changes to DB27 if subsequent revisions are approved by the Board.

RWPGs may request revisions to Board-adopted projections if the request demonstrates the projections no longer represent a reasonable estimate of anticipated conditions based on changed conditions or new information in accordance with 31 TAC §357.31(e)(2)[2]. However, planning groups will need to manage the timelines required for agency review and Board action with the subsequent revisions to their reginal plans in order to meet all contractual deliverable deadlines.

2.2.1 Population projections

The draft population projections will include permanent residential population, including 'group quarter' population residing in institutional facilities (military, prisons, schools, or nursing homes) who are served by municipal WUGs or rely on their own water sources. Seasonal population, including tourist or seasonal workers, are not included in the draft

[2] Work performed associated with revisions to Board-adopted projections is not eligible for regional water planning grant funding in accordance with 31 TAC §355.92(a)(E).

projections although the associated seasonal water use is necessarily reflected in the per capita water use rates.

Prior to the release of the draft projections, the TWDB will analyze the most recent population projections from the Texas Demographic Center in comparison to the 2022 State Water Plan projections to determine the maximum region-wide, net population changes that may be considered by the RWPGs. If the Texas Demographic Center produces multiple migration scenarios, the TWDB will analyze the WUG's historical growth rates, share of the county growth, and share of the county population to develop one set of projections for each WUG, county, and RWPA. Higher migration rates may be utilized in the short-term but are not recommended over the long-term of the planning horizon.

2.2.1.1 Municipal WUG list

The initial list of WUGs, also referred to as *entities*, will be developed by the TWDB per 31 TAC §357.10(43) and with the input of each RWPG. Municipal WUGs will be based on utility boundaries and annual water use volumes reported by associated public water systems via TWDB's annual Water Use Survey. Utilities' municipal net use will be evaluated based on whether they are public or private utilities. If the public water system or utility meets the annual municipal net use of 100 acre-feet threshold in any single year within the most recent five years (2015-2019), they will be established as stand-alone WUGs. Collective reporting units will be carried over from the 2022 State Water Plan, but also will be updated per newly established public water systems, changes in utility boundaries or input from the planning groups. Public water systems or utilities that do not meet the definition of a stand-alone WUG or collective reporting unit will be planned for as part of a county-other WUG per 31 TAC §357.10(43)(E). Additionally, group quarters can be WUGs if they meet the definition in 31 TAC §357.10(43)(B) or may be included as part of another WUG.

Criteria for adjustment:

A proposed WUG must meet the definition in 31 TAC §357.10(43) and the following criteria to be included as a new, discrete entity in the 2026 RWP. One or more of the following criteria must be verified by the RWPG and the Executive Administrator:

1. Evidence of errors identified in the historical water use for a public water system or utility, which would determine whether the system or utility meets the WUG definition.
2. Evidence of errors in the ownership type of a public water system or utility provided in the Texas Drinking Water Watch.
3. Evidence of recent changes of the ownership of a public water system or utility through merge or annexation.

Data requirements:

The RWPG must provide the following data to the Executive Administrator associated with the identified criteria to be included in the 2026 RWP:

1. Annual water intake, sales, or metered use volumes for recent years for the public water system.
2. Documentation supporting changes of the name or ownership of a public water system or utility.

3. Documentation supporting collective reporting units with the geographic designation along with a list of the utilities or public water systems that have a common association for the purposes of water planning.
4. Documentation supporting that a system or utility within a collective reporting unit boundary should be planned for as a stand-alone WUG.

2.2.1.2 Regional-level population projections

Adjustment to net regional-total population projections may be considered based on the criteria below. Associated adjustments to net county-total population projections within the regional total must also be justified (see Section 2.2.1.3). The net cumulative sub-regional requested changes may not exceed the maximum region-wide population that is provided by the TWDB.

Criteria for adjustment:

One or more of the following criteria must be verified by the RWPG and the Executive Administrator for consideration of revising the regional-level population projections:

1. A possible Census undercount took place in a county located within the region and action is currently being pursued to request a U.S. Census Bureau correction.
2. The most recent population growth rate (2015-2020) for the whole region is significantly different than the draft regional projections.

Data requirements:

The RWPG must provide the following data to the Executive Administrator associated with the identified criteria for justifying any adjustments to the regional-level population projections:

1. Documentation of an action requesting the U.S. Census Bureau correct an undercount of population within a county located in the region.
2. Historical regional-total population estimates from the Texas Demographic Center or the U.S. Census Bureau.
3. Other data and evidence that the RWPG believes provides a reasonable basis for justifying changes to the net total regional-level population projection.

2.2.1.3 County-level population projections

Any net adjustments to a county-total population projection due to adjustments to sub-county WUG-level projections within that county must be justified in a similar manner and will require an accompanying, justifiable redistribution of the projected county population within the same region so that the net, summed regional total remains unchanged unless an accompanying net total adjustment to the regional total is also requested, justified and approved (see Section 2.2.1.2). The TWDB draft county-level population projections will follow projection trends developed by the Texas Demographic Center.

Criteria for adjustment:

One or more of the following criteria must be verified by the RWPG and the Executive Administrator for consideration of revising a net total county-level population projection:

1. A possible Census undercount took place in the county and action is currently being pursued to request a U.S. Census Bureau correction.
2. If there is evidence that the most recent years (2015-2020) net migration rate was significantly different than the net migration rate used for the draft projections.
3. If there is evidence that the 2020-2030 net migration rate will be significantly different than the net migration rate used for the draft projections.
4. There are statistically significant birth and survival rate differences (by appropriate cohorts) between the county and the State.
5. The most recent county population growth rate (2015-2020) is significantly different than draft county's projections.

Data requirements:

The RWPG must provide the following data to the Executive Administrator associated with the identified criteria for justifying any adjustments to the county-level population projections:

1. Documentation of an action requesting the U.S. Census Bureau correct an undercount of population within a county.
2. Most recent in-migration and out-migration of a county, indicating that the net migration of a county over the most recent years (2015-2020) is significantly different than the net migration rates used for the draft projections.
3. Birth and/or survival rates for a county population between 2010-2020 by gender, race/ethnicity and single-year age cohorts.
4. County population estimates from the Texas Demographic Center or the U.S. Census Bureau.
5. Documentation of plans for a manufacturing facility to locate in a county at a future date (corresponding to section 2.2.2.2), or other type of new employment center, and the number of jobs that will result in migration of permanent residents from outside the county, and the migration rate would be significantly different than the migration rate used in the TWDB draft projections.
6. Other data and evidence that the RWPG believes provides a reasonable basis for justifying changes to the net total county-level population projection.

2.2.1.4 WUG (entity) population projections

The projected population growth throughout the planning period for the utilities and rural area (county-other) within a county is a function of a number of factors, including the WUG's estimated share of the county's population or growth between 2010 and 2020, as well as local information provided by RWPGs. The total county population will serve as a control total for the WUG populations within each county. Any adjustments to a sub-county WUG population projection must involve a justifiable redistribution of projected populations within the relevant county so that the county net total remains unchanged unless an adjustment to the county total is also requested, justified and approved (see Section 2.2.1.3).

Criteria for adjustment:

One or more of the following criteria must be verified by the RWPG and the Executive Administrator for consideration in adjusting individual WUG population projections:

1. An adjustment to the population estimates for utilities or rural areas due to official adjustment to the 2020 Census population.
2. The 2010 or 2020 permanent population-served estimate by a municipal WUG is significantly different than the 2010 or 2020 baseline population estimate used in the draft projections.
3. The population growth rate for a municipal WUG over the most recent years (2015–2020) is substantially different than the growth rate between 2010 and 2020 in the draft projections.
4. Identification of growth limitations or potential build-out conditions for a WUG that would result in an expected maximum population that is different than the draft projections.
5. Updated information regarding the utility or public water system service area or anticipated near-term changes in service area.
6. Plans for new residential development in the near future that has not been counted in the draft projections.
7. Evidence of errors identified in historical connections.
8. Plans for a new or expansion of an existing institutional facility that was not included in the draft projections.
9. Evidence of errors in group quarter population.

Data requirements:

The RWPG must provide the following data to the Executive Administrator associated with the identified criteria for justifying any adjustment to the WUG-level population projections:

1. The verified number of residential connections or permanent population of utilities or public water systems that are associated with a WUG and result in correcting the TWDB's Water Use Survey or historical estimates.
2. Updates or corrections to a WUG's group quarter population or the location of institutional facilities.
3. Population estimates for cities developed and published by the Texas Demographic Center or by a regional Council of Governments will be considered for utilities serving these respective cities.
4. Documentation from an official of a city or utility that describes the conditions expected to limit population growth and estimates the maximum expected population for a utility and the potential timeframe for buildout.
5. Documentation or maps that verify and display changes in the utility service area.
6. Documentation demonstrating near-term growth, expansion, or new construction such as platting of new subdivisions, annexation agreements, building permits or impact fee reports.

7. Documentation of potential future growth, such as utility master plans, capital improvement plans, land use and zoning plans, maps of vacant lands with number of dwelling units per acre or number of households and average household size.
8. Other data and evidence that the RWPG believes provides a reasonable basis for justifying changes to an individual WUG-level population projection.

2.2.2 Water demand projections

2.2.2.1 Municipal water demand projections

Municipal water use includes both residential and non-residential water use. Residential use includes single and multi-family residential household water use. Non-residential use includes water used by commercial establishments, public offices, institutions, and light industrial facilities, but does not include significant industrial water users, such as large manufacturing, mining, or power generation facilities. Residential and non-residential water uses are categorized together because they are similar types of use, both use water primarily for drinking, cleaning, sanitation, cooling, and landscape watering.

Per capita water use is developed as gallons per capita daily (GPCD) using historical population estimates and net use for the utility. The reported data included in the municipal draft projections includes surface water, groundwater, and direct and indirect potable reuse, but does not include non-potable reuse sources.

The TWDB-generated draft municipal water demand projections must incorporate limited, anticipated future water savings **due <u>only</u> to the transition to more water-efficient plumbing fixtures and appliances, as detailed in relevant legislation and provided to the RWPGs by the TWDB**. Any additional anticipated future water savings due to conservation programs undertaken by utilities or county-other WUGs must be quantified and considered as a potential, recommended water management strategy by the RWPG.

Dry-year and baseline GPCD

Municipal water demand projections will be based upon dry-year demand conditions. The baseline GPCDs used in the 2026 RWPs will be carried over from the 2021 RWPs and used as default baseline GPCDs **with water efficiency savings due to more efficient plumbing fixtures and appliances through 2020 subtracted** to develop the draft water demand projections for municipal WUGs in the 2026 RWPs.

Regions may make a request to use a WUG's GPCD value from a different base dry-year within the most recent five years (2015-2019) as the basis for the demand projections of that WUG. The TWDB will consider an alternative base dry-year GPCD if the RWPG provides sufficient evidence that the alternative base dry-year GPCD is more representative of demands expected under dry-year conditions or that the draft default GPCD fails to adequately reflect water efficiency and conservation savings that have already been implemented.

Note that any adjustment to the population projections for a WUG will require an associated adjustment to the municipal water demand projections.

Criteria for adjustment:

One or more of the following criteria must be verified by the RWPG and the Executive Administrator for consideration of revising the municipal water demand projections:

1. Evidence that per capita water use from a more recent year (2015-2019) would be more appropriate as the baseline because that year was more representative of dry-year conditions.
2. Evidence of errors identified in the historical water use or GPCD for a utility or public water system, including evidence that volumes of reuse (potable reuse) water used for municipal purposes should be or should not be included in the draft projections.
3. Evidence that the base dry-year water use was abnormal due to temporary infrastructure constraints or water restriction triggered by utility's drought management plan.
4. Trends indicating that per capita water use for a utility or rural area of a county have increased substantially in recent years, and evidence that these trends will continue to rise in the short-term future due to commercial development.
5. Evidence that the most recent water efficiency and conservation savings that have already been implemented are not reflected in the default baseline GPCD.
6. Evidence that the number of installations of water-efficient fixtures and appliances between 2010 and 2020 is substantially different than the TWDB estimate or evidence that the projected replacement rate of water-efficient fixtures and appliances is substantially different than the TWDB projections.
7. Evidence that future water efficiency savings are projected much higher than the draft projections due to a utility's conservation plans that accelerate the replacement of the existing outdated plumbing fixtures and appliances.

Data requirements:

The RWPG must provide the following data to the Executive Administrator associated with the identified criteria for justifying any adjustments to the municipal water demand projections:

1. Annual municipal water intake (total surface water diversions and/or groundwater pumpage and water purchased from other entities) for a utility measured in acre-feet.
2. The volume of water sales by a utility to other water users (utilities, industries, public water systems, etc.) measured in acre-feet.
3. Net annual municipal water use, defined as total water production less sales to other water users (utilities, industries, public water systems, etc.) measured in acre-feet.
4. Documentation of temporary infrastructure, drought restrictions, or other water supply constraints that were in place.
5. Drought index or seasonal rainfall data to document a year different than the designated dry-year as a more appropriate base year for projections.
6. Conservation plans or other documentation that show the number or rate of water-efficient fixtures replaced or planned to be replaced for the future.
7. Estimated water efficiency or conservation savings implemented.

8. To verify increasing or decreasing per capita water use trends for a utility or rural area of a county and therefore revising projections of per capita water use to reflect the trend, the following data should be provided with the request from the RWPG:
    a. Historical per capita water use estimates based on net annual municipal water use for a utility or rural area of a county, beginning in 2015.
    b. A trend analysis which takes into account the variation in annual rainfall.
    c. Revised projections of per capita water use for a utility or rural area of a county, that demonstrate an increasing or decreasing trend of per capita water use.
    d. Growth data in the residential, commercial and/or public sectors that would justify an increase or decrease in per capita water use.
    e. Convincing documentation of planned future growth that would result in higher per capita water use.
9. Other data and evidence that the RWPG considers reasonable and adequate to justify an adjustment to the municipal water demand projections.

2.2.2.2 Manufacturing water demand projections

Manufacturing water use is defined as water used to produce manufactured goods. Manufacturing facilities report their water use to the TWDB annually through the Water Use Survey. Different manufacturing sectors are denoted by North American Industrial Classification System (NAICS) codes. The baseline for draft manufacturing water demand projections is based on the highest county-aggregated manufacturing water use in the most recent five years (2015-2019), plus estimated unaccounted water use. The most recent 10-year historical number of establishments from the U.S. Census Bureau County Business Pattern data or other relevant economic measures available are used as proxy for growth between 2030 and 2080.

Criteria for adjustment:

One or more of the following criteria must be verified by the RWPG and the Executive Administrator for consideration of revising the manufacturing water demand projections:

1. Evidence of a new or existing facility that has not been included in the TWDB's Water Use Survey.
2. Evidence of an industrial facility that has recently closed its operation in a county.
3. Plans for new construction, or expansion or closure of an existing industrial facility in a county at some future date.
4. Evidence of a long-term projected water demand of a facility or industry within a county that is substantially different than the draft projections.
5. Evidence of errors identified in historical water use, including volumes of reuse (treated effluent) or brackish groundwater that were not included in the draft projections.
6. Evidence that holding demands constant from 2040-2080 would better reflect future efficiencies and water use.

Data requirements:

The RWPG must provide the following data to the Executive Administrator associated with the identified criteria for justifying any adjustments to the manufacturing water demand projections.

1. Historical water use data and the 6-digit NAICS code of a manufacturing facility.
2. Documentation and analysis that justify that a new manufacturing facility not included in the Water Use Survey database will increase future manufacturing water demand for the county above the draft projections.
3. The 6-digit NAICS code of the industrial facility that has recently located in a county and annual water use volume.
4. Documentation of plans for a manufacturing facility to locate in a county at some future date, including the following data:
   a. The quantity of water required by the planned facility on an annual basis,
   b. The proposed construction schedule for the facility including the date the facility will become operational, and
   c. The 6-digit NAICS code for the planned facility.
5. Reports or research documents describing alternative trends or anticipated water use for manufacturing.
6. Specific information regarding incorrect location for a facility.
7. Other data and evidence that the RWPG considers reasonable and adequate to justify an adjustment to the manufacturing water demand projections.

2.2.2.3 Steam-electric power generation water demand projections

Water use for steam-electric power generation is consumptive use reported to the TWDB through the annual Water Use Survey. Steam-electric power water demand projections do not include water used in cogeneration facilities (included in manufacturing projections) or facilities which do not require water for production (wind, solar, dry-cooled generation), or hydro-electric generation facilities.

The baseline for draft water demand projections are based on the highest county-aggregated historical steam-electric power water use in the most recent five years (2015-2019). Subsequent demand projections after 2030 are held constant throughout the planning period. The anticipated water use of future facilities listed in state and federal reports is added to the demand projections from the anticipated operation date through 2080. The reported water use of power generation facilities scheduled for retirement in the state and federal reports is subtracted from the baseline or the decade in which they are projected to retire.

Criteria for adjustment:

One or more of the following criteria must be verified by the RWPG and the Executive Administrator for consideration of revising the power generation water demand projections:

1. Documentation that the draft projections have not included a facility that warrants inclusion.

2. Any local information related to new facilities or facility closures that may not have been included in U.S. Energy Information Administration report.
3. Evidence of a long-term projected water demand of a facility or a county that is substantially different than the draft projections.
4. Evidence of errors identified in historical water use, including volumes of reuse (treated effluent) water or brackish groundwater that were not included in the draft projections.
5. Evidence that a currently operating power generation facility has experienced a higher dry-year water use beyond the most recent five years, within the most recent 10 years.

Data requirements:

The RWPG must provide the following data to the Executive Administrator associated with the identified criteria for justifying any adjustments to the steam-electric water demand projections.

1. Historical water use data and description of a surveyed or future facility, including the fuel type, cooling process, capacity, average percent of time operating, and any other information necessary to estimate water use.
2. Reports or research documents describing alternative trends or anticipated water use for steam-electric power generation.
3. Documentation of an anticipated new facility not listed in state or federal reports necessary to estimate the volume of water reasonably expected to be consumed. Such information should include power generation method, cooling method, generation capacity and any additional information necessary to reasonably estimate the future water use.
4. Documentation regarding facility closures that may impact county projections.
5. Specific information regarding incorrect location for a facility.
6. Other data and evidence that the RWPG considers reasonable and adequate to justify an adjustment to the steam-electric power water demand projections.

2.2.2.4 Mining water demand projections

Mining water demand includes water used for oil and gas development, as well as extraction of coal and lignite, sand aggregate, and other resources. Projections do not include water use required for the transportation or refining of materials. The TWDB's annual mining water use estimates are comprised of data from both surveyed and non-surveyed entities and are based on the mining study conducted in partnership with the U.S. Geological Survey and the University of Texas Bureau of Economic Geology.

Criteria for adjustment:

One or more of the following criteria must be verified by the RWPG and the Executive Administrator for consideration of revising the mining water demand projections:

1. Evidence that mining water use in a county is substantially different than the draft projections. This could include trends in water use data from the FracFocus national online registry, the Texas Railroad Commission, or other sources.

2. Evidence of new facilities coming online or reported closures in surveyed facilities that may impact county projections.
3. Evidence of errors identified in historical water use, including volumes of reuse (treated effluent) water or brackish groundwater that were not included in the draft projections.
4. Evidence of a long-term projected water demand of a facility or industry within a county that is substantially different than the draft projections.

Data requirements:

The RWPG must provide the following data to the Executive Administrator associated with the identified criteria for justifying any adjustments to the mining water demand projections.

1. Historical water use data and description of a surveyed or future facility, and any other information necessary to estimate water use.
2. Reports describing alternative trends or anticipated water use for mining.
3. Documentation of an anticipated new mining facility or new mining activities.
4. Specific information regarding facility closures that may impact county projections.
5. Specific information regarding incorrect location for a facility.
6. Reports or research documents describing alternative trends or anticipated water use for mining.
7. Other data and evidence that the RWPG considers reasonable and adequate to justify an adjustment to the mining water demand projections.

2.2.2.5 Irrigation water demand projections

Irrigation water demand projections include the water necessary for irrigation activities, primarily field crops, but also include orchards, pasture, turf grass farms, vineyards, and self-supplied golf courses. Note that for the purposes of regional water planning, irrigation demands account for the amount of water pumped for irrigation, not the water needed or used by the crop or associated with dry-land farming.

The baseline methodology for draft irrigation water demand projections is the average of the most recent five-years (2015-2019) of water use estimates held constant between 2030 and 2080. In counties where the total groundwater availability over the planning period is projected to be less than the groundwater-portion of the baseline water demand projections, the draft irrigation water demand projections will begin to decline starting in 2040, or a later decade, commensurate with the decline in the associated groundwater availability.

Criteria for adjustment:

One or more of the following criteria must be verified by the RWPG and the Executive Administrator for consideration of revising the irrigation water demand projections:

1. Evidence that irrigation water use estimates for a county from another information source or more recent modeled available groundwater (MAG) volumes are more accurate than those used in the draft projections.

2. Evidence that recent (10 years or less) irrigation trends are more indicative of future trends than the draft water demand projections.
3. Evidence that the baseline irrigation demand projection is more likely to reflect the future irrigation demand than the groundwater resource-constrained water demand projection (especially where economically feasible water supply strategies have been identified).
4. Region or county-specific studies that have developed water demand projections or trends for the planning period, or part of the planning period, and are deemed to be more reasonable estimates than the TWDB-generated draft projections.
5. Evidence of errors identified in historical water use, including volumes of reuse (treated effluent) or brackish groundwater that were not included in the draft projections.

Data requirements:

The RWPG must provide the following data to the Executive Administrator associated with the identified criteria for justifying any adjustments to the irrigation water demand projections:

1. Historical water use, diversion, or pumpage volumes for irrigation by county.
2. Acreage and water use data for irrigated crops grown in a region as published by the Texas Agricultural Statistics Service, the Texas Agricultural Extension Service, the Farm Service Agency or other sources.
3. Available economic, technical, and/or water supply-related evidence that may provide a basis for adjustments in the default baseline projection and/or the future rate of change in irrigation water demand.
4. Alternative projected water availability volumes that may constrain water demand projections.
5. Updated MAG volumes.
6. Other data and evidence that the RWPG considers reasonable and adequate to justify an adjustment to the irrigation water demand projections.

2.2.2.6 Livestock water demand projections

Livestock water use is defined as water used in the production of livestock, both for consumption and for cleaning and cooling purposes and aquaculture operations. The TWDB produces annual water use estimates for livestock, based on daily water demand per head assumptions for cattle (beef and dairy), hogs, poultry, horses, sheep, and goats. Additional facilities, such as aquaculture operations, report water use estimates through the TWDB Water Use Survey.

Draft water demand projections for each county are based on the average of the most recent five-years (2015-2019) of water use estimates. The rate of change for 2020-2070 from the 2022 State Water Plan will be applied to the new baseline.

Criteria for adjustment:

One or more of the following criteria must be verified by the RWPG and the Executive Administrator for consideration of revising the livestock water demand projections:

1. Evidence that livestock water use estimates for a county from another source are more accurate than those used in the draft projections.
2. Plans for the construction, expansion, or closure of a confined livestock feeding operation in a county at some future date.
3. Other evidence of change in livestock inventory or water requirements that would justify an adjustment in the projected future rate of change in livestock water demand.
4. Evidence of errors identified in historical water use, including volumes of reuse (treated effluent) or brackish groundwater that were not included in the draft projections.

Data requirements:

The RWPG must provide the following data to the Executive Administrator associated with the identified criteria for justifying any adjustments to the livestock water demand projections:

1. Documentation of plans for the construction of a confined livestock feeding facility in a county at some future date and includes the following:
    a. Confirmation of land purchase or lease arrangements for the facility.
    b. The construction schedule including the date the livestock feeding facility will become operational.
    c. The daily water requirements of the planned livestock feeding facility.
2. Other evidence that would document an expected increase or decrease in the livestock inventory in the county, such as facility closures.
3. Documentation of an existing confined livestock feeding operation not captured in the draft projections.
4. Other data and evidence that the RWPG considers reasonable and adequate to justify an adjustment to the livestock water demand projections.

2.2.3 Major water provider demands

Planning groups will review aggregated water demand projections for MWPs provided by the TWDB. RWPGs must summarize and present the projected demands for MWPs by category of use and planning decade. The TWDB will provide retail water demand data if the MWP is a WUG, and contract demand data based on data entered by the planning group into DB27 if the MWP is a WWP.

2.2.4 Representation of county-other sub-water user groups in regional water plans

Subject to their own time and financial resource constraints and at the discretion of each RWPG, county-other WUGs may be sub-divided into sub-county-other water users and presented in the RWPs as such. However, for the development of the 2026 RWPs, **this discrete level of information will not be eligible to be entered into DB27 but may be presented in the plan in a manner of the RWPG choice**. Any such entity identified by the planning group will inherently represented in DB27 under the associated umbrella, county-other WUG. Therefore, any presentation of these entities in the RWPs will solely be based on information analyzed and presented in narrative or tabular form by the RWPG. The

TWDB will provide historical water use estimates and connection data for individual public water systems that may fall within the county-other WUG and that may be of interest to the planning groups to present as sub-county-other-WUGs in the narrative of their plan. However, planning groups would need to conduct their own analyses with this information to distribute such water demands across their sub-county-other WUGs of interest in a manner that maintains the integrity of the projected net total demand for that county-other WUG.

2.3 Water availability and existing water supplies (Task 3)

Rule and scope of work requirements:

- §357.32: Water Supply Analysis
- Scope of Work Task 3: Water Availability and Existing Supply Analysis

Guidance:

Estimating how much water there is to meet water demands is a two-step process that examines both water availability and existing water supply. Those two terms have very specific meanings in the water planning process.

Water availability[3] in regional water planning refers to the maximum amount of raw water that could be produced by/at a water source (such as a reservoir or aquifer) during a repeat of the drought of record. Availability volumes are not effected by whether the supply is actually being used (i.e., connected to or legally authorized for use by a specific WUG).

Existing water supply[4] is the maximum amount of water that is physically and legally accessible from existing sources for immediate use by a WUG, under drought of record conditions. This is a subset of the water availability volume that a WUG already has legal access to as well as the infrastructure in place to treat and deliver the water. Existing water supplies associated with a particular source cannot exceed the total availability for that same source.

The determination of water availability is a source-based analysis. RWPGs must identify all water sources and their associated annual availability volumes within the planning area, even if such sources are not currently connected or being used, as they are potentially available for use currently or in the future. Water availability may be increased (or decreased) through a future project or action, for example, by building a new reservoir that increases surface water availability or by modifying a desired future condition that increases or decreases a MAG volume.

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[3] Water availability is analyzed from the perspective of the source and answers the question: "How much water from this source could be delivered to water users as either an existing water supply or, in the future, as part of a water management strategy?" Determining water availability is the first step in assessing potential water supply volumes for a planning group.

[4] Second, planning groups evaluate the subset of the water availability volume that is already connected to WUGs. This subset is defined as existing water supply and is based on legal access to the water as well as the infrastructure (such as pipelines and treatment plant capacity) already in place to treat and deliver the water to the "doorstep" of WUGs. Existing water supply is analyzed from the perspective of water users and answers the question: "How much water supply could each WUG already rely on should there be a repeat of the drought of record?"

Water availability requirements are presented by water source type in Sections 2.3.1-2.3.4 and existing water supply requirements are discussed in Section 2.3.6.

RWPGs must evaluate water source availability and existing water supplies during drought conditions for WUGs and WWPs and enter this information into DB27[5] . Note that data for WWPs will need to be entered into DB27 for purposes of data analysis.[6]

RWPGs must report water availability by source and existing water supply evaluation results by WUG in accordance with 31 TAC §357.31(a) and by MWP in accordance with 31 TAC §357.31(b).

2.3.1 Surface water availability

Surface water availability for regional water planning must be evaluated using a TCEQ WAM, unmodified Run 3 version (full authorization). This model version assumes that

- all water rights use their full authorized amount;
- all applicable permit conditions, such as flow requirements, are met; and
- no return flows.

All TCEQ unmodified WAM Run 3 models use the original reservoir capacity, i.e., do not include reservoir sedimentation. For regional water planning purposes, inclusion of anticipated sedimentation[7] into the WAM Run 3 models for major reservoirs is a necessary modification[8] to be performed by the RWPGs. Inclusion of the anticipated sedimentation for reservoirs in the WAM Run 3 models will not require a hydrologic variance. Any further reference to use of an unmodified WAM Run 3 in this document assumes the inclusion of anticipated sedimentation.

Reservoir Availability

Reservoir availability, or *firm yield*, is defined as the maximum water volume a reservoir can provide each year under a repeat of the drought of record using anticipated sedimentation rates and assuming that all senior water rights will be totally utilized and all applicable permit conditions are met.

Firm means that the use-appropriate monthly percentage of the annual firm diversion amount must be satisfied in each and every month of the estimation period for all surface water diversions.

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[5] In addition to material regarding water supplies in this guidance document, RWPGs should refer to the TWDB's Contract Exhibit D: *Guidelines for 2026 Regional Water Plan Data Deliverables1*for additional information for estimating water source availability and existing water supplies. This document will be available online at: https://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2026/documents.asp

[6] The TWDB will migrate a limited amount of DB22 data to DB27 and confirm lists of WWPs with RWPGs at that time. RWPGs will continue to use WWP information and water transfer points in their data analysis of their plan.

[7] Anticipated sedimentation is the anticipated decreases in a reservoir's area-capacity condition resulting in projected firm yield decreases each decade.

[8] 31 TAC §357.10(14)

Anticipated sedimentation

Anticipated sedimentation may be updated to include new existing area-capacity conditions in the model as provided from an updated scientific volumetric survey performed on a reservoir since the last update to WAM Run 3, or by using other relevant information as deemed appropriate by the RWPG to more accurately reflect existing firm yield. The methodology used for calculating anticipated sedimentation rate and revising the area-capacity rating curve must be described in the Technical Memorandum, IPP, and final adopted RWP.

The TWDB's Water Availability Program has developed projected reservoir rating curves for 70 water supply reservoirs in Texas for all water planning decades (i.e., 2030–2080) using elevational sedimentation rates and recent reservoir volumetric and sedimentation surveys. This methodology and data are available on the TWDB website[9] for planning groups to consider and utilize during plan development.

Run-of-River Availability

Run-of-river availability, or *firm diversion*, evaluated for a municipal WUG for which the run-of-river source is the only source of supply is defined as the minimum monthly diversion amount that is available 100 percent of the time during a repeat of the drought of record, i.e., this minimum volume must be available each and every month. For these municipal WUGs it is important that RWPGs do not over-estimate reliable run-of-river water availability during drought of record conditions, for example, by overlooking the need for additional intra-year storage and/or alternative sources of water supply necessary to bridge potential seasonal water shortages. If an intra-year shortage is identified in WAM Run 3, based on the reasonable monthly diversion distribution pattern, then the annual firm diversion volume to be reported is that for which the monthly diversion amounts are met in each and every month. WUG

For WUGs with multiple sources of supply, the firm diversion is defined as the minimum annual diversion, which is the lowest annual summation of the monthly diversions reported by the WAM over the simulation period (lowest annual summation being the calendar year within the simulation that produces the lowest run of river diversion volume).

Interstate Waters

In general, for surface waters that form borders with neighboring states or countries, RWPGs must analyze and report currently available water supplies taking into account existing legal agreements, such as international treaties or interstate compacts. For interstate and international reservoirs, RWPGs must report annual water volumes that are available to Texas according to existing legal agreements. Future (including increases to) availability may be based on strategies.

Local Surface Water Availability

For surface water withdrawals that do not require permits, such as for domestic and livestock uses, RWPGs will estimate these local annual water availability volumes based on

[9] https://www.twdb.texas.gov/surfacewater/data/WAMRatingCurve/index.asp

the most current accessible information. RWPGs must document the methodologies utilized for these availabilities in the Technical Memorandum, IPP, and final adopted RWP.

Standard Criteria and Assumptions for TCEQ WAM Run 3

When estimating surface water availability associated with firm yields or firm diversions with the TCEQ's unmodified WAM Run 3, the following criteria must be met:

1. Available inflows to reservoirs are the remainder of naturalized stream flows after upstream (and downstream) senior water rights are satisfied.
2. Downstream senior water rights must be met; however, this does not require releases of legally stored water unless specifically stated in existing water rights.
3. All special conditions of water rights must be considered, including, but not limited to
    a. bay, estuary, and instream flow requirements;
    b. TCEQ environmental flow standards and associated TCEQ rules; or
    c. other relevant limitations.
4. Minimum allowable reservoir levels are the top of dead pool (this dead pool limitation applies only to situations where the dead pool is specified in the water right permit or other binding agreement).
5. Maximum allowable reservoir levels are the top of conservation pool.
6. Evaporative losses are based on evaporation rate data that best coincide with the location of the reservoir and the period of record and time steps for inflows.
7. Annual water supply demands (diversions) are constant for all years; the distribution of annual demands within a given year are constant in all years and must reflect the patterns of different types of water use expected.
8. Model run time steps are not to be longer than one month.

RWPGs should consider requesting a hydrologic variance to modify the WAM Run 3 for any criteria that varies from the base requirements or that is expected to have significant effects on existing supply estimates.

2.3.2 System availability

Existing water supply sources may be categorized as a system, and future water supply sources may be aggregated in a water management strategy (WMS)and categorized as a system, if they meet either of the following criteria:

1. Several reservoirs are to operate together under permit, so that supplies from a specific reservoir cannot be tracked directly to an end user.
2. Two or more reservoirs are to operate, under permit, as a system resulting in a system gain in firm yield.

For planning purposes, availability for reservoirs operated as a system may be reported as a system in lieu of reporting individual reservoir availability. Such a relationship could include reservoirs owned and operated by the same entity, so long as the operations comply with the existing permit conditions. The firm yield of the system should be the firm yield during drought of record conditions for the system as a whole.

System gain is the amount of permitted water a system creates that would otherwise be unavailable if the reservoirs were operated independently; and for existing systems, this volume must be reported separately in the RWPs in addition to the reservoir system firm yield. For multi-reservoir systems, the minimum system gain during drought conditions may be considered additional water available, if it has already been permitted. Total existing water from a system may not exceed the sum of the system gain plus the firm yields of individual reservoirs in that system.

To report system gain, system operations must produce a measurable system yield greater than the sum of the individual reservoir yields. System gain for system operations that mask individual reservoir yields or that group reservoirs together without a permitted relationship are not be allowed in the RWPs.

2.3.3 Reuse availability

For regional water planning purposes, reuse is considered a stand-alone water source type[10] and RWPGs will evaluate reuse availability and supplies separately from conservation, which is classified as a demand reduction associated with a WUG. Reuse availability should be presented as a separate subsection within Chapter 3 of the IPP and final RWP. The subsection must describe the data sources and methodology used to calculate reuse availability.

Reuse availability cannot exceed the capacity of the existing infrastructure to deliver produced treated water[11] to customers or existing permits. However, to avoid overestimating reuse availability, the reuse availability will also be dependent upon the associated decade population/demand projections that would determine the amount of wastewater flowing into a wastewater treatment plant (WWTP) on an annual basis. This population-dependent availability would be less than a WWTP's maximum permit capacity and would increase each future decade (as population/demand increases) up to the annual volume restricted by existing infrastructure and/or permit (i.e., WWTP inflow projections could be a more stringent restriction for reuse availability in early planning decades).

RWPGs must classify reuse availability as either direct or indirect.

Direct reuse

Direct reuse is when wastewater is reused directly after treatment or stored for later reuse without discharge to a watercourse and must be classified as potable or non-potable based on its end use[12].

[10] An exception to the requirement to track reuse availability separately is applicable to indirect reuse associated with future aquifer storage and recovery projects. In these cases, the reuse supply will not be reported separately in DB27. See TWDB's Contract Exhibit D: *Guidelines for 2026 Regional Water Plan Data Deliverables,* Section 3.5.2 for additional information on indirect reuse sources.
[11] May require additional level of treatment prior to reuse to be included as a WMS.
[12] See TWDB's Contract Exhibit D: *Guidelines for 2026 Regional Water Plan Data Deliverables* for requirements on naming direct reuse sources within DB27.

Indirect reuse

Indirect reuse is the use of reclaimed water by discharging to a water supply source, such as surface water or groundwater. An example of discharging to a surface water supply source is when treated wastewater effluent is discharged to a watercourse under a Texas Pollutant Discharge Elimination System (TPDES) permit and re-diverted under a water right permit. Indirect reuse must be classified as potable or non-potable based on its end use. [13]

2.3.4 Groundwater availability

Groundwater availability is estimated through a combination of policy decisions, made primarily by groundwater conservation districts, and aquifer characteristics, such as the ability of an aquifer to transmit water to wells. The TWDB uses the desired future conditions (DFCs) established by groundwater management areas (GMA) to determine a MAG value for an aquifer or portion of an aquifer.

Desired future conditions are the desired, quantified conditions of groundwater resources (such as water levels, water quality, spring-flows, or storage volumes) at a specified time in the future or in perpetuity. The TWDB uses DFCs to determine a MAG value for an aquifer or part of an aquifer in the GMA. DFCs are required for major or minor aquifers. These aquifers are referred to as relevant aquifers, however a groundwater management area may declare a major or minor aquifer as non-relevant. In these situations, the non-relevant aquifer would not have a DFC or MAG.

The *MAG* value is the volume of groundwater production on an average annual basis that will achieve the DFC. These values are independent of existing pumping permits and may, depending on the aquifer characteristics and how the DFCs are defined, include a variety of water quality types, including brackish groundwater. Depending on the aquifer and location, the inclusion of brackish groundwater in MAG values might be subject to local and regional supply evaluations.

Groundwater availability models (GAMs) are the most common tool used to estimate MAGs. The GAMs are designed to simulate groundwater behavior in aquifers, but they are not based on water quality, and they generally do not distinguish between fresh and brackish groundwater. Each GAM report[14] includes a section on water quality so that users of the GAM can evaluate the water quality conditions in the coverage area of the model.

Unlike the regional and state water planning process, the DFC process does not require development of management policies under drought of record conditions. Groundwater districts in a groundwater management area may, but are not required to, consider the drought of record in developing the DFC. By extension, the MAG values derived from DFC statements across the state may or may not incorporate the drought of record.

[13] See TWDB's Contract Exhibit D: *Guidelines for 2026 Regional Water Plan Data Deliverables* for requirements on naming indirect reuse sources within DB27.
[14] Available on the TWDB website at https://www.twdb.texas.gov/groundwater/models/gam/index.asp

2.3.4.1 Availability for Major and Minor (i.e. Relevant) Aquifers

For RWPAs with at least one GCD, MAGs must be used as the groundwater availability for all aquifers that have a DFC. MAG volumes will be made available to the RWPGs through the DB27 interface, split into discrete geographic-aquifer units by Aquifer/Region/County/Basin.

The groundwater availability (and the associated existing and future groundwater supplies based on the availability) for any discrete geographic-aquifer unit may not exceed the annual MAG volume as provided in DB27 unless authorized by the TWDB Executive Administrator approval prior to the IPP through the hydrologic variance request process (see section 2.3.5.2) to apply a MAG '*peak factor*' or to reallocate a MAG volume between river basins within a county.

2.3.4.2 Availability for Non-Relevant Aquifers and Local Groundwater Supply Areas

Most aquifers have associated DFCs and will therefore have an associated annual MAG volume. In limited locations, however, there will be some aquifers that may not have DFCs or a resulting MAG as follows:

1. All or portions of a major or minor aquifer that were classified as non-relevant by GCD(s) in a GMA.
2. Any other aquifers or portions of aquifers that were not considered in the DFC process, but for which there are identified existing groundwater supplies.
3. A local groundwater supply area usually not associated with a major, minor, or other aquifer (e.g., a small local alluvial aquifer) that may still be used as a non-municipal water supply source, but that the GMA determined to be not relevant to the DFC process.

For groundwater sources where no DFC exists, RWPGs may determine the groundwater availability for planning purposes. These RWPG-estimated groundwater availabilities may be determined by using availability values presented in the local GCD management plan, TWDB GAMs, if available, or other means. Planning groups are strongly encouraged to consider the physical compatibility with adjacent or nearby DFCs of the regional aquifers in the development of RWPG-estimated groundwater availability.

During the development of MAG groundwater availability model runs, areas of non-relevant aquifers covered by the models may have associated availability generated for the non-relevant areas that align with the DFC pumping. These DFC compatible water volumes for non-relevant groundwater sources developed from GAM runs may be used by RWPGs in determining their RWPG-estimated availability. **These availability numbers will be prepopulated into DB27 by the TWDB.**

RWPGs must include a table documenting the method(s) used for estimating RWPG-estimated groundwater availability in the Technical Memorandum, IPP, and final adopted RWP. This table should include the aquifer, county, and methodology description(s).

To assist RWPGs, all the associated MAGs that only cover a portion of a discrete geographic-aquifer unit will be flagged in DB27. This means that the associated discrete

geographic-aquifer unit may or may not have an additional RWPG-estimated groundwater availability associated with it.

2.3.4.3 Availability for an RWPG with no GCDs within its RWPA

In accordance with 31 TAC §357.32(d)(2), an RWPG with no GCDs within its RWPA will determine the availability of groundwater for regional planning purposes. The TWDB must review and consider approving this RWPG-estimated groundwater availability prior to inclusion in the IPP, including determining if the estimate is physically compatible with the DFCs for relevant aquifers in GCDs in the co-located GMA(s). The Executive Administrator will use the TWDB's GAMs as appropriate to conduct the compatibility review.[15]

The request for TWDB to review and approve the RWPG-estimated groundwater availability should not be submitted to the TWDB until after the RWPG has identified its existing groundwater supplies and groundwater WMSs and identified which existing supply values or WMSs will require groundwater availability beyond MAG values. Because identification of WMSs occurs in the latter part of the planning cycle, the RWPG may need to prioritize evaluation of groundwater WMSs, so there is adequate time for consultants to submit and for the TWDB to process the availability request before IPP adoption. The total process timeline from receipt of a request to use RWPG-estimated groundwater availabilities to the TWDB Board approval is approximately 90 days but may be longer. The time required for the process will depend on the number of aquifer-region-county-basin splits and the complexity of the MAGs affected by the request.

Submittal Requirements

The RWPG's request to use RWPG-estimated groundwater availability should identify specific decadal groundwater availability values in specific aquifer-county-basin splits. The process only applies to groundwater availability for aquifers with a DFC and MAG, so the request from the region should exclude any availabilities for non-relevant aquifers.
Each request to the TWDB should include

1. MAG availability values by decade for each aquifer-county-basin split for which the RWPG is estimating availability;
2. requested RWPG-estimated groundwater availabilities by decade for those aquifer-county-basin splits;
3. an explanation of the method used to determine availabilities and any data or related supporting documentation; and
4. documentation of the submittal request being approved by the RWPG at a regular planning group meeting.

The TWDB will conduct a technical review, and staff will follow up with the planning consultants if additional information is required. After technical review, TWDB staff will make a recommendation, and the TWDB Board may consider the request at a public meeting.

[15] Related to 84(R) SB 1101 requirements. As of July 2022, these requirements only apply to the North East Texas (Region D) RWPG, as it is the only region currently in the state with no GCDs in its RWPA.

Plan documentation and reporting

If approved by the TWDB Board, the revised RWPG-estimated groundwater availabilities will be updated by TWDB staff only within DB27. A copy of the TWDB Board approval memorandum as well as documentation of the request process should be included in the IPP and final adopted RWP.

The TWDB Board approved RWPG-estimated groundwater availabilities will be used as the planning condition in the RWP and basis of analysis in DB27. The unmodified annual MAG volume(s) must also be reported in the IPP, and final adopted RWP

2.3.5 Hydrologic variance requests for water availability determination

As a default RWPGs must use the unmodified TCEQ WAM Run 3 (plus anticipated sedimentation) to estimate reservoir firm yields and run of river firm diversions or MAGs for groundwater availabilities. If an RWPG would like to use an alternative methodology to evaluate water availability, the RWPG may submit a written request to the TWDB Executive Administrator for a hydrologic variance to modify the default hydrologic assumptions. If the Executive Administrator finds the proposed hydrologic variance to be necessary and/or appropriate to more accurately reflect the region's source availability and associated existing water supplies, the Executive Administrator will then provide written approval.

Regardless of whether the Executive Administrator authorizes hydrologic variance modifications to WAMs or MAGs to evaluate water source availability and/or existing water supplies for development of an RWP, it is the responsibility of the RWPG to ensure that any resulting estimates of alternative water availability are reasonable for drought planning purposes and will reflect conditions expected in the event of near-term, actual drought conditions.

Sections 2.3.5.1 and 2.3.5.2 describe the submittal and reporting information for surface water and groundwater hydrologic variances.

2.3.5.1 Potential Surface Water Hydrologic Variance Assumptions

For surface water availability and supply analyses, RWPGs must use the most current WAMs from TCEQ. RWPGs may use better, more representative water availability modeling assumptions or better site-specific information with written approval from the Executive Administrator. RWPGs should always consider requesting a hydrologic variance for a hydrologic assumption modification for any issue that is expected to have a significant effect on determining an existing supply.

All modified assumptions or model modifications must be approved as appropriate by the Executive Administrator.

As appropriate, modifications must be used consistently across the planning process, or an explanation for why they are not must be included. For example, if the firm yield is adjusted downward through a hydrologic variance, assessments of impacts to water quality, natural resources, agricultural resources, and other water resources must be made using the same firm yield and any other hydrologic assumptions in the approved hydrologic variance. The nature of and basis for each such modification must be fully explained in the RWP.

Under NO circumstances will a hydrologic variance be allowed that assumes unreliable, (e.g., interruptible) supplies would be relied upon under drought of record conditions, including those that assume

1. the DOR supply from a run of river diversion (firm diversion) could use the 75/75 rule, i.e., 75% of the water available in 75% of the time for irrigation water rights; and
2. a sole-source municipal reliable supply from a run of river diversion (firm diversion) is equal to the minimal annual diversion.

Submittal Requirements

A proposed surface water hydrologic variance request must include the following items:

1. A completed surface water hydrologic variance request checklist for each river basin, along with any necessary supporting information.
2. Documentation of the submittal request being approved by the RWPG at a regular planning group meeting.

Plan documentation and reporting

If the use of a hydrologic variance for an alternative surface water availability evaluation is approved by the Executive Administrator, a copy of the approved alternative hydrologic assumptions and methodologies as well as documentation of variance request process must be included in the Technical Memorandum, IPP, and final adopted RWP.

The additional information in Table 2 must be reported based upon the planning condition in the RWP.

Table 2 – Current and Future Surface Water Availability Reporting Requirements

Approved Hydrologic Variance	Planning condition in RWP and basis of analysis in DB27	Additional yield information reported as a value in Technical Memorandum, IPP, and final RWP
No hydrologic variance assumptions	Firm Yield via WAM Run 3	N/A
Hydrologic variance of WAM modifications	Firm Yield via modified WAM	N/A
Hydrologic variance of alternative model	Firm Yield via alternative model	N/A
Hydrologic variance of System Yield	System Yield via WAM Run 3	Firm Yield
Hydrologic variance of System Yield with modified WAM or alternative model	System Yield via modified or alternative model	Firm Yield via modified or alternative model

Hydrologic variance of Safe Yield	Safe Yield via WAM Run 3	Firm Yield via WAM Run 3
Hydrologic variance of Safe Yield with modified WAM or alternative model	Safe Yield via modified or alternative model	Firm Yield via modified or alternative model

Examples of potentially appropriate surface water modeling assumptions for RWP development, including:

1. **Addition of Return Flows:** This is a WAM modification to include a certain level of return flows that are reasonably expected to be available under drought of record conditions from specific entities/locations in the model in order to evaluate existing supplies (WAM Run 3 models contain no return flows). Planning groups should give consideration to the RWPA's water demand projection "dry year" (i.e., reflecting return flows from the same year as that of the demand projection dry year).
2. **Reservoir Operational Yield:** This is a WAM modification to decrease the effective drought of record firm yield of the reservoir due to, for example, the actual location of a user's intake; the smaller firm yield would allow that user to maintain its inflow diversion. A past example is an approximate 50% decrease in firm yield to maintain the flow from a small lake through the adjacent fish hatchery.
3. **Extended Hydrology for Revised Reservoir Inflows (and Potential Recognition of New Drought of Record):** This is a WAM modification to include extended hydrology, with or without full scale naturalized flow development, to account for recent conditions that may be more severe than the current drought of record. For example, inclusion of recent hydrologic data available since development of the WAM for the purpose of producing a more conservative supply estimate during conditions that are worse than the drought of record. The TWDB's Water Availability Program has developed auxiliary extended naturalized flows and reservoir evaporation, through December 2020, for the Canadian, Cypress, Sabine, Trinity, San Jacinto, Lavaca, Guadalupe and San Antonio, and Nueces River WAMs. RWPGs may use these auxiliary WAM input hydrology datasets[16] to assess the occurrence of potential new droughts of record within those respective river basins.
4. **Reservoir Safe Yield:** This is a WAM modification to decrease the firm yield of the reservoir so that an identified annual volume is held in reserve in order to account for droughts worse than the drought of record. The volume of this annual reserve is determined by the RWPG and can vary by source. Examples include a minimum 1 year supply held in reserve; 6-9 month supply held in reserve; 2 year supply held in reserve; and, 20% reservoir system capacity safe yield.
5. **Incorporation of Subordination Agreements:** This entails a WAM modification to reflect subordination agreements that currently exist but are not explicit in individual water rights and would be a more realistic reflection of current operations. Past examples include a downstream reservoir's subordination to an

[16] Available at https://www.twdb.texas.gov/surfacewater/data/ExtendedNatFlow/index.asp

upstream reservoir in a common river basin through an agreement between a river authority and a city.

6. **Alternative Reservoir Level:** This is a WAM firm yield modification to decrease the minimum reservoir level below the top of the dead pool; or increase the maximum reservoir level above the top of the conservation pool (i.e., use of the flood pool).
7. **Reservoir Conditional Reliability:** This is a WAM firm yield modification for determination of a reliable reservoir firm yield supply utilizing a conditional reliability assessment, which is defined here as an assessment that starts with current conditions and analyzes all sequences of available historical hydrology; and based on the statistical output, a level of risk for each possible outcome is assigned, revealing probable firm yields based on these historical hydrology sequences. This approach should not be used for estimating yields over the full planning horizon but rather to address near-decade conditions, when appropriate. An example would be a conditional reliability assessment used to compensate for the uncertainty of a new current/ongoing drought of record that is occurring in a region.
8. **Reliability of Firm Yield of Reservoirs:** RWPs may take into account the reliability of firm yield of reservoirs. For example, to account for the impact of natural, historic hydrologic variability and drought persistence on reservoir yield, firm yield may be compared to alternate estimates of yield derived for example from a reshuffled annual historic hydrology. This approach, or type of Monte Carlo reliability analysis, may provide ranges of estimated of yields, with associated probabilities, including (lower) yields with higher confidence and may thereby serve as a guide for RWPGs choosing to conservatively modify (i.e., lower) existing supply estimates of reservoirs.
9. **Addition of Actual Diversion Locations:** This is a WAM modification that will include additional actual diversion locations outside of a reservoir(s) resulting in improved accuracy of the simulation of actual diversion operations along the river and any associated releases from associated reservoirs.
10. **Simplification of Diversion Locations:** This is a WAM modification to include simplified groupings of actual diversion locations outside of a reservoir(s), while maintaining a reasonably accurate reflection of water rights and operations in the model simulation.
11. **Reservoir System Operations:** This is a WAM firm yield modification to include system operations of a single reservoir; and/or operation of multiple reservoirs as a single system to affect an overall system gain and increase the effective firm yield.
12. **Hydropower Generation Diversions:** This is a WAM firm yield modification to include simulation of hydropower generation water use in a reservoir that may not currently be considered in WAM RUN3.
13. **Updated Water Rights:** This is a WAM modification to include updated water rights data since the last time the WAM RUN3 was officially updated.
14. **Special Operational Procedures:** A WAM modification to reflect operational agreements with entities such as the U.S. Army Corps of Engineers, International Boundary and Water Commission, or Water Master Operations.
15. **Use of Daily Time-Steps:** This is a WAM firm yield modification to change from monthly time-steps to daily time-steps to better simulate diversions and releases

from reservoir storage. An example would be to simulate an individual city's diversions and releases from a reservoir.

16. **Drought Management Plan Firm Diversion:** This is a WAM modification allowing less than a full firm diversion during drought of record conditions if this occurs in an approved operation plan (e.g., exists in an entity's Drought Management Plan).
17. **Conjunctive Use of Surface Water and/or Groundwater:** To reflect interdependencies that result in net firm supplies.
18. **Future Projected Reservoir Inflow and Reservoir Evaporation:** RWPGs may consider best available projected reservoir evaporation rates, and reservoir inflow rates, for the purpose of considering future reservoir yields to account for potential changes to inflow and reservoir evaporation. RWPGs may also utilize a methodology, similar to the methodology demonstrated in the Brazos Trends Study (2021), to assess how trends in streamflow and reservoir evaporation might affect future reservoir and run-of-river yields.

2.3.5.2 Potential Groundwater Hydrologic Variance Requests

MAG Reallocation

A hydrologic variance request to shift portions of annual MAG volumes between discrete geographic-aquifer units (i.e. river basins) must be in writing from the RWPG and must be consistent with the relevant aquifer's MAG. MAG reallocations are limited to shifts within a county only.

Submittal Requirements

A proposed MAG reallocation request must include

1. a table with proposed MAG reallocations for each discrete geographic aquifer unit, for each planning decade;
2. the basis for the reallocation request;
3. how DFCs at the location as well as DFCs in surrounding areas will be achieved under the reallocation;
4. how the reallocation is consistent with the relevant MAGs and groundwater conservation districts (GCD) management plans;
5. the long-term impact that pumping based on the reallocation would have on the DFC at the location; and
6. written support from the relevant GCDs and representatives of the groundwater management area (GMA) if applicable (in accordance with TWDB policy); and documentation of the submittal request being approved by the RWPG at a regular planning group meeting.

Plan Documentation and Reporting

If approved by the Executive Administrator, the reallocation of annual MAG volumes between discrete geographic-aquifer units will be performed by the TWDB only within DB27. A copy of the MAG reallocation approval letter as well as documentation of variance request process should be included in the Technical Memorandum, IPP, and final adopted RWP.

The reallocated MAG volumes will be used as the planning condition in the RWP and basis of analysis in DB27. The unmodified annual MAG volume(s)must also be reported in the Technical Memorandum, IPP, and final adopted RWP.

MAG Peak Factor (31 TAC §357.32(d)(3)):

With approval of the relevant GCD (where applicable) and GMA, an RWPG may submit a written request for the use of a MAG peak factor[17] to accommodate temporary increases in annual availability volumes, for planning purposes, above the MAG. The MAG peak factor is a percentage (e.g., greater than 100 percent) that is applied to an annual MAG volume reflecting groundwater availability that, for planning purposes, must be considered temporarily available for pumping consistent with DFC(s). This is a regional water planning accommodation to reflect anticipated pumping fluctuations between wet and dry years or may account for other shifts in the timing of pumping while remaining consistent with DFCs and maintaining the integrity of the planning processes.

Submittal Requirements

This proposed MAG peak factor request must include

1. written approval from both the relevant GCD, if one exists within the particular aquifer-region-county-basin split, and representatives of the GMA;
2. the requested MAG Peak Factor expressed as a percentage greater than 100 percent, specific to the aquifer-region-county-basin split(s) that the peak factor is applicable to, and the applicable planning decades;
3. the technical basis for the request in sufficient detail to support GCD, GMA, and the Executive Administrator evaluation;
4. documentation (for example, monitoring plans) of how the temporary availability increase will not prevent the associated GCD(s) from managing groundwater resources to achieve the DFC(s); and
5. documentation of the submittal request being approved by the RWPG at a regular planning group meeting.

The TWDB will review documentation provided by the RWPG submitted in support of the proposal to implement a MAG peak factor. This review may, depending on the area to be affected by the MAG peak factor, involve evaluation of the relevant hydrostratigraphic and geologic features, groundwater levels and groundwater flow, groundwater pumping, spring flow, interaquifer flow, and discharge to surface waters.

RWPGs are **required** to provide adjusted model well files, detailed georeferenced maps of pumping assumptions (pumping location, pumping amounts, and model layer), and/or unallocated supply assumptions to support the TWDB's evaluation. The effect of the MAG peak factor on the adjacent or hydrologically connected groundwater resources outside of the applicable GCD will be evaluated to understand the possible effect of the MAG peak factor on the ability of neighboring GCDs to achieve their relevant DFCs. This evaluation

[17] Additional information on the MAG peak factor may be found online at https://www.twdb.texas.gov/publications/shells/MAG.pdf

may include reviewing existing GAM runs and/or performing additional modeling runs, as required.

Plan Documentation and Reporting

If approved by the Executive Administrator, the application of a MAG peak factor will be performed by the TWDB only within DB27. A copy of the MAG peak factor approval letter as well as documentation of variance request process should be included in the Technical Memorandum, IPP, and final adopted RWP.

The MAG peak factor volumes will be used as the planning condition in the RWP and basis of analysis in DB27. The unmodified annual MAG volume(s)must also be reported in the Technical Memorandum, IPP, and final adopted RWP.

2.3.6 Calculating existing supplies

To be considered an existing water supply, the supply must not only be legally accessible but must also be physically connected to the end user, or WUG, meaning that it currently has infrastructure for conveying the water to the WUG or it is anticipated that the WUG will have access by the conclusion of the current planning cycle (i.e., by 2026). All existing water supplies must be directly associated with one or more water sources.

The determination of existing water supply is an entity-based analysis, the results of which are limited by

1. the portion of each water source that could be immediately accessed for supply by a WUG or WWPs in the event of drought;
2. legal or policy constraints regarding access to the water (e.g., by contract, groundwater permit, or water right); and,
3. physical constraints such as transmission or treatment facility capacities that would limit the volume of delivery of treated supplies to WUG s or WWPs.

The sum of the WUG or WWP existing water supplies associated with a particular source may not exceed the total availability for that same source. Annual water availability volumes associated with a water source may not be counted more than once as the basis for an existing water supply. Over-allocation of any water source availability in an RWP is strictly prohibited under this guidance.

Calculation of existing water supplies must consider and be based on the following sources and general criteria, as well as specific criteria for surface water, groundwater, and reuse supplies as described below.

General criteria and sources of existing supply

1. Existing water supplies must be based on water that is available in every year throughout a drought of record. For example, interruptible permit volumes based on TCEQ's 75%/75% criteria would not automatically qualify as a supply that is available during a drought of record, except for that lesser portion of the water volume that might be anticipated to be present and reliable throughout the specified drought conditions. Interruptible supply volumes that are not anticipated to be

available during drought of record conditions may not be included in an RWP as the basis for an existing supply.

2. Sources of existing water supplies that may include surface waters such as reservoirs and rivers, groundwater, reuse water, and/or a combination of several different sources used conjunctively including desalinated sources.
3. Existing water rights, permits, surface water storage rights, contracts and option agreements, and/or other planning and water supply studies.
4. Contracted agreements and associated terms of contracts will be assumed to renew upon a contract's termination date if contract holders contemplate renewals or extension or if the contract provides for renewal or extensions.
5. For contracts already in existence, if infrastructure also exists to deliver the water, then the full volume must be shown as existing supply in the earliest planning decade. Existing water supplies should not be underrepresented in early decades and increased over time simply based on expected demand increases if the full amount would be accessible in earlier decades.
6. Net water volume delivered to the WUG after transmission losses.
7. Net water that a WUG will have in order to meet its own WUG demands (i.e., gross volume of water minus water the WUG must provide to other entities).
8. The assumption that all existing water supply, transmission, and treatment infrastructure will be adequately maintained, rehabilitated, or replaced as a part of regular operation and maintenance into the future to maintain existing water supplies.[18]
9. An identified water need may not be based on the assumption or expectation that existing infrastructure will not continue in service or that associated water supplies will no longer be available in the future as a result of neglect or lack of maintenance of infrastructure.[19]
10. The assumption for existing supplies in future decades – that current infrastructure for existing water supplies does not change through time (but is adequately maintained). [20]
11. The current infrastructure capacity, excluding internal water distribution systems. This capacity must be considered in order to determine how much water may be transported, treated, and delivered to the intake of the WUG's distribution system**.** This may include physical limitations associated with the horizontal location and/or elevation of a provider's intake facility within a reservoir, for example, or the depth of an existing well.

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[18] An exception would be that it should not necessarily be assumed that reservoirs would be dredged to remove silt as a regular operation and maintenance item. If anticipated, future dredging of a reservoir should be shown as a WMS.

[19] Planned decommissioning of WTPs that will be replaced, for example, should not be considered the basis for an 'identified water need'; however, an additional new or expanded WTP that will increase the amount of water supply available to meet a WUG(s) need would be a WMS.

[20] An exception would be the large-scale project in response to a significant water-loss-audit-identified infrastructure system water loss, such as large-scale distribution pipeline replacements and/or largescale advanced meter replacements; this type of project would increase the current volume of an existing supply by capturing water that is currently being lost from the system and may be a recommended WMS in the RWP.

12. The ability to make minor operational changes that are not strictly precluded by a physical or legal constraint. For example, the supply associated with a decision to turn on a groundwater pump, would be considered as part of an existing supply, not a WMS, if the pump is already installed in the existing groundwater well and is accessible to the user. Note that an identified water need may not be based on an assumption or expectation that a current existing water supply, either at the WWP or WUG level, is simply not used even though it could be used in the event of drought.
13. Consideration of the current and future water quality of the source.
14. Consideration of information from the previous RWPs.
15. RWPGs must strive to identify firm local water supplies. Local surface water supplies must be estimated during drought conditions using the best available methods and data, and local groundwater supplies must be based on RWPG-estimated groundwater availabilities during drought conditions and may be included with a description of the source. Local supplies may not be associated with municipal users, including county-other.

Surface Water criteria

1. The greatest annual volume of surface water obtainable from the source without violating the most restrictive physical and/or regulatory conditions, including infrastructure, under drought of record conditions.
2. Evaluation of existing run-of-river surface water available for municipal WUGs during drought of record conditions must be based on the minimum monthly diversion amounts that are available 100 percent of the time, if those run of river supplies are the only supply for the municipal WUG. Run-of-river firm diversion means that the use-appropriate monthly percentage of the annual firm diversion must be satisfied in each and every month of the simulation period for all surface water diversions. This is not a "minimum annual diversion" in which one or more months might have no authorized diversions at all.
3. Existing supplies from run-of-river diversions must be based on the county-basin location of the diversion point and associated use.
4. Evaluation of existing stored surface water accessible during drought of record conditions must be based on firm yield. The analysis may be based on justified operational procedures other than firm yield with Executive Administrator written approval through the hydrologic variance process.
5. If appropriate, evaluation of existing run-of-river supply during drought of record conditions may be based on the minimum annual diversion or minimum annual supply for non-municipal WUGs and for municipal WUGs with multiple supply sources. This minimum annual diversion is defined as the lowest annual summation of the monthly diversions reported by the WAM over the simulation period. Lowest annual summation is the calendar year within the simulation that represents the lowest diversion available.

Groundwater criteria

1. The greatest annual volume of groundwater that can be withdrawn from an aquifer without violating the most restrictive physical and/or regulatory conditions,

including infrastructure, and limiting these withdrawals appropriately under drought conditions. Regulatory conditions refer to limits on water withdrawals imposed by GCDs.

2. An RWPG may not set existing groundwater supplies equal to demands just for convenience. If an RWPG determines groundwater supply volumes are appropriate to equal demand values, then they must provide justification within the RWP. If an existing groundwater supply (and the underlying associated availability) is sufficient to meet a growing demand through 2080, then the 2030 existing groundwater supply must reflect the full 2080 existing supply if the infrastructure and rights to the water already exist in 2030 that will meet 2080 demands. The allocation of available groundwater to be used as WUG existing supplies, however, may be adjusted to adhere to MAG limits or other limits, as necessary.

Reuse criteria

1. RWPGs must classify existing reuse water supplies as either direct or indirect, including wither they are direct potable. Existing reuse supplies are those that do not require a new WMS to use.
2. For direct reuse, RWPGs must base their drought of record existing direct reuse analyses on currently installed wastewater reclamation infrastructure and the amount of wastewater anticipated to be treated at the WWTP, based on associated decade populations/demands. These amounts may not exceed the amounts of water available to utilities generating the wastewater.
3. For indirect reuse, RWPGs must base their drought of record existing indirect reuse analyses on currently installed wastewater treatment infrastructure; currently permitted wastewater discharge amounts; and the amount of wastewater anticipated to be treated at the WWTP, based on associated decade populations/demands. These amounts may not exceed the amounts of water available to utilities generating the wastewater. [21]

Additional reporting requirements for existing supply

The following items must also be presented in the IPP and final adopted RWP:

- Water rights which are the basis for surface water existing supply volumes. RWPGs must also submit water rights data to the TWDB electronically using a TWDB provided spreadsheet.[22]
- For local surface water supply, plans must include a single table that lists each local surface water supply with a) an explanation for the basis of the supply itself, and b) the basis for the volume of supply. For unpermitted supplies, list the source as the sum of unpermitted surface water by county-basin split. Any unpermitted local surface water supplies must be listed individually as well with explanation and may be aggregated at the county-basin level when appropriate.

[21] See Contract Exhibit D: *Guidelines for 2026 Regional Water Plan Data Deliverables* for more details on naming indirect reuse sources within DB27 and presented in the RWP.
[22] Although all surface water existing supplies must be based on permitted diversions and storage, RWPGs may aggregate these volumes as appropriate for entering water rights into DB27 and presenting in the RWPs.

- For local supplies, the plan must acknowledge whether the RWPG can confirm if the local supplies are firm. For any local supplies that cannot be confirmed as 'firm' under DOR, the RWP must include a summary of the number of WUGs for which this is true and the total associated volume of water associated with this uncertainty.

2.4 Identification of water needs (Task 4A)

Links to rule and scope of work requirements:

- §357.33: Needs Analysis: Comparison of Water Supplies and Demands
- Scope of work Task 4A: Water Needs Analysis

Guidance:

RWPs must include identified water needs for WUGs and MWPs s. RWPGs must compare projected water demands[23] with existing water supplies for WUGs and WUG customers of WWPs in an RWPA[24] in order to determine whether entities will experience water surpluses or water needs (shortages).

The RWPs are based on planning decades[25] which represent temporal 'snapshots' (e.g. 2040, 2050) representing conditions for that year and the subsequent years prior to the next decade (e.g. 2040 needs must be assumed to carry through 2049). This also means that if a municipal water need is identified for the 2040 decade, a recommended WMS would have to be developed and operating by the year 2040 if it is to meet that water need. Therefore, a WMS that is shown as providing a supply in the 2040 decade is assumed to come online in or prior to the year 2040.

2.4.1 Water user group needs

Water needs of individual WUGs may result from availability limits, infrastructure limitations, or legal limits. Identified water needs may arise within any planning decade for a variety of reasons including, but not limited to

1. water demands that exceed existing water supplies in the first planning decade;
2. increases in water demands that eventually exceed existing water supplies in a later planning decade(s);
3. a foreseeable decline in existing water supply volumes over time for example, due to
    a. the anticipated loss of the use of water wells due to lowered water quality in that geographic area,
    b. anticipated sedimentation in a reservoir, or,
    c. the inability to reach available groundwater supplies using existing wells due to a declining water table.
4. unreliable existing water supplies for example, due to
    a. an intra-year monthly run of river water shortage that occurs, for example, only during summer months; or

[23] developed in accordance with 31 TAC §357.31
[24] developed in accordance with 31 TAC §357.32. WUG analysis is to be performed by the TWDB through DB27.
[25] 31 TAC §357.10(21)

   b. the inability to reach available surface water during drought due to an existing intake elevation or location in a reservoir.
5. the inability to convey available water to an entity; or,
6. a lack of capacity to treat the available water at the entity.

The state water planning database provides numerical calculations of water needs based on data entered by the RWPG into DB27 for each WUG by comparing projected demands and existing water supplies without implementation of any WMSs.

2.4.2 Major water provider needs

RWPGs must aggregate and calculate the surpluses or needs for their identified major water users and report the results in the IPP and final, adopted RWP for MWPs by category of use and planning decade. The TWDB will provide data from DB27, upon request, in support of the RWPG analysis of identifying MWP needs.

2.4.3 Second-tier needs analysis

Once conservation and direct reuse WMSs are identified and recommended by the RWPG, the RWPG will have access to a second-tier water needs analysis DB27 data report to determine any water needs that would remain for each WUG if all recommended conservation and direct reuse strategies were fully implemented. This second-tier needs analysis is a calculation through the state water planning database that will provide additional information that RWPGs may consider when subsequently identifying and recommending additional infrastructure water supply projects. These second-tier needs estimates may be considered when performing technical evaluations of WMSs including anticipated unit costs of water.

The resulting DB27 reports will provide the results for the second-tier needs analysis by WUG and decade. The TWDB will produce data reports from DB27 in support of the RWPG analysis of identifying MWP secondary needs; however, the planning group must calculate the MWP secondary needs and report these in the IPP and final adopted RWP by MWP and decade.

2.4.4 County-other sub-water user group needs

County-other WUGs, which are rural communities and water systems that fall below the municipal WUG thresholds (utilities less than 100 acre-feet/year annual retail sales or rural areas not served by a utility), are represented in the plans as an aggregate for each county. Because of the effects of aggregation, the excess supply of one entity within county-other may hide a need of another entity within the same county and thereby make it difficult to identify the underlying need for water management strategies. If there are anticipated county-other needs, it is important to make sure that the existing water supply of the county-other WUG is not inadvertently overstated, for example, by assuming that the existing water supply of county-other WUGs is equivalent to the entire groundwater availability in that county.

As discussed in Section 2.2.4, planning groups may, at their discretion and subject to their own time and financial resource constraints, present more detailed information on county-

other sub-WUGs in the RWPs (**this discrete level of information will not be eligible to be entered into DB27 due to the database structure)**.

Even though existing water supplies are presented as aggregate volumes for all the public water systems within county-other, the region may have more specific knowledge of a particular sub-WUG's supplies and needs. If the aggregate volume of the county-other WUG obscures the known existing supply shortages of a sub-WUG, that shortage may still be acknowledged in the text of the plan, and projects and strategies may be included in the plan to address the need.

If there is no specific information available as discussed above to reflect needs for sub-WUGs and/or there is knowledge that additional wells, for example will be required, despite an inability to show an explicit water need, the RWPG may still evaluate and recommend WMSs for the county-other WUG. A water need does not have to be identified in order for a county-other WMS to be evaluated and recommended.

2.5 Water management strategies and water management strategy projects (Tasks 5A-5C)

Links to rule and scope of work requirements:

- §357.34: Identification and Evaluation of Potentially Feasible Water Management Strategies and Water Management Strategy Projects
- §357.35: Recommended and Alternative Water Management Strategies and Water Management Strategy Projects
- Scope of work Task 5A: Identification of Potentially Feasible Water Management Strategies
- Scope of work Task 5B: Evaluation and Recommendation of Water Management Strategies and Water Management Strategy Projects
- Scope of work Task 5C: Conservation Recommendations

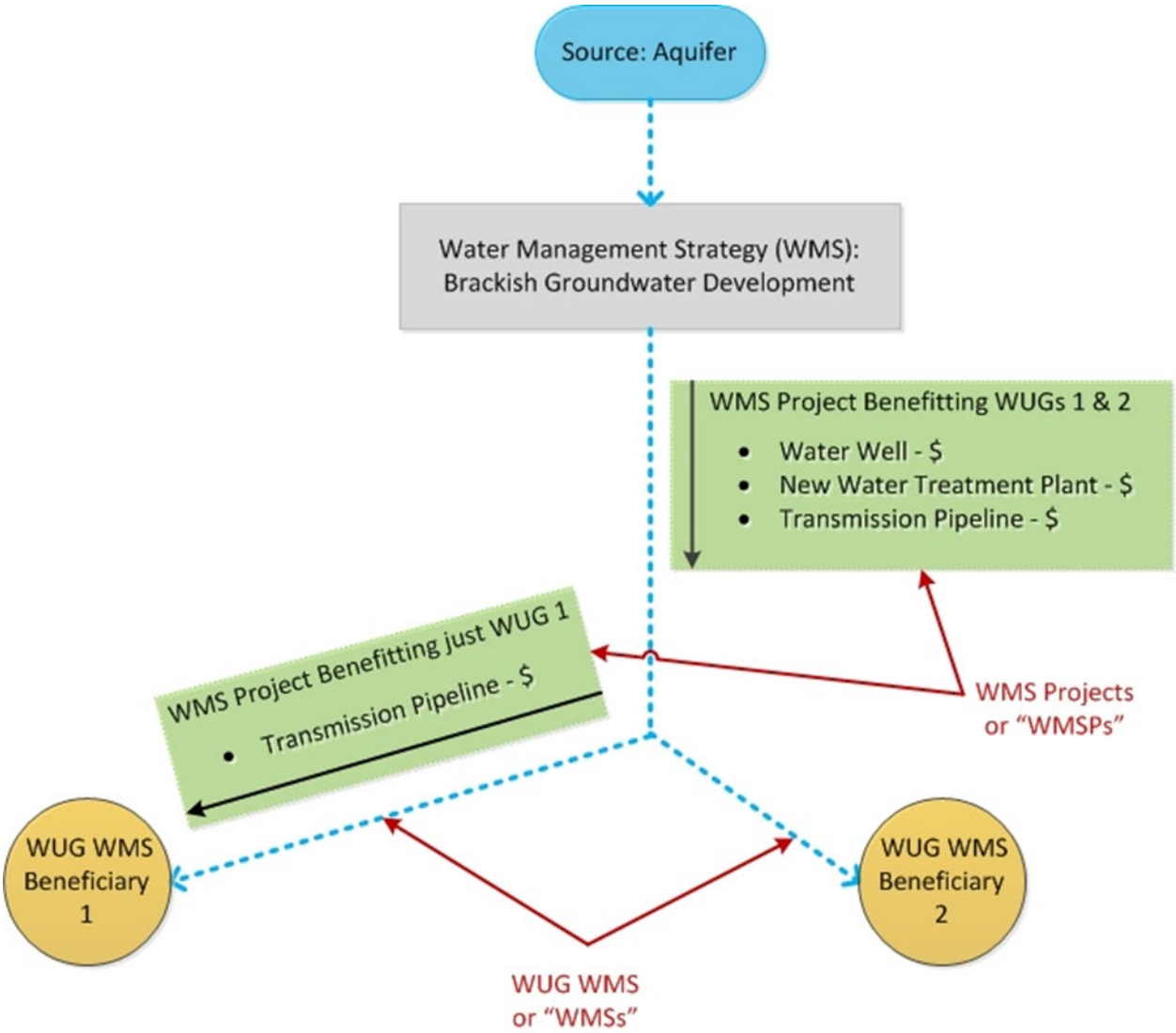
Guidance:

A WMS is a plan to meet an identified need for additional water by an entity, which can mean increasing the total water supply or maximizing an existing supply, including through reducing demands. A water management strategy project (WMSP) is a water project that has a non-zero capital cost and is developed to implement a WMS(s). When a WMSP is implemented, it is intended to develop, deliver, and/or treat additional water supply volumes, or conserve water for an entity(s). A WMS may or may not require the development of an associated WMSP(s) for strategy implementation and one WMSP may be associated with multiple WMSs. See Figure 5.1 for an example of the structure of WMSs and WMSPs.

RWPGs must identify and evaluate potentially feasible WMSs and the associated WMSPs required to implement those strategies for each WUG and WWP where future water supply needs exist (as required by statute and administrative rules 31 TAC §357.34 and §357.35). A need for water is identified when existing water supplies are less than projected water demands for that same WUG or WWP within any planning decade.

Note that retail distribution connection pressurization is a regulatory distribution system requirement not applicable to regional water supply planning, including the identification of water supply needs. Similarly, distribution system daily peaking capacity is not a condition relevant to state water supply planning. The regional and state water plans are based on annual historical dry year use, not short-term system capacity.

Figure 1 – WMS Project Data Structure



2.5.1 Potentially feasible water management strategies

As required by statute and rules (TWC §16.053(e)(5), and 31 TAC §357.34(c)), the RWPGs must consider, but are not limited to considering, the following types of WMSs for all identified water needs:

1. Conservation
2. Drought management
3. Reuse
4. Management of existing water supplies
5. Conjunctive use

6. Acquisition of available existing water supplies
7. Development of new water supplies
8. Developing regional water supply facilities or providing regional management of water supply facilities
9. Developing large-scale desalination facilities for seawater or brackish groundwater that serve local or regional brackish groundwater production zones identified and designated under TWC §16.060(b)(5)[26]
10. Developing large-scale desalination facilities for marine seawater that serve local or regional entities
11. Voluntary transfer of water within the region using, but not limited to, contracts, water marketing, regional water banks, sales, leases, options, subordination agreements, and financing agreements
12. Emergency transfer of water under TWC §11.139
13. Interbasin transfers of surface water
14. System optimization
15. Reallocation of reservoir storage to new uses
16. Enhancements of yields
17. Improvements to water quality
18. New surface water supply
19. New groundwater supply
20. Brush control
21. Precipitation enhancement
22. Aquifer storage and recovery
23. Cancellation of water rights
24. Rainwater harvesting

The Technical Memorandum, IPP, and final adopted RWP must include

1. the documented process used by the RWPG to identify potentially feasible WMS; and,
2. the list or table of all identified WMSs that were considered potentially feasible, to date, for meeting a need in the region per 31 TAC §357.12(b). RWPGs must consider the potentially feasible WMSs listed above. An example template for documenting WMSs considered to meet needs is provided in the 2026 RWP Exhibit C Tables Excel file.

If no potentially feasible WMSs are identified or recommended for an identified water need, then the RWP must document the reason.

In the IPP and final adopted RWP, regions must also identify those potentially feasible WMSs, if any, that, in addition to providing water supply, could potentially provide non-trivial flood mitigation[27] benefits or that might be the best potential candidates for exploring ways that they might be combined with flood mitigation features to leverage planning efforts to achieve potential cost savings or other combined water supply and flood mitigation benefits. The work required to identify these WMSs will be based entirely on a

[26] Note that local or regional brackish groundwater production zones are only relevant to brackish groundwater sources, not seawater.
[27] The implementation of actions, including both structural and non-structural solutions, to reduce flood risk to protect against the loss of life and property (31 TAC §361.10(k)).

high-level, qualitative assessment and should not require modeling or other additional technical analyses.

2.5.2 Water management strategy evaluations

All potentially feasible WMSs and WMSPs identified for the region must be evaluated in accordance with 31 TAC §357.34 and meet the requirements in this document. This includes a quantitative reporting for each WMS of the net quantity, reliability, cost, and impacts on environmental factors and agricultural resources.

This information must be included in Chapter 5 of the IPP and final adopted RWP along with additional narrative description and other relevant materials and documentation associated with the identification of potentially feasible WMSs considered for the region.

As necessary, RWPGs must update or redevelop any previous WMS or WMSP evaluations (e.g., developed as part of previous RWPs) to address the following:

- Meet current rule and guidance requirements
- Reflect changed physical or socioeconomic conditions that have since occurred
- Reflect changes in water project configurations or conditions
- Consider newly identified WUGs or WWPs
- Reflect more recent or updated costs
- Reflect more recent information related to potential impacts to natural or agricultural resources
- Accommodate changes in identified water needs
- Any other relevant changes that require modifying or replacing a WMS

For all WMSs and WMSPs previously identified in the 2021 RWPs and being considered for inclusion in the 2026 RWPs, RWPGs must develop and/or update financial costs using the most current version of the WMSP costing tool provided by the TWDB. For remaining evaluation criteria, each RWPG must determine the degree to which conditions have changed or new information has become available and update the WMS and WMSP evaluations accordingly.

Existing water rights, water contracts, and option agreements must be protected, although amendments to these may be recommended realizing that consent of owners would be needed for implementation.

Water management strategy technical evaluations and cost estimate summaries should identify the major facilities or projects related to the strategy, their approximate locations, and their associated capital costs. Project phases, if applicable, should be described and associated volumes and costs presented for each phase.

All recommended WMSs and WMSPs that are entered into DB27 must be designed to reduce the consumption of water; reduce the loss or waste of water; improve the efficiency in the use of water; or develop, deliver, or treat additional water supply volumes to WUGs or WWPs when implemented in at least one planning decade such that additional water is available during drought of record conditions. WMSs that would not produce a measurable

firm yield supply in at least one planning decade may not be a recommended WMS and may not be eligible for funding from the State Water Implementation Fund for Texas (SWIFT). [28]

Any other RWPG recommendations regarding permit modifications, operational changes, and/or other infrastructure that do not provide a firm yield during drought of record conditions must be indicated as such and presented separately in the RWP.

WMS and WMSP data presented in the IPP and final adopted RWP must be structured in a way that is compatible with DB27 as outlined in the TWDB's Contract Exhibit D: *Guidelines for 2026 Regional Water Plan Data Deliverables*. To facilitate public comprehension of the adopted RWPs and the interactive state water plan, the naming conventions for WMSs/WMSPs used in DB27 should also be used in the IPP and final adopted RWP.

Water quantities produced by recommended WMSs and WMSPs must be based on water availability in accordance with Section 2.3. Additionally, WMSs shown as providing a supply in a planning decade, must come online, with a reliable supply, *in or prior to that initial decade year* (31 TAC §357.10(21)). If a WMS is shown as providing supply in the 2040 decade, it must be assumed to come online in or prior to the year 2040.

2.5.2.1 Surface water water management strategies

When evaluating WMSs to determine future water availability associated with surface water to meet identified water needs, RWPGs must adhere to the following requirements:

1. Analyses must be based on firm yield and firm diversion.
2. RWPGs must analyze every WMS using an unmodified TCEQ WAM Run 3 to determine surface water availability and WMS firm yield firm diversion. This analysis reflects conditions under which an associated permit application will be evaluated. Modifications to TCEQ WAM RUN 3 for WMS evaluations require the submittal of a hydrologic variance request and written approval by the TWDB Executive Administrator, as outlined in Section 2.3.5.
3. When the WMS being evaluated (as well as the anticipated permitting process associated with the WMS) is contingent upon a future new water right (including for a new reservoir); a future amendment of an existing water right; a proposed subordination agreement; and/or a proposed new use of return flows, the TCEQ WAM Run 3 may be modified only to the degree required to allow the simulation of such a WMS[29]. The resulting modified WAM, however, may not then be used as the basis for evaluating other additional WMSs unless they are anticipated to be implemented in combination.
4. Analyses must be in accordance with environmental flow standards adopted in TCEQ's 30 TAC Chapter 298 rules or, if there are no TCEQ environmental flow standards, other relevant limitations (e.g., pass-throughs required by the 1997 Consensus Criteria for Environmental Flow Needs. Note that TCEQ has not added the Chapter 298 environmental flow standards to all WAMs for basins with adopted standards. In some basins, the RWPG may have to add the relevant Chapter 298

[28] 31 TAC §357.34(d)

[29] Any such modifications are subject to written approval from the Executive Administrator, as outlined in Section 3.6

environmental flow standards to the WAM to evaluate a WMS. The RWPG must document what steps were taken to account for environmental flows.

5. RWPs must clearly indicate which, if any, WMSs are assumed to rely on or to mutually exclude another WMS(s) and explain how the interaction may impact both the estimated future water availability and the future water supply associated with each WMS.
6. Consideration that water needs resulting from non-firm run of river supplies resulting from intra-year shortages might be met in some cases, for example, by a recommended WMS that adds an amount of off-channel storage sufficient to increase the firm diversion amount (i.e., to "firm up" the associated water supply in all months and in all years).
7. Conjunctive WMSs (i.e., using a combination of surface water, groundwater, and/or reuse) must have an overall firm supply as a WMS project but may be associated with less than firm surface water volumes during certain periods as long as the groundwater availability (or reuse availability) offsets the surface water availability sufficiently to ensure a firm WMS project yield.
8. A portion of a reservoir's firm yield that is unpermitted, if any, may not be shown as a currently accessible existing water supply from that source. However, RWPGs may evaluate and include a WMS to amend the reservoir's permit to authorize use of the additional firm yield to create new supply.
9. If there are factors that could potentially limit the firm yield/firm diversion of a WMS that are not reflected in the applicable TCEQ WAM RUN3 and that the RWPG considers significant to a recommended WMS, RWPGs may consider validating the WMS firm yield through the underlying WAM(s) that was used to evaluate existing surface water availability as referenced in Section 2.3.1. This does not include applying the same assumptions to the WMS being validated (e.g., safe yield procedures used to evaluate existing availability would not have to be applied to a WMS's new reservoir(s)). This analysis may be performed to confirm that a WMS being recommended could be reasonably expected to provide the estimated supply under the same drought conditions on which existing water supplies were evaluated. If considered appropriate by the RWPG, this validation could be the basis for reducing an estimated WMS firm yield but may not be used as the basis for increasing a WMS firm yield above that determined using an unmodified TCEQ WAM RUN3. This validation, if applied, is intended to provide a conservative measure to ensure that future WMS supplies are not over-estimated for drought planning purposes.
10. As described in Section 2.3.2, potential future operation of multiple reservoirs as a new system, or changes to current operational procedures for existing reservoir systems, for the purpose of providing additional yield may be evaluated as a potential WMS. Such a WMS analysis must adequately describe methods used to calculate these future system gains (to be permitted) and include discussion regarding any associated permit changes that would be required.

2.5.2.2 Groundwater water management strategies

Groundwater WMS supply volumes, including those for desalinization WMSs, must be within the availability of the associated groundwater volumes available in the project location.

For planning purposes, future groundwater availability cannot be increased by implementing water management strategies other than aquifer recharge-type projects. Groundwater availability may increase or decrease in the future, typically through changes in groundwater management policy (revised DFCs) or improvements in technical evaluation approaches (new or updated groundwater availability models). Groundwater availability may also increase with the identification of brackish groundwater production zones not previously accounted for in a MAG.

When evaluating WMSs associated with groundwater to meet identified water needs, a future groundwater WMS would utilize that portion of an aquifer's groundwater availability that would require new or additional infrastructure and/or new permits in order to withdraw that water.

RWPGs must consider opportunities for, and the benefits of, developing WMSs for large-scale brackish groundwater desalination facilities that could utilize local or regional brackish groundwater production zones, where brackish groundwater is defined for regional water planning purposes as a total dissolved solid (TDS) concentration typically between 1,000 and 10,000 milligrams per liter (mg/L).[30]

TWDB's website[31] includes information on designated brackish groundwater production zones (BGPZ), including shapefiles, maps, data, and reports. These resources are available to planning groups to assist in their consideration of developing brackish supplies.

For BGPZs that overlap a MAG, the groundwater source record in DB27 will be labeled to note this. For BGPZs that do not overlap a MAG, a new source request would need to be approved by TWDB in order to utilize the BGPZ for a WMS. Such source request would need to include, at minimum, the latitude and longitude of the proposed WMS, the BGPZ, the aquifer formation, the proposed brackish availability for the WMS, and the methodology used to determine local availability.

Overallocation of annual groundwater availability is strictly prohibited. TWDB will review IPPs and final adopted RWPs to ensure that annual groundwater availability is not exceeded or "overdrafted" during any decade or for any discrete geographic-aquifer unit by existing supplies and/or future WMS supplies. WMSs that would require temporarily pumping groundwater in excess of a MAG may not be included in an RWP, unless a written hydrologic variance request for a MAG Peak Factor that would accommodate temporary increases in existing annual availability for planning purposes is approved in writing by the EA. See Section 2.3.5.2 for more information on the hydrologic variance process. Additionally, in instances where more than a single WUG and/or WWP seek to include recommended groundwater based WMSs that, when combined, would exceed the annual

[30] Related to 84(R), HB 30 requirements.
[31] https://www.twdb.texas.gov/groundwater/bracs/HB30.asp

groundwater availability the affected RWPG(s) may not include these recommended WMSs simultaneously in the RWP(s).[32]

2.5.2.3 Reuse water management strategies

This same population-dependent concept described for reuse availability and supplies in Section 2.3.3 would hold true for determining future WMS decadal reuse availabilities and can include new capacity from additional strategy WWTP infrastructure.

RWPGs must evaluate potential future sources of direct and/or indirect reuse that will require new permits and additional reclamation infrastructure as WMSs and must provide adequate justification to explain methods for estimating the amount of future direct and/or indirect reuse water available from such sources, including consideration of the population/demand projections for each decade associated with the WMS.

Just as for existing reuse, future reuse availability may not exceed the capacity of the future infrastructure to provide wastewater effluent for potential use. To avoid overestimating availability, the future reuse volume will also be dependent upon the WMSP online decade population/demand projections that would determine the amount of anticipated wastewater flowing into a WWTP on an annual basis. This population-dependent availability would be less than a future WWTP's maximum permit capacity and would increase each future decade (as population/demand projections increase) up to the annual volume restricted by infrastructure and/or permit (i.e., WWTP inflow projections would be a more stringent restriction for reuse availability in early planning decades).

RWPGs must provide adequate justification to explain methods used to estimate the future indirect reuse availability and supply generated, including consideration of the population/demand projections for each decade associated with the WMS.

Direct reuse WMS infrastructure components that are eligible to be included in the RWPs are further specified in Section 2.5.2.12.

2.5.2.4 Aquifer storage and recovery water management strategies

Strategy yields

ASR WMS evaluations must also report the expected percent of recovery for the ASR projects and must present that expected, lesser volume as the net water supply yield for the project. This may be presented as a range of recovery over time, if applicable. Some amount of mixing occurs between the injected water and the native water in all ASR projects and the recovery of injected water increases after each injection cycle as a buffer zone between the injected water and the native groundwater is developed. The number of cycles needed to create this buffer zone is dependent on the physical characteristics of the aquifer and the groundwater geochemistry. In general, recovery typically ranges from 70 to 90 percent for ASR systems, but this is site-specific parameters and can vary. The most ideal ASR projects are placed in confined aquifers composed of clean sandstone, which will usually allow for higher rates of recovery (greater than 90 percent). Projects may also be in

[32] Applies both intra-regionally and inter-regionally. Competing project supply volumes may be prorated, for example.

other types of aquifers which are common in Texas. Carbonate aquifers, for example, generally contain fractures and cave features that may result in the loss of stored water. Recovery rates in carbonate aquifers are generally lower (70 percent).

ASR assessments for significant identified water needs

In accordance with HB807 86th Legislative Session, *"if a RWPA has significant identified water needs, [the RWP shall provide] a specific assessment of the potential for aquifer storage and recovery projects to meet those needs."*

The threshold(s) for "significant" identified water needs are to be defined by the RWPG; and the RWPGs must articulate in their RWP how they determined the threshold of significant water needs for this requirement and which entities met this threshold.

If an RWPG determines that water needs are significant, the RWPG must assess ASR as an option for meeting those needs. This assessment may be include consideration of the TWDB's Statewide Survey of ASR and AR Suitability interactive web map[33]. This tool may be used to assist in identifying a geographic area(s) relative suitability (most, moderately, and less suitable) for ASR project development. The final ASR suitability rating(s) are based on three screenings: hydrogeological characteristics, excess water, and water needs. The tool can also be used to examining these screenings independently[34].

Links to the TWDB's available and relevant information on ASR for the RWPGs to consider in this effort is provided in Section 3.

2.5.2.5 Conservation water management strategies

Municipal conservation

Active water conservation strategies are those that conserve water over and beyond what would happen anyway as result of passive water conservation measures that stem from federal and state legislation requiring more efficient plumbing fixtures in new building construction or replacement.

When evaluating and recommending WMSs and WMSPs, each RWPG **must include** active water conservation measures for WUGs with identified needs to which TWC §11.1271[35] and TWC §13.146[36] apply. Water conservation measures are defined in 31 TAC §357.10(36) as practices, techniques, programs, and technologies that will protect water resources, reduce the consumption of water, reduce the loss or waste of water, or improve

[33] https://twdb-wsc.maps.arcgis.com/apps/webappviewer/index.html?id=50d9b795672243d387cef438f7c62311

[34] The hydrogeological parameters screening identifies the aquifer with the most suitable physical characteristics for an ASR project. The excess water screening identifies potential sources of water that can be used as an injectate. The water needs screening identifies geographic area(s) with a municipal, industrial, or steam electric need for water supply. The water needs screening is limited to data that is available with a definitive geographic location within the statewide survey's grid. Additional needs may be able to be identified on a site-to-site basis.

[35] Relating to Additional Requirements: Water Conservation Plans: https://statutes.capitol.texas.gov/Docs/WA/htm/WA.11.htm

[36] Relating to Water Conservation Plans: https://statutes.capitol.texas.gov/Docs/WA/htm/WA.13.htm

the efficiency in the use of water that may be presented as Water Management Strategies, so that a water supply is made available for future or alternative uses.

For planning purposes, Water Conservation Measures do not include reservoirs, aquifer storage and recovery, or other types of projects that develop new water supplies. These measures must be consistent with the minimum requirements in TCEQ's administrative rules 30 TAC §288.2 [37], including water use reduction and water loss mitigation. The measures may be included in the plan as a conservation WMS. TWDB will provide information for WUGs that submit conservation plans in accordance with these statutory requirements and TWDB administrative rules 31 TAC §363.15 (related to Required Water Conservation Plan) and their associated targets, goals, BMPs, and water loss information for RWPG use in developing water use reduction and water loss mitigation strategies for these WUGs.

Each RWPG must also

1. consider active water conservation measures for WUGs and WWP WUG customers with identified needs;
2. consider WMSs to address any issues identified in the information provided by the TWDB from the water loss audits performed by retail public utilities pursuant to 31 TAC §357.34(i)(2)(D); and
3. separate conservation strategies and their projects into either a *Conservation – water loss mitigation* or *Conservation – water use reduction* WMS type[38].

If TWC §11.085(l) applies to a proposed IBT, the RWPG must

1. include a water conservation WMS that includes water conservation measures at the highest practicable level of water conservation and efficiency achievable[39] (includes existing conservation as well as that proposed within a WMS) for each WUG or WWP WUG customer that is recommended to rely on a WMS involving the IBT; [40] and
2. present recommended conservation WMSs associated with an IBT WMS analysis by WUG and WWP WUG customers. Recommended conservation WMS information will be tabulated in a DB27 generated standardized report for each WUG with an associated recommended WMS that requires an IBT.

Best Management Practices identified by the state's Water Conservation Advisory Council and other information for consideration, including the Statewide Water Conservation Quantification Project and the Municipal Water Conservation Planning Tool, may be found on the TWDB website[41]. Please note that planning data included in the Municipal Water

[37] Relating to Water Conservation Plans for Municipal Uses by Public Water Suppliers: https://texreg.sos.state.tx.us/public/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=30&pt=1&ch=288&rl=2

[38] Additional guidance including examples of the conservation WMS types will be provided in TWDB's Contract Exhibit D: *Guidelines for 2026 Regional Water Plan Data Deliverables*

[39] 31 TAC §357.34(i)(2)(c)

[40] WMSs that require an IBT under TWC §11.085 should indicate this.

[41] http://www.twdb.texas.gov/conservation/index.asp

Conservation Planning Tool is not currently up to date, however the tool may be used to determine savings from implementing certain water conservation strategies.

Agricultural conservation

Resources to assist with developing agricultural conservation WMSs are included in Section 3.1.4.

2.5.2.6 Drought management water management strategies

For regional water planning purposes, drought management strategies are temporary demand management measures that reduce water use during times of drought by restricting normal economic and domestic activities.

RWPGs must document the consideration of drought management measures for all WUGs with identified water needs and must identify and describe drought management measures for each WUG to which TWC §11.1272[42] applies. Drought management measures are defined in 31 TAC §357.10(9) as demand management activities to be implemented during drought that may be evaluated and included as Water Management Strategies. The drought management measures must be consistent with the minimum requirements in TCEQ's administrative rules 30 TAC Chapter 288 Subchapter B[43], including targeted reductions. Drought management WMSs are not required to be recommended, however if the RWPG does not recommend drought management WMSs, the plan must provide documentation in accordance with Section 2.5.2.7. The TWDB will provide a list of entities that submit drought contingency plans in accordance with these statutory requirements for RWPG use in developing drought management measures or strategies for these WUGs.

Examples of how regions developed drought management strategies in past plans include

- reviewing drought triggers and responses in Drought Contingency Plans (DCP) and deferring to the DCP "severe" trigger response goal to estimate drought management water savings or recommending a demand reduction percentage based on a WUG's GPCD if a DCP is unavailable;
- reviewing drought triggers and responses in DCPs and considering individual DCP trigger types and the frequency a trigger might be reached along with a WUG's projected water demands to estimate drought management water savings;
- recommending a standard demand reduction percentage for all applicable WUGs and utilizing the TWDB Drought Management Costing Tool to estimate the associated annual water savings and cost; and
- recommending a percentage of demand reductions for specific wells based on drought management plan triggers.

[42] Relating to Additional Requirement: Drought Contingency Plans for Certain Applicants and Water Right Holders: https://statutes.capitol.texas.gov/Docs/WA/htm/WA.11.htm
[43] Relating to Drought Contingency Plans: https://texreg.sos.state.tx.us/public/readtac$ext.ViewTAC?tac_view=5&ti=30&pt=1&ch=288&sch=B&rl=Y

If, after considering drought management WMSs for each WUG with a need to which TWC §11.1272 does not apply, a RWPG does not select drought management as a WMS for an individual WUG with a need, they must document the reason.

2.5.2.7 Documentation of implementation status and anticipated timeline for certain types of recommended WMSs

Chapter 5 of the IPP and final RWPs must include a **new** sub-section documenting the implementation status of certain WMSs that are recommended in the plan, as listed below.

Each RWP must include this new sub-section in the plan. If no applicable WMSs are recommended by the region, the region must include a statement documenting this within the sub-section.

The implementation status must be provided for the following types of recommended WMSs with any online decade[44]:

- All reservoir strategies (including major and minor reservoirs)
- All seawater desalination strategies
- Direct potable reuse strategies that provide greater than 5,000 acre-feet per year (AFY) of supply in any planning decade
- Brackish groundwater strategies that provide greater than 10,000 AFY of supply in any planning decade
- Aquifer storage and recovery strategies that provide greater than 10,000 AFY in any decade
- All water transfers from out of state
- Any other innovative technology projects the RWPG considers appropriate

The subsection must be clearly labeled and include the following items:

1. A table documenting the status of key milestones such as when the sponsor took an affirmative vote or other action to make expenditures necessary to construct or file applications for permits, state water right, diversion, or discharge permit status, federal 404 permit status, planning, design, and construction status, and expenditures to date. A WMS status table template to collect this information is included in the 2026 RWP Exhibit C Tables Excel file. **Planning groups are required to utilize the template for this subsection.**
2. A simple, graphic, showing the full planning horizon, and displaying separate timeline/schedules for each project (per above list) that includes major anticipated/estimated, future implementation milestones (e.g., feasibility, design, permitting, acquisition) and construction milestones (e.g., anticipated start and completion dates) either graphically as timeframe periods (e.g., Gantt bars) or as single milestones representing estimated end-dates of key activities (e.g., issuance target date of 404 permit or water right), as well as those milestones already achieved.

[44] The list of WMS types is updated based on House Bill 1565, 88th Texas Legislature.

The sub-section must demonstrate the feasibility, based on key milestones achieved and anticipated timing of future milestones, of each recommended strategy to be fully implemented *by the online decade in the regional plan*.

Additional information regarding the anticipated implementation schedule of these projects may be included as an appendix to the plan.

2.5.2.8 Documentation of certain WMS that are not recommended by the RWPG

If the following types of WMSs are not recommended by the RWPG, the RWP must include documentation of why these WMSs were not recommended:

- Conservation WMSs for each WUG with an identified need
- Drought management WMSs for each identified water need
- Aquifer storage and recovery
- Brackish groundwater desalination
- Seawater desalination

The documentation of reasons may be included as shown in the Potentially Feasible WMS template of the 2026 RWP Exhibit C Tables Excel file or elsewhere in the plan document as deemed appropriate by the RWPG.

2.5.2.9 Water management strategy losses

Estimated water losses associated with each WMS must be presented in the IPP and final adopted RWP. Water losses may be presented as a calculated percent water loss included in each strategy evaluation or a range of estimated losses by strategy type.

Technical evaluations may present, for example

1. total intake volumes at the supply source;
2. total net volume delivered to the end water user(s) (e.g., WUG(s));
3. with the difference between (1) & (2) being total water loss (e.g., due to conveyance losses); or,
4. the associated calculated percent water losses for strategies.

2.5.2.10 Impacts and limitations on water management strategies

RWPGs must evaluate the effects of WMSs on the environment by providing a quantitative reporting of the following environmental factors:

1. Environmental water needs
2. Wildlife habitats
3. Cultural resources
4. The effects of upstream development on the bays, estuaries, and arms of the gulf of Mexico

WMS evaluations must also include the following:

- Quantitative reporting of impacts to agricultural resources
- Other factors as deemed relevant by the RWPG including recreational impacts

These evaluations may be in a variety of forms, including a cumulative analysis of all recommended WMSs in the plan. RWPGs must document an overall methodology for evaluating impacts. Illustrative examples of quantification from previous planning cycles have included

1. project-specific acreages impacted for agricultural resources and wildlife habitats;
2. quantified ranges of acreage correlating to qualitative impact descriptions (e.g. low, medium, high);
3. degree of impacts on the reduction or increase in instream flows or bays and estuaries;
4. flow frequency curve comparisons;
5. well hydrographs of anticipated pumping;
6. percent attainment of freshwater inflow targets (annual and monthly) under different scenarios; and,
7. monthly median freshwater inflows comparisons.

For environmental flows and incorporating appropriate limitations on WMS yields, RWPGs must, in the following order

1. follow environmental flows standards in TCEQ 30 TAC Chapter 298 rules[45]; or, in the absence of these flow standards;
2. use site specific studies when available; or, in the absence of these studies; or,
3. apply the *1997 Consensus Criteria for Environmental Flow Needs.* [46]

This will be done in order to evaluate WMSs involving surface water development requiring permits from the TCEQ, including limitations to firm yield associated with releases or pass-throughs based on these criteria.

Please note that TCEQ has not added the Chapter 298 environmental flow standards to all WAMs for basins with adopted standards. In some basins, the RWPG may have to add the relevant Chapter 298 environmental flow standards to the WAM to evaluate a WMS. The RWPG must document what steps were taken to account for environmental flows.

The 1997 Consensus Criteria were developed through extensive collaboration among scientists and engineers from the state's natural resource agencies including the TWDB, TCEQ, and the TPWD, as well as academic professionals, engineering consultants, and informed members of the public. More specifically, the criteria are multi-stage rules for environmentally safe operation of impoundments and diversions during above normal flow conditions, below normal flow conditions, and during drought of record conditions. Documentation describing the methodology and its application is available online.

2.5.2.11 Recommended water management strategies requiring interbasin transfers

RWPGs recommending water management strategies involving an interbasin transfer must include documentation of consideration of the highest practicable level of water conservation and efficiency achievable, including water conservation strategies for each

[45] http://texreg.sos.state.tx.us/public/readtac$ext.ViewTAC?tac_view=5&ti=30&pt=1&ch=298&sch=A&rl=Y
[46] These consensus criteria can be found in Appendix 2.0 of this guidelines document.

WUG or WWP that is to obtain water from a proposed interbasin transfer to which TWC 11.085 applies (31 TAC §357.34(g)(2)(C).

For these strategies, RWPGs must determine, and report projected water use savings in gallons per capita per day based on its determination of the highest practicable level of water conservation and efficiency achievable. RWPGs must develop conservation strategies based on this determination. RWPGs must seek the input of WUGs and WWPs as to what is the highest practicable level of conservation and efficiency achievable, in their opinion, and take that input into consideration. When developing water conservation strategies, the RWPGs must consider potentially applicable best management practices. Strategy evaluation in accordance with this section must include a quantitative description of the quantity, cost, and reliability of the water estimated to be conserved under the highest practicable level of water conservation and efficiency achievable

The RWPG must also consider and discuss the provisions in TWC §11.085(k)(1) for Interbasin Transfers of Surface Water. At minimum, this consideration must include a summation of Water Needs in the basin of origin and in the receiving basin.

Recommended conservation WMS information will be tabulated in a DB27 generated standardized report for each WUG with an associated recommended WMS that requires an IBT.

2.5.2.12 Financial costs

Cost evaluations for WMSPs must include capital costs, debt service, and annual operating and maintenance expenses over the planning horizon. The TWDB provides a WMSP costing tool that is required to be used by RWPGs (see Section 2.5.2.13)[47]. Reported costs should only include expenses associated with infrastructure needed to convey water from sources and treat water for end user requirements. Reported costs may not include expenses associated with internal distribution networks (e.g., infrastructure beyond treatment plants and major transmission/conveyance facilities). RWPGs must report capital costs and average annual operation and maintenance costs as separate items in DB27[48].

Costs of WMSPs must be prepared and presented separately and discretely for each separate WMSP and may not be aggregated and presented as a single capital cost representing multiple WMSPs that would actually be located in multiple locations and funded by separate sponsors or implemented separately. Each project with a capital cost should have an associated volume of water or annual capacity presented in the plan. RWPGs may not, in general, aggregate multiple facilities into a single cost estimate and then allocate shares of the resulting total cost, for example, pro rata across several entities or locations.

[47] The EA anticipates that this costing tool will either be updated fully for application assumptions and complete construction cost data; or if staff resources are limited, costs will be adjusted using the appropriate Engineering News Record (ENR) cost index.

[48] See the TWDB's Contract Exhibit D: *Guidelines for 2026 Regional Water Plan Data Deliverables* for further information.

Capital costs

Capital costs consist of construction funds and other capital outlays including, but not limited to, costs for engineering, contingencies, financial, legal, administration, environmental permitting and mitigation, land, and interest during construction.

Construction costs, if applicable, must be based on September 2023 price indices for commodities such as cement and steel as reported in the *Engineering News Record (ENR) Construction Cost Index*[49] and include expected construction bid prices for the following types of infrastructure:

1. Pump stations
2. Pipelines
3. Water intakes
4. Water treatment and storage facilities
5. Well fields
6. Relocation of existing infrastructure such as roads and utilities
7. Any other significant construction costs identified by each RWPG

Note that if construction cost estimates are available for some WMSPs based on prior cost estimates that are more detailed than those provided by the WMSP costing tool provided by the TWDB, these more detailed cost estimates may be updated by adjusting them based on the September 2023 price indices for commodities such as cement and steel as reported in the *ENR Construction Cost Index.*

Interest during construction is based on total project costs drawn down at a constant rate per month during a construction period. Interest is the total interest accrued at the end of a construction period using a 3.5 percent annual interest rate less a 0.5 percent rate of return on investment of unspent funds.

If applicable, other capital costs include[50]

1. engineering and feasibility studies, legal assistance, financing, bond counsel, and contingencies (engineering, contingencies, financial, and legal services may be lumped together and estimated as 30 percent of total construction costs for pipeline projects and 35 percent for other facilities unless more detailed project and/or site-specific information is available);
2. permitting and mitigation activities including, but not limited to, those associated with
    a. archeological/historic resources;
    b. environmental analyses and biological assessments;
    c. mitigation activities including: evaluation, land acquisition, implementation, monitoring, financial assurances, and adaptive management; or
    d. other permitting and mitigation costs.
3. land purchase costs not associated with mitigation;

[49] ENR quarterly cost reports can be found at http://www.enr.com
[50] These development costs may vary by project category based on the TWDB WMSP costing tool.

4. easements costs (easement costs for pipelines must include a permanent easement plus a temporary construction easement as well as rights to enter easements for maintenance); and,
5. purchases of water rights.

Note that costs and land areas associated with development of reservoirs, in particular, must be broken out within the aforementioned costing items to show separate lines items for:

1. the land area of the reservoir footprint (conservation pool only) alongside the estimated land purchase cost;
2. mitigation land area and associated estimate of purchase cost; and,
3. construction costs of embankment/dam facilities (separate from transmission facilities).

Debt service

For WMSs other than reservoirs the length of debt service is 20 years unless otherwise justified. For reservoirs, the period is 40 years. Level debt service applies to all projects, and the annual interest rate for project financing is 3.5 percent. Terms of debt service must be reported in the evaluation of each project.

Annual operating and maintenance costs

Operations and maintenance unit costs must be based on the associated quantity of water supplied. Unless more accurate, project-specific data are accessible, RWPGs must calculate annual operating and maintenance costs as 1.0 percent of total estimated construction cost for pipelines, 2.5 percent of estimated construction costs for pump stations, and 1.5 percent of estimated construction costs for dams. Costs must include labor and materials required to maintain projects such as regular repair and/or replacement of equipment. Power costs must be calculated on an annual basis using calculated horsepower input and a power purchase cost of $0.09 per kilowatt hour; however, each RWPG may adjust this figure based on local and regional conditions if they specify and document their reasons. RWPGs must include costs of water if WMSs involve purchases of raw or treated water on an annual basis (e.g. leases of water rights).

At a minimum, annual costs should be presented by debt service, operation and maintenance cost as a percentage of total construction cost, power costs, and cost of purchasing water (if applicable). If precise information on the cost of purchasing water is not available, the plan should include a best estimate (e.g., as a percent markup) or an estimated range of the raw or treated water cost and the water management strategy evaluation can state the average cost is an estimate.

Unit costs of water

The RWP must present the unit costs of the net volume of water anticipated to be delivered to water users (after water losses) in dollars per acre-foot. Unit costs of WMSs must be evaluated, compared, and presented in an 'apples-to-apples' manner. For example, RWPGs should not compare firm yield unit water costs of one reservoir to the safe yield unit water costs of another reservoir within the same river basin when comparing alternatives.

2.5.2.13 WMSP costing tool for regional water planning

The TWDB spreadsheet-based WMSP costing tool, or Uniform Costing Model, will be updated and made available for use by RWPGs and located, along with a user guide, on the TWDB website. This spreadsheet-based costing tool provides a broad set of historical costs linked to costing curves that will be utilized to develop costs for typical elements of water projects (e.g., pump stations, pipelines, and treatment plants). This tool reflects the requirements of these regional water planning guidelines and presents output cost data accordingly. The tool has the flexibility to incorporate a certain amount of local knowledge and project specific data.

In the absence of more accurate and detailed, project-specific cost estimates, RWPGs must utilize this WMSP costing tool for every cost estimate presented in the RWPs, including updating project cost estimates previously developed in the 2021 RWPs. RWPGs must include the costing tool's standardized, automated cost output report for each WMSP evaluated in the IPP and final adopted RWP. If a different format is utilized, the RWPG must apply the data and procedures used in the costing tool and present the resulting output as analogous to the costing tool, for example breaking out capital cost estimates for each project component.

2.5.2.14 Infrastructure/costs that must be included in regional water plans

The WMSP components that are included in RWPs will be limited to the infrastructure and costs that are required to develop and convey increased water supplies from water supply sources and/or to treat the water for the end-user entity. This may include treatment facilities at the end-user entity's delivery point or treatment facilities at a point prior to transmission to the WUG (e.g., at a WWP location). Costs will also include conservation WMSs that have associated infrastructure or other costs (e.g., to address water loss; plumbing retrofits); or WMSs needed to address infrastructure bottlenecks in an existing water supply conveyance system—the removal of which would allow an increase to the water supply volume delivered to an end-user entity.

The types of facilities and associated capital or other costs that may be included in a RWP[51] are directly associated with development of new supplies from new water sources or additional supplies from more efficient use of existing supplies (i.e., conservation), or volumetric increases to existing water supplies delivered to entities. Such strategies include but are not limited to

1. facilities associated with a new water supply (e.g., new reservoir, new well field, intakes, pump stations);
2. water supply storage facilities associated with increasing water supply source yields (e.g., reservoirs, some aquifer storage and recovery facilities);
3. facilities that are required to increase water supply from an existing water supply source (e.g., a new water transmission pipeline from an existing reservoir);

[51] RWPGs must report capital and annual costs through DB27. See the TWDB's Contract Exhibit D: *Guidelines for 2026 Regional Water Plan Data Deliverables* for further information.

4. expansion of existing facilities that are required to accommodate increased supply capacity to treat increased water supply for entities (e.g. water treatment plant capacity expansion);
5. facilities associated with increasing overall water supply yields, for example, by blending new sources of water with existing water sources (e.g., conjunctive use);
6. expanded infrastructure required to fully utilize existing water rights/supplies (e.g. expansion of an undersized raw water intake or expansion of a water treatment plant);
7. new facilities required to obtain water from an existing water source that may be changing (e.g., replacement of a groundwater well in order to obtain water from an existing groundwater supply in an aquifer that is being drawn down below the level of the existing well);
8. infrastructure associated with water (raw or treated) supply transmission lines from WWPs to WUGs;
9. costs associated with conservation WMSs that have identified capital or other costs for the associated decrease in system water use or water losses, including active plumbing retrofit programs; replacement of portions of an existing leaking water transmission or distribution network that results in an immediate, quantifiable increase in water supply; or, meter replacement/SCADA installation that also results in an immediate, quantifiable increase in water savings;
10. costs associated with the increased wastewater/water treatment requirements that are required to meet standards for providing new or additional reuse water supplies; and
11. costs associated with major conveyance lines delivering reuse water from treatment plants to a different WUG delivery points (i.e. industrial facilities).
12. costs of temporary drought management strategies.[52]

Water plans may include only infrastructure costs that are

1. associated with volumetric increases of treated water supplies delivered to WUGs (e.g., up to a water utility's intake or service area), or
2. that would immediately result in more efficient use of existing supplies or in an immediate reduction in water losses.

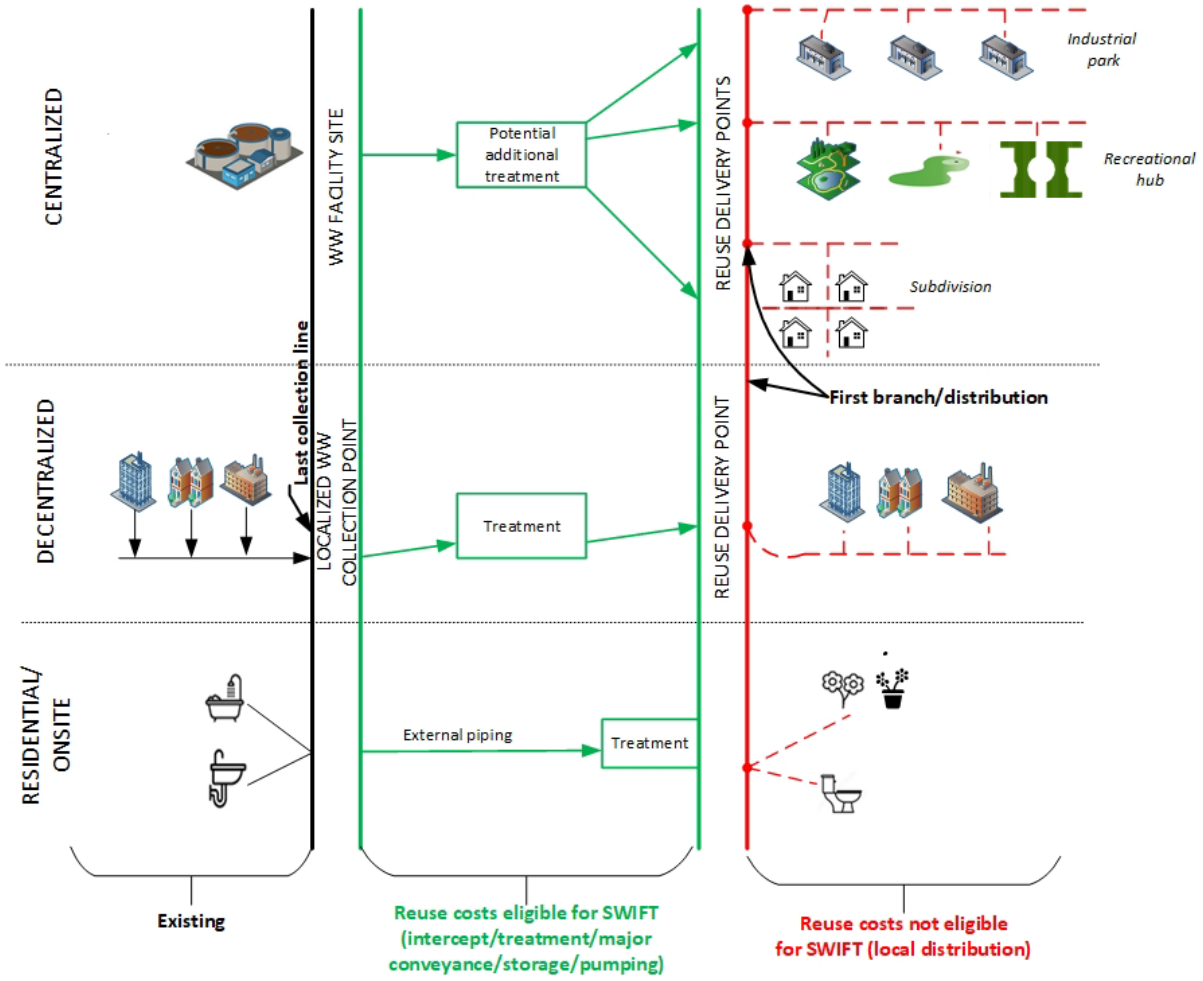
In accordance with 31 TAC §357.34(e)(3)(A), regional and state water plans may not include the cost of distribution of water within a WUG service area.[53] The only exception regarding the inclusion of costs associated with water distribution systems are for direct reuse projects and conservation strategy projects that are in accordance with the following guidance.

[52] Estimated costs of probable economic impacts due to temporary drought management strategy implementation may be presented for WMS evaluation and comparison purposes within technical analyses but may not be included in water plans as a capital cost of the RWP. The TWDB WMSP costing tool includes a temporary drought management strategy component that may be used to estimate economic impacts associated with demand reductions for the purpose of comparing to costs of WMSs.
[53] The reference of distribution system in the section is not equivalent to large-scale transmission projects within the boundaries of collective reporting units.

Direct reuse **(see Figure 2)**

1. Costs associated with major conveyance lines delivering reuse water from treatment plant to/within a WUG's distribution system or subdivision *but prior to submains or branching lines.*
2. Cost of major conveyance line delivering direct reuse supplies to/within a WUG's service area and only **up to** a delivery 'hub' location, prior to submains or branching lines, such as recreational areas (baseball and soccer fields), parks, golf courses, commercial hubs, edge of residential subdivision or new development (but not including distribution service lines to each business or household or fairway).
3. Decentralized reuse costs associated with separate treatment facilities within local/community scale non-wastewater collection, treatment, storage, and pumping that result in the development of new supply (**includes supply development within** the WUG's distribution system).
4. Onsite greywater reuse and onsite stormwater/rainwater harvesting costs that include storage, treatment, and pumping for each system or building.
5. Treatment costs for onsite systems.

Figure 2 – Eligible and Ineligible Reuse Components for inclusion in Regional Water Plans



Conservation - water loss mitigation

1. Costs are associated with metering or other best management practices that will result in immediate reduction in the use of or loss of water; or
2. Costs are associated with replacement of only those portions of water lines in an existing retail water distribution system service area that for the primary purpose of addressing significant, measurable, water loss, and:
    a. the proposed replacement water line(s)is not more than two, standard pipe diameters larger than the existing line proposed to be replaced. For example, replacement of an existing 6-inch water line with a 12-inch line may not be included in the water plan since it is more than 2 diameters larger (i.e., larger than both 8-inch and 10-inch);[54]

[54] For the purposes of state water planning, water line upsizing over two diameters is considered an indication that the primary purpose of the line replacement is to increase the volume of water being delivered rather than reduction of water loss.

b. the proposed water line replacement will provide an immediate, quantifiable increase in water supplies; and,
c. the primary purpose of the project is to achieve water conservation savings.[55]

If the distribution line replacement for the water conservation strategy is subject to adopted utility standard minimum size requirements that exceed two standard pipe diameters, the water management strategy evaluation must note the specific utility standard and include

1. a map of the proposed line replacement; and,
2. detailed water loss calculations before and after the proposed line replacement.

2.5.2.15 Infrastructure/costs that may not be included in regional water plans

If an infrastructure component is not required to increase the treated water supply volume delivered to an entity either as new supply or through demand reduction, then the component and its costs may not be included in the RWP. Types of items and associated cost that may not be incorporated into a RWP include, but are not limited to

1. new facilities associated with internal distribution networks. (e.g., retail distribution within a WUG's system) and that do not convey additional water supply volumes to a WUG;
2. internal distribution facilities prior to sewage collection points (i.e., prior to the last sewer intercept) or after the first reuse delivery point, including those associated with direct reuse water (per 31 TAC §357.34(e)(3)(A)). For direct reuse, internal distribution lines just prior to the first service connection are considered outer distribution lines (sub mainlines or lateral/branching lines) such as individual service lines to individual homes or businesses and may not be included in the regional plan;
3. wastewater collection systems associated with a wastewater treatment plant that provides direct reuse project water;
4. costs associated with outer distribution system components that deliver treated reclaimed water to individual end users for decentralized reuse;
5. costs associated with collection or distribution for onsite systems;
6. water system improvements to address compliance issues related to water quality or water distribution pressure;
7. new wells that are required simply to replace aging wells (i.e., maintenance);
8. maintenance of, or upgrades to, existing equipment or facilities that do not directly increase volumetric water supply (e.g., for improving water treatment processes at existing water treatment plants; replacement of electrical systems; replacement of pumps; or installation of cathodic protection on existing facilities);

[55] Conservation strategies should not be based on potential water savings that are only ancillary benefits of a non-conservation project. For example, replacing existing small diameter water lines with much larger lines to increase delivery of water in a distribution system may often entail a small side-benefit of reducing at least some water losses but is not a sufficient basis for inclusion of the project as a conservation capital cost in a regional water plan. The impracticality of labelling such a project as a conservation strategy may also be indicated by a noticeably higher unit cost of conserved water.

9. preventative measures to protect or maintain dam infrastructure against future water loss or degradation; and,
10. water storage facilities directly associated with retail water distribution networks (e.g., elevated storage tank).

RWPs must not include any strategies or costs that are associated with

1. simply maintaining existing water supplies;
2. replacing existing infrastructure for maintenance or compliance;
3. expanding water distribution system capacity or the distribution network, for example, to address compliance issues related to water quality or water pressure, or to reach new retail development areas;
4. delivering greater volumes of water within the distribution system for the purpose of addressing increased system growth of new retail developments; or
5. delivering greater volumes of water within the distribution system for the purpose of existing or future fire protection.

2.5.3 Allocating water management strategy supplies

A WMS's source will have an availability that will reflect the full drought of record firm yield/firm diversion. The availability associated with a WMS/WMSP must be allocated to WUGs and/or WWPs as future supplies as appropriate, in accordance with the following:

1. Fully allocated to the WUGs and/or WWP WUG customers
2. Partially allocated to WUGs and/or WWP WUG customers and the remainder allocated to entities representing the unassigned water volumes
3. Remain unallocated, by associating the water volumes with an 'unassigned water volume entity' that represents the entity that sponsored the development of the water

For any recommended water management strategies where the strategy supply volume remains 100 percent unallocated to water user groups, the RWPG must explain in the RWP why the strategy is recommended but not assigned to any beneficiaries.

2.5.4 Recommended and alternative water management strategies and water management strategy projects

RWPGs must recommend WMSs separately from WMSPs although they are often interrelated. The IPP and final RWP must include documentation of the RWPGs process for selecting recommended WMSs and WMSPs. This may include for example, the consideration of evaluation matrices in comparison to specific WUG criteria. This information may be presented in flowchart form or a discussion of the assumptions the planning group considers in deciding to recommended a certain WMS or WMSP.

Chapter 5 of the IPP and final RWP must include a table or list of all recommended WMS and WMSPs.

All alternative WMSs must be fully evaluated based on criteria specified in 31 TAC §357.34 & §357.35. Technical evaluations of each alternative WMS must have a generally defined

delivery point for the water. All applicable data associated with the evaluation of alternative WMSs and WMPs must also be entered into DB27.

After RWP adoption, a RWPG may substitute a fully evaluated alternative WMS for a previously recommended WMS, if the previously recommended strategy is no longer feasible if a substitution request to the EA is approved (per 31 TAC §357.51(e)).

2.5.4.1 Management supply factor

The IPP and final adopted RWP must include, for informational purposes only, a TWDB-provided table that presents the calculated management supply factors for each decade and for each WUG, that considers all recommended WMSs. A management supply factor must also be presented individually for each MWP, by decade. The TWDB will provide supporting data from DB27 to assist in the analysis and presentation of management supply factors for MWPs. The management supply factor for a WUG or MWP must be calculated as follows and is for reporting purposes only:

$$MSF = \frac{Ve + Vr}{D}$$

Where:

MSF = management supply factor

Ve = total volume of all decadal existing water supplies associated with a WUG (adjusted if necessary for strategies)

Vr = total volume of all decadal recommended WMS supplies associated with a WUG

D = total identified decadal water demand volume for a WUG to be met by (Ve + Vr)

For example, the management supply factor for a WUG with a projected decadal demand of 10,000 acre-feet/year, a total of 5,600 acre-feet/year existing supplies, and a total of 5,400 acre-feet/year supply from all recommended WMSs would be:

$$MSF = \frac{5{,}600\ AFY + 5{,}400\ AFY}{10{,}000\ AFY} = 1.1$$

WUGs with unmet needs, for example associated with some irrigation demands, will result in management supply factors less than 1.0.

For example:

$$MSF = \frac{5{,}000\ AFY + 1{,}000\ AFY}{10{,}000\ AFY} = 0.6$$

WUGs may be grouped by category and similar management supply factors in a summary format when appropriate. If the management supply factor was predetermined by the RWPG prior to recommending strategies[56], the underlying basis for the magnitude of the management supply factor must be explained in the RWP and may be summarized within the Management Supply Factor Table.

[56] RWPGs are not required to use predetermined management supply factors.

To address uncertainty in the planning and project implementation process over the current planning horizon and/or to address potential water needs beyond the planning horizon, RWPGs may choose to identify and incorporate a predetermined management supply factor (e.g., beyond just meeting identified water needs) for WUGs and MWPs when developing the RWP.

Management supply factors may be used to take into account uncertainties associated with

1. projections of populations,
2. projections of water demands,
3. climate variability,
4. potential droughts more severe than the drought of record,
5. yield of recommended WMSs,
6. permitting or other uncertainties impacting implementation of WMSPs, and/or,
7. other uncertainties.

The RWPG may choose to predetermine appropriate management supply factors as the basis for recommending WMSs that, together, provide water volumes in excess of the identified water needs. RWPGs must provide an explanation for any predetermined management supply factors and may present these factors based, for example, on sizes of water users, types of water use, water availability conditions, types of WMSs, or any other factors the RWPG considers relevant at the project or water user level.

If a RWPG chooses not to predetermine or standardize management supply factors, the management supply factors will simply be reported in the RWP based on the recommended WMSs.

2.5.5 Water conservation subchapter

The IPP and final adopted RWP must include a separate subchapter (in accordance with 31 TAC §357.34(i)(2) & (j)) which must consolidate and present conservation recommendations, including considerations of applicable Best Management Practices appropriate for the region. If applicable, this subchapter must summarize the reason(s) that a conservation WMS(s) was not recommended for each WUG having an identified water need.

It should be noted that water reuse is a unique strategy type separate from conservation. for planning purposes, water conservation measures do not include projects that develop new supplies, such as new reservoirs or aquifer storage and recovery projects[57].

Model conservation plans

RWPGs must include in the RWPs model Water Conservation Plans. Model water conservation plans, (consistent with TWC §11.1271), may be referenced, instead of included in hard copy, in this subchapter by providing internet links. Model water conservation plans developed by the TCEQ may be used for this purpose.

[57] 31 TAC §357.10(34)

GPCD goals

RWPGs must recommend GPCD goal(s) for each municipal WUG or specified groupings of municipal WUGs. Goals must be recommended for each planning decade and may be a specific goal or a range of values. At a minimum, the RWPs must include GPCD goals based on drought conditions to align with guidance principles in §358.3 and document the methodology utilized to establish the goals, including whether total, residential, or planning GPCDs are utilized and recommended.

TWDB will provide a list of municipal WUGs in each RWPG as well as supporting information of historic GPCD estimates, projected GPCDs, and relevant information from conservation annual reports submitted to TWDB to inform their process to set GPCD goals. GPCD goals may be a specific GPCD, or ranges of GPCD; may be based on specific municipal WUGs, or groupings of municipal WUGs as determined appropriate by the RWPG.

Plumbing code savings

Note that water-efficiency savings (plumbing code savings) are incorporated into the underlying municipal demand projections and include the estimated or anticipated savings due to fixture and appliance design specifications in state or federal legislation. Additionally, the base GPCD for the projections would include the effects of any conservation best management practices that the utility had already achieved by the time projections were developed. In the development of municipal conservation WMSs, ensure that the strategies do not double-count the plumbing code savings that are already embedded in the projections.[58] The TWDB will provide a plumbing code savings worksheet to the planning groups of the difference between the base per-person water use for municipal WUGs and the projected GPCD which will include expected savings due to plumbing codes and water-efficient appliances. The savings are to be presented by region, county, and municipal WUG, but it will be up to each RWPG as to how the savings are included in the RWPs.

2.5.6 Developing the scope of work for task 5B

The regional water planning contract budgets include the total funding amount allocated for Task 5B (Evaluation and Recommendation of WMSs and associated WMSPs) but do not include the scope of work (SOW) subtasks for region-specific WMS evaluations. When a RWPG wishes to proceed on any subtask associated with Task 5B, they must submit an adequate subtask SOW for the Task 5B budget allocated to the region. This is required for the region to obtain a written notice-to-proceed from the TWDB that releases the Task 5B funds for expenditure. Task 5B is the only regional water planning contract SOW item that requires a notice-to-proceed.

RWPGs should, in general, develop the proposed SOW for potential WMS evaluations after identifying needs**.**

[58] Water efficiency savings are not incorporated into the demand projections for any other category of water use.

The process to obtain a written notice-to-proceed is as follows[59]:

1. The RWPGs prepare a proposed SOW associated with the Task 5B budget amount, using the template in the 2026 RWP Exhibit C Tables Excel file. The proposed SOW (and supporting materials) and submission of the notice-to-proceed request to the TWDB must be an action item for approval from the RWPG at a regularly-scheduled public meeting in accordance with 31 TAC §357.21(g)(1).
2. The action item(s) should include language to address
    a. approval and authorization to submit the notice-to-proceed scope of work request to the TWDB,
    b. authorization for the consultant and/or RWPG sponsor to work with the TWDB on any follow up information that might be required, and
    c. authorization for the RWPG sponsor to negotiate and execute the subsequent TWDB contract amendment that will be issued.
3. RWPGs should use the Task 5B subtask scope and budget request Excel template provided, which must include enough basic information to allow the TWDB to adequately review the proposed subtask SOW, ensure the associated subtask budget is fully justified, and ensure that all the identified work is eligible under the TWDB's rules and contract. The associated WMSs must have been identified as "potentially feasible" prior to including them in a notice-to-proceed request.
4. The subtask and budget breakdown must be presented in logical increments that allow the RWPG sponsor, RWPG members, and the TWDB to evaluate the proposed SOW and associated work effort. Submissions should not include grouping/aggregations that make it unnecessarily difficult for RWPG sponsor, RWPG members, or the TWDB to judge the amount of associated work, deliverables, or eligibility.
5. General guidelines on acceptable levels of aggregation in the proposed SOW include the following:
    a. WMS groupings for certain types of WMSs may be acceptable for scoping purposes; for example, "Local Groundwater Development." This grouping could represent multiple, smaller, WMSs for multiple WUGs (WUGs), where the WMSs are of a similar scale for each individual WUG. The individual WUGs would need to be identified in the SOW request.
    b. Multiple WMS evaluations of a larger scale and more complex configuration should not be aggregated into a single line item for scoping purposes, for example, an entity's new water supply Capital Improvement Plan for the next 50 years should not be aggregated into a singular WMS, especially if it includes multiple types of strategies.
    c. To assist in determining which WMSs are grouped or scoped individually, the RWPG may wish to set a volumetric threshold, for example, WMSs that provide more than 5,000 acre-feet/year would be scoped individually. The

[59] Schematic showing an overview of the notice-to-proceed process: https://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2026/projectdocs/NTP_ProcessSchematic_2026RWPs.pdf

definition of an appropriate threshold would be based on the discretion of the RWPG and may be relative to the size of the budget.

d. New major water supply development strategies, for example, major reservoirs or major well field development, must be scoped individually.
e. WMS evaluations may be aggregated at the WMS type level, as appropriate, however multiple WMS types should not be aggregated. This means, for example, that scoping for reuse WMSs should not be aggregated with conservation WMS evaluations, or groundwater development WMS evaluations.
f. WMSPs are not expected to be scoped, but if known, they may be discussed in the associated WMS "Scope of Work Write-Up" or "Deliverable" columns of the spreadsheet template, as appropriate.
g. For evaluations limited to updating costs of previously recommended or alternative WMSs and associated WMSPs, it is acceptable to aggregate this work by WMS type.

6. The notice-to-proceed submittal to the TWDB must also include the date on which the RWPG presented its overall methodology for identifying potentially feasible WMSs to the public for comment and the date on which the RWPG approved the methodology. The process for identifying potentially feasible WMSs must be approved prior to the RWPG taking action on a notice-to-proceed request.
7. If the notice-to-proceed request is submitted prior to the RWPG's identification of water needs, the RWPG must also provide an explanation of why the RWPG finds it necessary to start on the associated WMS evaluation(s) before the region's water needs have been identified.
8. RWPGs' must submit the formal notice-to-proceed request to their TWDB Regional Water Planner.
9. TWDB staff will evaluate the notice-to-proceed request, justifications, proposed subtask SOW and budget and, if necessary, request additional information and negotiate with the RWPG to approve a final Task 5B SOW to go with the proposed subtask budget.
10. If the notice-to-proceed request is approved by the TWDB, the TWDB will develop a contract amendment to add the new SOW subtasks under Task 5B and includes a notice-to-proceed. This is processed as a regular contract amendment that will require signature by the TWDB's Executive Administrator and the RWPG's sponsor.
11. Please note that planning groups have the following flexibility:
    a. RWPGs may submit multiple requests for a notice-to-proceed since they may want to begin evaluating some WMSs even though all of the region's needs may not be known for some time. Each notice-to-proceed request requires RWPG approval at a public meeting with opportunity for public input.
    b. RWPGs may wish to leave some of the allocated Task 5B funds out of the proposed subtask SOW budget in order to address potential last-minute changes identified in the planning process, for example, if an entity requests a new WMS to be evaluated late in the cycle.
    c. In past cycles, some RWPGs have developed a small subtask SOW for "Other WMSs" in order to address cases where entities are considering optional WMSs, but detailed information is not yet known at the time of scoping. In

these cases, it would be preferable for the RWPG to scope these subtasks at a later time. If a subtask SOW for "Other WMSs" is approved by the TWDB, the RWPG consultant should brief the RWPG on the proposed work once the details are known, receive approval from the RWPG to perform the evaluation, and report on the scope to be performed to the TWDB in the form of a detailed progress report (this process will not result in an additional SOW amendment). If an "Other WMSs" subtask is proposed, the associated budget should be no more than 10 percent of the total budget allocated to Task 5B and include a justification as to why such a subtask is necessary at this point plan development.

12. RWPG consultants should not perform work on any subtask associated with Task 5B prior to the RWPG taking action to approve the notice-to-proceed request. At the risk that the TWDB does not approve some portion of the proposed subtask SOW, RWPG consultants are permitted to start charging against Task 5B (including standard Task 5B subtasks and region-specific subtasks) from the date the RWPG approved the notice-to-proceed request.
13. The TWDB will not release funds for reimbursement associated with Task 5B until issuance of the written notice-to-proceed.

2.6 Impacts of the regional water plan (Task 6)

Links to rule and scope of work requirements:

- §357.40: Impacts of Regional Water Plan
- §357.41: Consistency with Long-Term Protection of Water Resources, Agricultural Resources, and Natural Resources
- Scope of work Task 6: Impacts of the Regional Water Plan and Consistency with Protection of Resources

Guidance:

RWPGs must describe anticipated various impacts of the RWP including potential impacts on navigation and the socioeconomic impacts of not meeting identified water needs.

2.6.1 Impacts of the regional water plan

Each RWPG must describe how implementing recommended and alternative WMSs may affect each of the following:

1. Agricultural resources
2. Other water resources of the state including other strategies and groundwater and surface water inter-relationships
3. Threats to agricultural and natural resources
4. Third party social and economic impacts resulting from voluntary redistributions of water including analysis of third-party impacts of moving water from rural and agricultural areas
5. Major impacts on key parameters of water quality in Texas. RWPGs should base water quality impacts on parameters important to water uses in each region
6. Effects on navigation

To assist in the reporting of impacts of WMSs on streamflows, RWPGs may use the optional Cumulative Effects of Recommended Strategies Tool or CERST. This Excel-based tool and user guide are available on the TWDB website and provided in Section 3.1.

2.6.2 Consistency with the long-term protection of the state's water, agricultural, and natural resources

The RWPGs must describe how the RWPs are consistent with the long-term protection of Texas' water, agricultural, and natural resources including the requirement that planning analyses and recommendations honor all existing water rights and contracts. Although much of the analyses pertaining to this requirement will be developed for other tasks, including tasks associated with estimating the environmental and water quality impacts of WMSs during WMS evaluation, RWPGs are encouraged to identify the specific resources important to their RWPAs and describe how these resources are specifically protected through the regional water planning process.

2.6.3 Descriptions of unmet municipal needs[60]

The RWPGs must provide a summary of any unmet water needs in the plan and provide adequate justification of any unmet municipal needs that are included in the final adopted RWP. For each municipal WUG with unmet needs, the RWPG must include

1. documentation that all potentially feasible WMS were considered to meet the need, including drought management WMS;
2. explanations as to why additional conservation and/or drought management WMS were not recommended to address the need;
3. descriptions of how, in the event of a repeat of the drought of record, the WUG associated with the unmet need will ensure the public health, safety, and welfare in each planning decade with an unmet need; and,
4. explanation as to whether there may be occasion, prior to the development of the next IPP, to amend the RWP to address all or a portion of the unmet municipal need.

2.6.4 Quantitative description of the socioeconomic impacts of not meeting identified needs

Typically, RWPGs request that the TWDB provide the analysis of the socioeconomic impacts of not meeting a region's identified water needs; however, the RWPGs have the option to perform this task themselves. If the TWDB is requested to perform this analysis for the RWPG, the water needs of the RWPA will need to be identified by a date to be provided, which will allow for the time necessary to conduct and provide the analysis. Due to the ongoing nature of plan development, the water supply needs utilized for the analysis may differ slightly from the identified water supply needs in the final adopted RWP.

[60] 31 TAC §357.50(j)

2.7 Drought response information, activities, and recommendations (Task 7)

Links to rule and scope of work requirements:

- §357.42: Drought Response Information, Activities, and Recommendations
- Scope of work Task 7: Drought Response Information, Activities, and Recommendations

Guidance:

This chapter of the RWP must consolidate existing and/or new information on droughts of record and drought preparations in the region and present a variety of recommendations, if any, developed by the RWPG. The TWDB does not intend to develop a chapter template this cycle, since this is no longer a new chapter, however it is recommended that RWPGs follow the order of this guidance section when developing the drought chapter to ensure all requirements are met.

2.7.1 Drought(s) of record

The RWP must present and summarize information regarding the current drought(s) of record (DOR) for the region and any other relevant sub-regional or basin-specific drought of record periods that impact the existing RWPA water supplies. This summary may include relevant sub-regional, basin-based, and/or sub-basin droughts of record.

The RWP may present information supporting recognition of potential new droughts of record for the region or a sub-region and/or for individual river basins or groundwater resources that impact the RWPA water supplies.

2.7.2 Uncertainty and drought(s) worse than drought of record

RWPs must address water supply needs during a repeat of the drought of record. During plan development, the generated values of planning factors (supplies, demands, population) all have associated ranges of uncertainty. Although the limited regional planning resources may not support evaluating a range of or multiple scenarios and although assessments of the likelihood of droughts potentially worse than the drought of record are not required, RWPGs may choose to consider scenarios and/or qualitatively address uncertainty and DWDOR in their region. These scenarios or qualitative assessments can be used to more explicitly recognize or acknowledge the relative uncertainties in planning factors and the potential risks without necessarily modifying the plan to mitigate those risks.

The known but unquantified uncertainty associated with factors such as projecting population and water demands or hydrologic variability may be considered by RWPGs in the existing water planning framework by the following examples:

1. Utilizing conservative water source yields (e.g., one year safe-yield for planning purposes rather than a firm yield) or statistical assessments, including for evaluating expected near-term water supply based on recent starting reservoir conditions for the near-term decade (2030) water supply estimates

2. Utilizing a management supply (safety) factor of supply development in excess of projected needs. Safety factors have been used to hedge such uncertainties as
    a. reduction of supply available from existing sources in case of a drought more severe than the previous drought of record,
    b. unanticipated population or industrial growth[61] within the region,
    c. delayed development of proposed management strategies,
    d. loss of supplies due to problems with facilities or contamination of sources, or
    e. other methods
3. Including information from water providers in the region that have developed long-range plans to assess their system's capacity under conditions worse than the drought of record, including any projected condition assumptions and expected impacts the utility determined through their studies
4. Quantifying the demand reductions achieved through implementation of drought contingency plans and, even if not a recommended strategy for the regions, presenting the information in the plan as specific measures to implement in the occurrence of a drought worse than the drought of record

Chapter 7 of the RWP must include a separate subsection addressing the following items regarding planning for uncertainty and droughts worse than drought of record (DWDOR):

1. Summarize, in general, how the region incorporated planning for uncertainty in its RWP and the region's basis, or policy, for inclusion. This could include general discussion on planning factors, any drivers of uncertainty associated with those factors, and how the RWPG made planning decisions to acknowledge or address that uncertainty. If the RWP does not include any measures to address uncertainty, this subsection must include a statement to that effect.
2. Summarize, in general, the key assumptions, analyses, strategies, and projects that are already included in the 2026 RWP calculations and recommendations (if applicable) that go beyond just meeting identified water needs anticipated under a DOR (i.e., those things that will provide some additional measure of protection to withstand a DWDOR such as use of safe-yield or inclusion of strategies that provide water volumes in excess of the identified water need, such as management supply factor, etc.). The summary should include describing which water users in the region, in general, are associated with those additional measures of protection (e.g., list of WUGs and WWPs and their associated water supplies to which these assumptions apply). If the RWP does not include any planning measures to address a DWDOR, this subsection must include a statement to that effect.
3. Summarize, in general, the potential additional types of measures and responses, that are not part of the recommendations in the 2026 RWP, but that would likely be available to certain water providers/users in the event of the near-term onset of a DWDOR and that would be capable of providing additional, potential capacity for those water providers and users to withstand a DWDOR (i.e., additional or deeper drought management measures - if not a recommended WMS - that could be employed). The summary should include describing which water providers/users in

[61] November 2014 Drought Preparedness Council recommendation to RWPGs

the region, in general, the additional measures and responses would be associated with (e.g., list of WUGs and WWPs and their associated water supplies to which these assumptions apply). This information may be presented at a high-level as provided in the examples in the table template below. **The RWPGs are not expected to identify conditions that constitute a DWDOR or provide details on potential capacities that would be necessary to plan for a DWDOR.**

To supplement this subsection, regions may use the example template in the 2026 RWP Exhibit C Tables Excel file.

2.7.3 Description of current preparations for drought in the region including unnecessary or counterproductive drought response

The RWP must consolidate and present

1. a description of how water suppliers in the region identify and respond to drought conditions (this may include information from local drought contingency plans); and
2. a summary of drought response efforts that the region has identified as unnecessary or counterproductive.

For the identification of unnecessary or counterproductive drought response strategies, planning groups must review and summarize, at a minimum, efforts for neighboring communities that may confuse the public or impede drought response efforts. This includes for example, differences in the implementation of outdoor watering restrictions.

2.7.4 RWPA drought response triggers & actions

RWPGs must identify existing drought response triggers and actions for existing surface water and groundwater sources on which the region relies. This includes the identification of

1. factors (triggers) specific to each water source to be considered in determining whether to initiate a drought response, and
2. actions to be taken as part of the drought response by the manager (such as water providers, reservoir operators, groundwater conservation districts) of each water source and the entities (self-supplying entities, customers) such as relying on each source, including the number of drought stages.

This information may be based on the review of existing triggers and actions associated with existing Drought Contingency Plans.

If the RWPG is uncertain of the source manager or if there is none, the plan should indicate "NA." The RWPG should report, by source, the triggers that are available. If there are no triggers, the RWPG should report that information as "none." See the 2026 RWP Exhibit C Tables Excel file for an example format.

2.7.5 Existing and potential emergency interconnects[62]

RWPGs must collect and summarize information on existing and potential major water infrastructure facilities that may be used for emergency interconnects. RWPGs may refer to TCEQ's Drinking Water Watch for emergency use data and TWDB will provide any available data from the Water Use Survey.

The RWP must include a general description of the methodology used to collect the emergency interconnect information and present the number of existing and potential emergency interconnects within the RWPA, including a table of who is connected to whom. If there are currently existing infrastructure facilities where a future potential interconnect could be developed in the event of an emergency shortage of water, this should be identified in the interconnect table.

If the RWPG collects additional information regarding the location or description of facilities, this information should be excluded from the plan and may be submitted to the TWDB's Executive Administrator separately and confidentially.

RWPs may also consider providing a general description of local drought contingency plans that involve making emergency connections.

2.7.6 RWPG drought management water management strategies

The RWP must summarize all drought management WMSs that were

1. considered and/or evaluated as potentially feasible (including those not recommended);
2. recommended in the RWP (including the associated triggers for implementing each recommended WMS); and,
3. included in the RWP as alternative WMSs (including the associated triggers for implementing each alternative WMS).

Note that drought management WMS evaluation materials must be included within Chapter 5 of the IPP and final RWP.

2.7.7 Emergency responses to local drought conditions or loss of municipal supply

The RWPGs must evaluate potential emergency responses to local drought conditions or loss of existing water supplies. These must include temporary responses that may or may not require additional temporary and/or permanent infrastructure (e.g., surface-laid pipes; wells). For the purpose of this analysis, it will be assumed that the entities being evaluated have approximately 180 days or less of water supply remaining.

The analysis will be a limited, high-level review to serve as a general indicator of the universe of potential options, or lack thereof, for each municipal entity evaluated. The results are to provide basic guidepost 'arrows' indicating potential solutions that might be considered in the event of local emergency. The information may reveal municipal water users that are most vulnerable in the event of a loss of supply. These screening-level

[62] 31 TAC §357.42(d); TWC §16.053(r) and §16.053(e)(3)(D)

evaluations do not require technical analyses or evaluations in accordance with 31 TAC §357.34 and §357.35 (WMS and WMSP evaluation and recommendation criteria).

RWPGs must evaluate, at a minimum, all municipal WUGs in the region that

1. have 2030 populations less than 7,500 and rely on a sole source[63] for its existing water supply regardless of whether that water is provided by a WWP, and
2. all county-other WUGs, regardless of population or number of sources.

See the 2026 RWP Exhibit C Tables Excel file for an example format.

2.7.8 Other drought-related considerations and recommendations

The RWPG must consider any relevant recommendations from the Drought Preparedness Council.

The RWPGs may also include, as appropriate, additional recommendations regarding

1. any other drought management measures that were recommended by the RWPG (including the associated triggers, if applicable);
2. the State's Drought Preparedness Council and the State Drought Preparedness Plan;
3. the development of, content of, and implementation of drought contingency plans in the region required by the TCEQ;
4. current drought management preparation in the RWPA, including drought triggers and actions; and,
5. any other general recommendations regarding drought management in the region or state.

2.7.9 Development of Region-Specific Model Drought Contingency Plans

The RWPGs must include region-specific model drought contingency plans[64]. Model plans must be consistent with the minimum requirements in 30 TAC Chapter 288, which provides requirements on drought contingency plans for public water suppliers, irrigation use, and WWPs.

The TCEQ requires the following types of water users to prepare and implement drought contingency plans: new water right applicants or water right amendments, retail public water suppliers with 3,300 or more connections, WWPs, and Irrigation Districts and investor-owned or privately-owned water utilities. The TCEQ provides model drought contingency plans for retail public water suppliers, WWPs, and Irrigation Districts on their Drought Contingency Plans website. These plans provided by the TCEQ include guidance on the pertinent information that must be included for plans to meet Chapter 288 requirements.

At a minimum, two model plans must be developed and may be based, for example, on different water use categories, user sizes, and/or types of water source. Model plans for municipal users must address triggers for and responses to severe and critical/emergency

[63] Sole source for an entity is a source-based analysis rather than an analysis of discrete infrastructure (e.g. a well field of 5 wells in a common aquifer is a single source).
[64] 31 TAC §357.42(j)

drought conditions. It is at the discretion of the RWPG on the type of models plans developed but is recommended that RWPGs develop plans that would be of use to the types of water users within the RWPA.

These model plans may be included as an internet hyperlink in the RWP; however, the link provided must be an operational link to the document on the RWPG's or designated political subdivision's website.

2.8 Unique stream segments and reservoir sites and other recommendations (Task 8)

Links to rule and scope of work requirements:

- §357.43: Regulatory, Administrative, or Legislative Recommendations
- Scope of work Task 8: Recommendations Regarding Unique Stream Segments and/or Reservoir Sites and Legislative & Regional Policy Issues

Guidance:

RWPGs may make recommendations for designating river and stream segments of unique ecological value and unique sites for reservoir construction; however, the Texas Legislature is responsible for making the official designations of these sites.

2.8.1 Unique stream segments

RWPGs may recommend all or parts of river and stream segments in their respective regions as having "unique ecological values." To recommend this designation, planning groups must justify the recommendation based on the following criteria:

1. Biological function measured as stream segments displaying significant habitat value including both quantity and quality considering degrees of biodiversity, age, and uniqueness including terrestrial, wetland, aquatic, or estuarine habitats
2. Hydrologic function measured as stream segments fringed by habitats that perform valuable hydrologic functions relating to water quality, flood attenuation, flow stabilization, or groundwater recharge and discharge
3. Riparian conservation areas measured as stream segments fringed by significant areas in public ownership including state and federal refuges, wildlife management areas, preserves, parks, mitigation areas, or other areas held by governmental organizations for conservation purposes, or stream segments fringed by other areas managed for conservation purposes under governmentally approved conservation plans
4. High water quality, exceptional aquatic life, high aesthetic value and spring resources that are significant due to unique or critical habitats and exceptional aquatic life uses dependent on or associated with high water quality
5. Threatened or endangered species and unique communities defined as sites along streams where water development projects would have significant detrimental effects on state or federally listed threatened and endangered species, and sites along streams significant due to the presence of unique, exemplary, or unusually extensive natural communities

RWPGs seeking a designation must forward a recommendation package to the Texas Parks and Wildlife Department, who will in turn provide a written evaluation of the proposal within 30 days. If the planning group is recommending stream segments that were recommended in a previous plan but not designated by the legislature, the recommendation package must be resubmitted to Texas Parks and Wildlife Department for an updated written evaluation. Final adopted RWPs must include the Texas Parks and Wildlife Department's written evaluation.

Recommendation packages must include a physical description giving the location of the stream segment, along with maps, photographs, and documentation with supporting literature and data that characterizes a site's unique ecological value addressing criteria in 31 TAC §357.43(b) and §358.2(6).

If a river or stream segment has been recommended in a previous plan, the planning group may incorporate references of supporting materials developed for the previous plan into the current plan. References must be precise and include a summary of the information presented in the previous plan.

Recommendations regarding unique river or stream segments presented in the RWPs must be specific as to a) which unique river or stream segments have been previously designated by the legislature and b) which are being recommended for designation by the planning group.

If the Texas Legislature designates a stream or river segment as unique; or if a planning group recommends that a stream or river segment be classified as unique, the RWPG must quantitatively assess how recommended water management strategies in the RWP would affect flows deemed important (by the planning group) to the stream or river segment in question. Furthermore, assessments must compare current conditions to conditions with all recommended WMSs implemented and describe how a RWP would affect the unique features and criteria cited by a planning group as the impetus for a legislative designation.

2.8.2 Unique reservoir sites

RWPGs may recommend sites for reservoir construction that have "unique value" based on the following

1. site specific reservoir development is recommended as a specific water management strategy or as a unique reservoir site in a final adopted RWP; or
2. factors such as location, hydrologic, geologic, topographic, water availability, water quality, environmental, cultural, and current development characteristics make a site uniquely suited for either reservoir development to provide water supply for the current planning period, or where it might reasonably be needed to meet water needs beyond the 50-year planning period.

For recommendations regarding unique reservoir sites, the RWP must be specific as to a) which unique reservoir sites have been previously designated by the legislature; b) which are being recommended for designation by the RWPG; and c) whether the RWPG is recommending that the legislature re-designate a previously designated unique reservoir

site. The adopted RWPs must also include a description of the site, reasons for the unique designation, and expected beneficiaries of water supplies developed at a given site.

2.8.3 Other recommendations

RWPs may include any additional regulatory, administrative, or legislative recommendations developed by the planning group including but not limited to the following topics:

- Facilitate the orderly development, management, and conservation of water resources in Texas and to prepare for and respond to drought conditions,
- Achieve the goals of state and regional water planning including ways the planning group believes the state and regional planning process would be improved
- Facilitate more voluntary water transfers in the region
- Information regarding the potential impacts of recommendations enacted into law once proposed changes are in effect

In the development of other recommendations, the RWPGs should consider TWDB feedback on the implementation of the planning group's legislative, administrative, and regulatory recommendations, as applicable to the TWDB, in the previous RWP.

The RWPGs should also consider recommendations from the Interregional Planning Council as directed to the planning groups.

2.9 Implementation and comparison to the previous regional water plan (Task 9)

Links to rule and scope of work requirements:

- §357.45: Implementation and Comparison to Previous Regional Water Plan
- Scope of work Task 9: Implementation and Comparison to Previous Regional Water Plan

Guidance:

2.9.1 Implementation of previous regional water plan[65]

The RWPGs must report the level of implementation and identified, reported implementation impediments to the development of previously recommended WMSs and WMSPs that have affected progress in meeting water needs. The content of this section in the plans will be largely supported by data summaries based on information provided by RWPGs through DB22 during the previous planning cycle.

2.9.1.1 Implementation survey process

Information needed to report on implementation and identified, reported implementation impediments to the development of the previous RWP must be collected through a spreadsheet tool to be provided by the TWDB. The TWDB will provide a tool (spreadsheet based) to the RWPG consultants prior to the IPP submission, and the RWPGs and their

[65] 31 TAC §357.45(a)

technical consultants will be responsible for contacting the project sponsors to ensure completion of the implementation and impediment data.

RWPGs should verify if recommended WMSs and WMSPs were formerly included in the 2021 RWPs.

RWPG members are strongly encouraged to directly participate in eliciting and gathering responses regarding implementation of projects that are associated with the category of entities that they represent on the RWPG.

Additional methods that RWPGs may consider using to identify projects that may potentially have been implemented may include

1. tracking changes since the last plan including:
    a. changes in existing WUG or WWP supplies (e.g., water provider reporting a previously recommended WMS as an existing supply in the 2026 RWP); or
    b. identifying WMSs that are not recommended in latest plan, possibly due to implementation;
2. using TWDB funding records to identify projects (SWIFT, WIF, State Participation, DWSRF, EDAP etc.); and,
3. using conservation implementation reports submitted to the TWDB (i.e., conservation volumes are higher from previous report).

2.9.1.2 Survey content and data format

The TWDB will provide the region specific survey content to each region in an Excel workbook. The survey will consist of the following five (5) questions:

1. Has the sponsor taken affirmative vote or actions? (TWC 16.053(h)(10))
2. What is the status of the WMS project or WMS recommended in the 2022 SWP?
3. If project has not been started or no longer being pursued, please tell us why.
4. Please select one or more project impediments. If an impediment is not listed, provide information in the "Other" text field.
5. What funding types are being used for the project.

All survey questions except item 3 will have pre-defined answers that the RWPG will select from.

RWPGs must include a copy of the final survey results in the final adopted RWP. Results collected to date must also be included in the IPP.

2.9.2 RWPA's progress in achieving economies of scale[66]

RWPs must include an assessment of the region's efforts to encourage cooperation between WUGs for the purpose of achieving economies of scale and incentivizing WMSs that benefit the entire region. The assessment must include

1. the number of recommended WMSs in the 2021 RWP and the number of recommended WMSs in the 2026 RWP that serve more than one WUG,

[66] 31 TAC §357.45(b)

2. the number of recommended WMSs in the 2021 RWP that serve more than one WUG and have been implemented since the 2021 RWP adoption, and
3. a description of the efforts the RWPG has made to encourage WMSs and WMSPs to serve more than one WUG and benefit the entire region.

The TWDB will provide supporting data to assist in this effort.

2.9.3 Comparison to previous regional water plan

The RWP must include a brief summary that shows how the 2026 adopted RWP differs from the previous 2021 RWP. Comparisons must include summary tables and other graphics, as appropriate, that concisely convey the changes between plans. The comparison should also include a brief explanation of the underlying reasons for the changes that occurred regarding each of the items listed below. The 2026 RWP must provide comparisons to the 2021 RWP regarding

1. water demand projections;
2. drought(s) of record and the hydrologic and modeling assumption(s) on which the 2026 plan is based;
3. source water availabilities;
4. existing water supplies of WUGs and WWPs;
5. identified water needs for WUGs and WWPs;
6. recommended and alternative WMSs **and** WMSPs; and
7. any other aspects of the 2026 plan that the RWPG chooses to compare.

2.10 Adoption of plan and public participation (Task 10)

Links to rule and scope of work requirements:

- §357.50: Adoption, Submittal, and Approval of Regional Water Plans
- Scope of work Task 10: Public Participation and Plan Adoption

Guidance:

As required by 31 TAC §357.21, RWPGs must conduct all business in meetings posted and held in accordance with the Texas Open Meetings Act, Texas Government Code Chapter 551, with a copy of all materials presented or discussed available for public inspection prior to and following public meetings. Additional notice requirements referenced in 31 TAC §357.21 must also be followed when applicable.

The RWPGs must adopt RWPs and accommodate public participation in the regional water development process in accordance with administrative rules, the contract, statute, and the planning group's bylaws. The TWDB has published several documents on its website that contain helpful public notice guidance.

This task includes all work required to prepare for and hold meetings and include public input and participation in development of the RWP, including but not limited to

1. holding RWPG meetings;
2. holding committee meetings;
3. holding special meetings;

4. posting public notices;
5. holding public input meetings and hearing on the draft plan as required by statute and rules;
6. soliciting and considering public input;
7. technical work required to prepare for and participate in RWPG meetings, workshops, and any other committee or other meetings during the development of the RWP;
8. conducting surveys of water suppliers or WUGs;
9. coordinating with and collecting information from entities involved with water planning in the region;
10. assembling, producing, and submitting the Technical Memorandum, IPP, and final RWP and responding to comments and resubmitting as necessary to ensure the plan can be approved by the TWDB; and,
11. interregional cooperation and interregional conflict resolution efforts.

In addition to regular RWPG meetings and committee meetings, there are certain special meetings that each RWPG much hold each cycle. These include the following meetings:

- Holding a preplanning public meeting to receive suggestions and recommendations from the public regarding issues that should be addressed in the next regional or SWP. This meeting must occur near the beginning of each cycle and prior to technical work commencing. During this meeting the RWPG will also be required to discuss how the planning group will conduct interregional coordination and collaboration regarding water management strategies. The TWDB will provide an initial list of regional water management strategies to all planning groups to assist in this effort.
- Presenting to the public the process for identifying potentially feasible WMS and the presentation of the analysis of infeasible water management strategies. The process will be documented and address any public input on the process.
- Holding a public hearing and receiving written comments on the IPP.

Interregional coordination efforts

RWPGs are required to discuss and document the RWPG's interregional coordination efforts at multiple points during the planning cycle including discussion at the pre-planning meeting and documentation of interregional coordination efforts regarding plan development in the Technical Memorandum, IPP, and final adopted RWP.

Interregional coordination efforts may include but are not limited to, the region's use of regional liaisons, forming committees to meet with neighboring regions or their representatives, and authorizing RWPG administrators or planning group consultants to meet with neighboring regions or their representatives.

Rural outreach efforts

RWPGs must conduct outreach specifically to rural entities in the planning area to collect and evaluate information to support plan development. Chapter 10 of the IPP and final adopted RWP must include a summary of the region's rural outreach efforts. TWDB will

provide a list of entities that meet the rural political subdivision definition per Senate Bill 469, (88R), and public water systems that fall within each municipal county-other WUG.

Emphasis should be placed on outreach to those rural-serving public water systems that 1) have self-reported water use restrictions to TCEQ due to water supply issues during the current planning cycle; 2) have self-reported to TCEQ having less than 180 days of water supply remaining during the current planning cycle; 3) have not previously engaged in the regional planning process; and 4) have already been identified as facing significant near-term shortages under drought conditions in previous regional water plans.

2.11 Infeasible water management strategies in the previously adopted 2021 Regional Water Plan (Task 4B)

Links to rule and scope of work requirements:

- §357.12: General RWPG Responsibilities and Procedures
- §357.51: Amendments to Regional Water Plans
- Scope of work Task 4B: Identification of Infeasible Water Management Strategies

Guidance:

Eligible activities under this new task include efforts associated with the analysis and identification of infeasible water management strategies, the identification and evaluation of new water management strategies, coordination with project sponsors, and subsequent amendments.

The intent of this task to is review whether project sponsors have taken affirmative steps to implement projects in accordance with the online decade in the 2021 regional water plans and 2022 State Water Plan.

2.11.1 Analysis and identification of infeasible water management strategies

Timing of analysis:

Analysis is to occur prior to the public meeting that the RWPG presents its methodology for identifying potentially feasible WMSs. This meeting must occur prior to the technical memorandum deadline (March 4, 2024)[67].

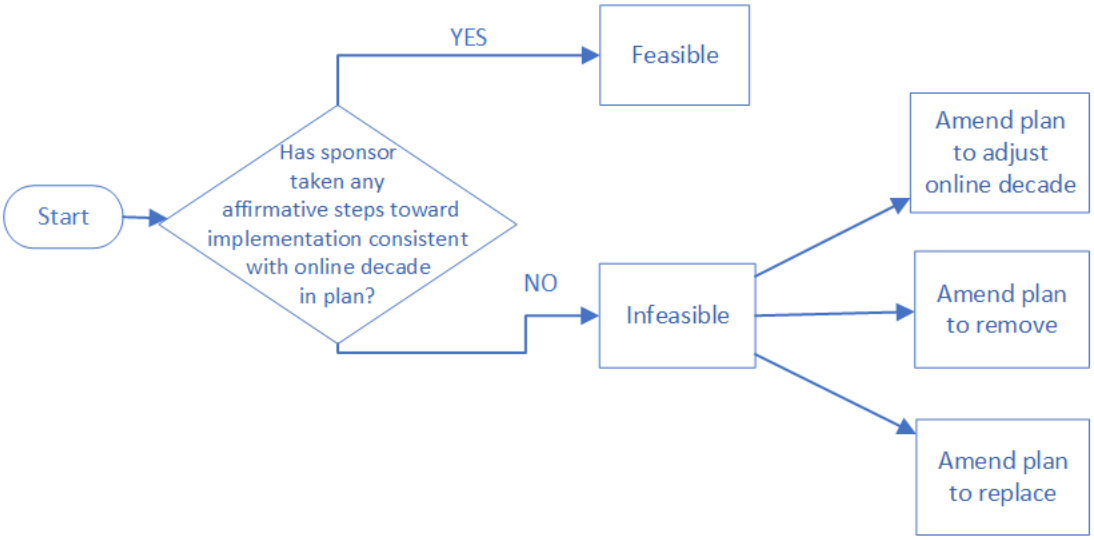
Analysis and criteria for infeasible water management strategies (see Figure 3):

- This analysis is limited to strategies or projects that require a permit and/or involve construction.
- Affirmative steps by the sponsor may include but not limited to 1) spending money on the strategy or project, 2) voting to spend money on the strategy or project, or 3) applying for a federal or state permit for the strategy or project.

[67] Schematic showing an overview of the infeasibility analysis process: https://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2026/projectdocs/InfeasbileWMSProcessSchematic.pdf

- RWPGs should focus their efforts and resources for this task primarily on reviewing recommended strategies and projects the 2021 RWPs that are either
    - shown to be online by the 2020 or 2030 decade;
    - related to new major reservoirs, seawater desalination, direct potable reuse, brackish groundwater, aquifer storage and recovery, and out of state water transfers; or
    - that will generally require significant resources and require significant time to implement.
- This information may be difficult to obtain and that information for some categories of water users, such as those projects associated with county-wide water user groups that are to be implemented by private parties, may not be available. In this case, the region may therefore not be able to determine infeasibility for some strategies or projects.

Figure 3 – Criteria of an Infeasible WMS



Presentation of analysis results:

1. Results of the analysis of infeasible WMSs in the previous RWP must be presented at the same public meeting that the RWPG presents its methodology for identifying potentially feasible WMSs for the current plan. The presentation of results should include documentation of the region's process for determining infeasible WMSs.
2. A list of water management strategies identified as infeasible must be presented in the technical memorandum. If the RWPG did not identify any water management strategies as infeasible, a statement certifying this must be included in the technical memorandum.

2.11.2 Amendments to the 2021 regional water plans

If any infeasible water management strategies are identified by the RWPG, the RWPG must amend their 2021 RWP. These amendments may address infeasible WMSs or WMSPs by

1. adjusting the online decade of the infeasible strategy and/or project so that it becomes feasible;
2. removing the infeasible strategy and/or project and, replacing the strategy with a new feasible strategy and/or project to meet the same need, or
3. removing the infeasible strategy and leaving the need as unmet.

Should a RWPG replace an infeasible strategy or projects with an alternative strategy or project in the 2021 RWP, the RWPG must then ensure that the replacement alternative strategy or project meets the feasibility criteria associated with this task.

Amendment content

Needs planned to be met by strategies determined infeasible in the 2020 decade could only be met by feasible strategies that could be immediately implemented (by January 5, 2023), such as drought management.

Should the RWPG identify and choose to evaluate a new water management strategy or project to meet the need of a removed WMS or WMSP, the RWPG must follow TWDB's WMS evaluation guidelines that were in contracts for the development of the 2021 RWPs. The amendment materials provide must document that the strategy and /or project was fully evaluated in accordance with statute, rule, and contractual technical guidelines. New WMS evaluations must also follow any approved hydrologic variances, if applicable.

RWPGs must also coordinate with TWDB staff to ensure that all relevant data for the state water planning database is updated. Data requirements vary on a case-by-case basis.

Amendments that leave any municipal needs left unmet or increase unmet municipal needs must also include adequate justification in accordance with 31 TAC §357.50(j).

Amendment materials under this task are also required to include a summary of the infeasible strategy and/or project components and address why they were determined to be infeasible.

Amendment process

The process for amendments will utilize the existing amendment process in 31 TAC §357.51 in accordance with whether the amendment is a substitution of an alternative strategy, minor amendment, or major amendment.

Amendment timing

RWPG-adopted amendments to the 2021 RWPs must be submitted to the TWDB by June 5, 2024 (three (3) months following the due date of the Technical Memorandum).

RWPGs must account for the timeframe to take necessary action on amendments and receive public comments in accordance with 31 TAC §§ 357.21 and §357.51. To meet this timeframe, the RWPG should consider action items necessary to start the amendment process no later than the same meeting where the Technical Memorandum is approved by the RWPG. More information, including steps for the RWP amendment process can be

found online in TWDB's *Amending an Approved Regional Water Plan* document[68] and the *Regional and State Water Plan Amendment Process* flowchart[69].

2.12 Deliverable requirements

RWPGs must prepare and submit a Technical Memorandum, an IPP, and a final adopted RWP. Deliverable requirements are addressed in this section.

2.12.1 Technical memorandum

Links to rule and scope of work requirements:

- §357.12: General RWPG Responsibilities and Procedures
- Scope of work Task 4C: Technical Memorandum

Guidance:

To be considered administratively complete, the Technical Memorandum submittal must include the following items:

1. Two electronic copies of the Technical Memorandum, one (1) in searchable Portable Document Format (PDF) and one (1) in Microsoft Word (MSWord) Format
2. Electronic copies (in PDF format) of each of the following TWDB DB27 data reports:
    a. *2026 RWP WUG Population* (presenting population projections by WUG, county, and river basin);
    b. *2026 RWP WUG Demand* (presenting water demand projections by WUG, county, and river basin);
    c. *2026 RWP Source Availability* (presenting water availability by source);
    d. *2026 RWP WUG Existing Water Supply* (presenting existing water supplies by WUG, county, and river basin);
    e. *2026 RWP WUG Needs/Surplus* (presenting identified water needs by WUG, county, and river basin);
    f. *2026 RWP WUG Data Comparison to 2021 RWP* (presenting a comparison of supply, demand, and needs between the 2021 and 2026 RWP at a county level);
    g. *2026 RWP Source Data Comparison to 2021 RWP* (presenting a comparison of availability by source type between the 2021 and 2026 RWP at a county level)
3. The documented process used by the RWPG to identify potentially feasible WMSs
4. A list of all potentially feasible WMSs identified by the RWPG to date
5. A copy of any hydrologic variance requests submitted by the region to the TWDB and a copy of the TWDB's approval of any hydrologic variances to date. For approved TCEQ WAM modifications or alternative surface water models, reallocated annual MAG volumes, or use of MAG Peak Factors, a table must be included showing the original unmodified firm yield or MAG value along with the alternative availability utilized as the basis for planning

[68] https://www.twdb.texas.gov/waterplanning/rwp/planningdocu/resourcedocs/AmendingApprovedRWP.pdf
[69] https://www.twdb.texas.gov/waterplanning/rwp/planningdocu/resourcedocs/RWPAmendmentFlowchart.pdf

6. Documentation of the methodology utilized for calculating the anticipated sedimentation rate and revising the area-capacity rating curve
7. A table providing the details of any hydrologic models used, including the model name, version date, model input/output files used, date model used, and any relevant comments
8. Documentation of methodologies utilized for RWPG-estimated groundwater availabilities to date, including at minimum, a table providing the aquifer, county, and methodology description
9. A summary of the region's interregional coordination efforts to date
10. A list of infeasible WMSs and WMSPs from the region's 2021 RWP, identified in accordance with Texas Water Code §16.053(h)(10) or a statement that no infeasible WMS or WMSPs were identified
11. All electronic model input/output or other model files used to date in determining water availability.

Following receipt of the Technical Memorandum, TWDB will issue a letter acknowledging administrative completeness. The TWDB will conduct a technical review of the methodologies used to develop surface water and groundwater availabilities to date and will provide informal comments to the planning groups for their consideration in the development of their RWPs.

2.12.2 Initially prepared plan and final adopted regional water plan

Links to rule and scope of work requirements:

- §357.50: Adoption, Submittal, and Approval of Regional Water Plans
- Scope of work Task 10: Public Participation and Plan Adoption

Guidance:

The chapters and subchapters of the RWP must be organized in accordance with 31 TAC §357.22(b). Table 1 of this guidance document provides the outline with chapter numbers that must be followed. RWPGs must update, rewrite, replace, reorganize and/or augment, as appropriate, any content from the 2021 RWPs that is also used in developing the 2026 RWP to include new information and analyses conducted as part of the current planning cycle and in response to changed conditions and in accordance with new planning rules, contract scope of work, updated guidance documents and new RWPG decisions.

Any materials developed in previous plans and incorporated by reference into the 2026 RWP, must include precise reference to the material and a summary of the information presented in the prior plan. An example of acceptable materials referenced in past plans include supporting unique stream segment designation materials. Information relevant to or in support of a WMS evaluation must be included directly in the plan document; it may not be incorporated by reference.

Initially Prepared Plan Submittal

To be considered administratively complete, the IPP submittal must include the following items:

1. Two (2) bound double-sided copies and two electronic copies, one (1) in searchable Portable Document Format (PDF) and one (1) in Microsoft Word (MSWord) Format
2. Certification, in the form of a cover letter, that the IPP is complete and was adopted by the RWPG
3. A statement confirming that the planning group met all requirements under the Texas Open Meetings Act and Public Information Act in accordance with 31 TAC § 357.12 and 357.21.
4. An executive summary documenting key findings and recommendations that does not exceed 30 pages. **The executive summary must incorporate the standard TWDB DB27 reports, by reference, as part of the regional water plan by including links to TWDB Database Reports application and inform the reader that the report may be accessed via that application. Additional specifications are provided in Section 2.14.** Supplemental information, such as county specific summaries, may be included as an executive summary appendix
5. A technical report containing all of the plan chapters in accordance with 31 TAC §357.22(b) presenting the work and results of each planning task summarized in this document, the scope of work, and according to regional water planning rules
6. Documentation of the RWPG's interregional coordination efforts
7. An electronic appendix containing all electronic model input/output or other model files used to date in determining surface water or groundwater availability
8. A table providing the details of any hydrologic models used, including the model name, version date, model input/output files used, date model used, and any relevant comments
9. A set of ArcGIS-compatible data constituting a SINGLE file geodatabase of feature classes or SINGLE folder containing shapefiles marking the locations of every recommended and alternative WMS/WMSP that has a capital cost (e.g., with representative map latitude/longitude coordinates for the locations of both intake and delivery points of proposed pipelines). Data may include points, lines, and polygons, as appropriate. These may include approximate locations and simplified representations as necessary and should be delivered on digital media as outlined in sections 2.3 and 2.4 of TWDB's Contract Exhibit D: *Guidelines for 2026 Regional Water Plan Data Deliverables*

Following receipt of the IPP, TWDB will issue a letter acknowledging administrative completeness. The TWDB will conduct a technical review of the IPP to ensure that the plan meets **all** statute, rule, and contract requirements and provide written comments to the RWPG within 120 days. Prior to the IPP deadline, TWDB's IPP review checklist to the RWPGs to assist the regions in ensuring all required items are addressed.

Final adopted regional water plan submittal

To be considered administratively complete, the final adopted RWP must include the following items:

1. Two electronic copies, one (1) in searchable Portable Document Format (PDF) and one (1) in Microsoft Word (MSWord) Format. In compliance with TAC Chapters 206 and 213 (related to Accessibility and Usability of State Web Sites, Web Content

Accessibility Guidelines (WCAG) 2.0 Level AA Standard – WCAG 2.0 Quick Reference), the electronic copy of the RWP will comply with the requirements and standards specified in statute

2. One (1) electronic copy of all files on which the plan is based (e.g. spreadsheets, maps, etc)
3. Certification, in the form of a cover letter, that the final plan is complete and was adopted by the RWPG
4. A statement confirming that the planning group met all requirements under the Texas Open Meetings Act and Public Information Act in accordance with 31 TAC § 357.12 and 357.21.
5. An executive summary documenting key findings and recommendations that does not exceed 30 pages. **The executive summary must incorporate the standard TWDB DB27 reports, by reference, as part of the regional water plan by including links to TWDB Database Reports application and inform the reader that the report may be accessed via that application. Additional specifications are provided in Section 2.14.** Supplemental information, such as county specific summaries, may be included as an executive summary appendix
6. A technical report containing all of the plan chapters in accordance with 31 TAC §357.22(b) presenting the work and results of each planning task summarized in this document, the scope of work, and according to regional water planning rules
7. Documentation of the RWPG's interregional coordination efforts
8. Summaries of written and oral comments on the IPP from the public along with responses provided by the RWPG explaining how plans were revised or why changes were not warranted
9. A copy of the TWDB's Executive Administrator's written comments on the IPP along with responses to each comment explaining how RWP was revised or why changes were not warranted
10. An electronic appendix containing all electronic model input/output or other model files used in determining water availability
11. A table providing the details of any hydrologic models used, including the model name, version date, model input/output files used, date model used, and any relevant comments
12. A set of ArcGIS-compatible data constituting a SINGLE file geodatabase of feature classes or SINGLE folder containing shapefiles marking the locations of every recommended and alternative WMS/WMSP that has a capital cost (e.g., with representative map latitude/longitude coordinates for the locations of both intake and delivery points of proposed pipelines). Data may include points, lines, and polygons, as appropriate. These may include approximate locations and simplified representations as necessary and should be delivered on digital media as outlined in sections 2.3 and 2.4 of TWDB's Contract Exhibit D: *Guidelines for 2026 Regional Water Plan Data Deliverables*

An RWP that is missing any one of the required elements will be considered administratively incomplete and will not be reviewed until missing content is provided to the TWDB. Amendments to final adopted RWPs that have been approved by the Board

must contain these same elements to the extent that they apply to the scope of the RWP amendment.

2.13 Data provisions and data reporting

See TWDB's Contract Exhibit D: *Guidelines for 2026 Regional Water Plan Data Deliverables* for more information.

2.13.1 Rounding numbers

Only whole numbers will be presented in the RWPs and DB27.

Cumulative rounding errors may not exceed 1.0 in any single number presented or in any total presented in the plan, for example, when multiple values, each with an underlying error, are presented within a table.

Individual and cumulative data values in reports produced from DB27 will supersede all other data presented in RWPs for purposes of state water plan development.

2.13.2 State water planning database and required DB27 reports

Data entry

DB27 will synthesize regions' data and provide data reports that must be incorporated into each Technical Memorandum and referenced by hyperlink in each IPP and final adopted RWP.

RWPGs must complete and submit, via the DB27 interface, all data generated or updated during the current cycle of planning to the TWDB in accordance with TWDB specifications in the *Guidelines for 2026 Regional Water Plan Data Deliverables* prior to submitting Technical Memorandums and IPPs. Deadlines for the entry of categories of data (e.g. existing water supplies) by RWPGs are to be determined by the TWDB as part of the contract documentation. These deadlines are necessary to allow sufficient time for the TWDB to vet data and for the TWDB DB27 reports to become available.

DB27 reports

In the 2026 RWPs, the required DB27 data reports must be included in the IPP and final RWP via reference to the TWDB Database Reports application in lieu of including electronic versions of the reports as an appendix to the plan.

Each Executive Summary of the IPP and RWP must include a section that lists the DB27 reports that will be available through the TWDB Database Reports application and instructions on how the public can access the reports, including a direct hyperlink to the TWDB Database Reports application.

The DB27 reports that will be accessible in the application are listed in Table 3[70].

[70] The DB27 reports listed in Table 3 will remain secure and un-accessible to the public until the TWDB deploys the reports to the public interface of the application. This will occur by the IPP submittal deadline. RWPG consultants will have secured access to these DB27 reports prior to the public during plan development.

Instructions that should be included in the IPP and final RWP include:

1. Navigate to the TWDB Database Reports application at https://www3.twdb.texas.gov/apps/SARA/reports/list
2. Enter '2026 Regional Water Plan' into the "Report Name" field to filter to all DB27 reports associated with the 2026 Regional Water Plans
3. Click on the report name hyperlink to load the desired report
4. Enter planning region letter parameter, click view report

Table 3 – Required State/Regional Water Planning Database (DB27) Reports

Report Number	DB27 Report Name*	Summary of Report Content	31 TAC rule met by report	Include pdf of report in Technical Memorandum	IPP and final RWP: refer user to reports online at https://www3.twdb.texas.gov/apps/SARA/reports/list	Report inlcudes WUGs	Report inlcudes WWPs
1	WUG Population	Decadal population projections by WUG, county, and river basin.	§357.12(c)(1); §357.31(a)	x	x	x	
2	WUG Demand	Decadal water demand projections by WUG, county, and river basin.	§357.12(c)(1); §357.31(a)	x	x	x	
3	Source Availability	Water availability by source, location, and decade.	§357.32(a)(1);(f)	x	x		
4	WUG Existing Water Supply	Existing water supplies by WUG, source, county, river basin, and decade.	§357.32(a)(1);(f)	x	x	x	
5	WUG Needs/Surplus	Identified water needs and/or surpluses by WUG, county, river basin, and decade.	§357.33(b);(d)	x	x	x	
6	WUG Second-Tier Identified Water Need	Decadal identified water needs by: WUG, county, and river basin after implementation of conservation and direct reuse strategies.	§357.33(d)		x	x	
7	WUG Data Comparison to 2021 RWP	WUG supply, demands, and needs by county.	357.45(c)	x	x	x	
8	Source Data Comparison to 2021 RWP	Source availability by county.	357.45(c)	x	x		
9	WUG Unmet Needs	All unmet needs by WUG, county, river basin, and decade.	§357.40(c)		x	x	
10	Recommended WUG Water Management Strategies	All recommended WMSs for each WUG; including the strategy names, source name, total yield of the WMS for all decades, and unit costs in 2030 and 2080.	§357.35(g)(1)		x	x	
11	Recommended Projects Associated with Water Management Strategies	All recommended projects including associated project sponsor, whether sponsor is a WWP, project name, project description, capital cost, and decade online.			x	x	x
12	Alternative WUG Water Management Strategies	All alternative WMSs for each WUG; including the strategy names, source name, total yield of the WMS for all decades, and unit costs in 2030 and 2080.	§357.35(g)(3)		x	x	
13	Alternative Projects Associated with Water Management Strategies	All alternative projects including associated project sponsor, whether sponsor is a WWP, project name, project description, capital cost, and decade online.			x	x	x
14	WUG Management Supply Factor	Calculated management supply factor for each WUG by decade.	§357.35(g)(2)		x	x	
15	Recommended Water Management Strategy Supply Associated with a new or amended IBT Permit	All recommended WMS involving an IBT that is not exempt under §11.085(v); including the source basin, recipient WUG basin, and IBT WMS supply by decade.			x	x	x
16	WUG Recommended WMS Supply Associated with a new or amended IBT Permit and Total Recommended Conservation WMS Supply	All recommended conservation WMS supply by decade for each WUG that relies on a WMS involving an IBT that is not exempt under §11.085(v).			x	x	
17	Sponsored Recommended WMS Supplies Unallocated to WUGs	All recommended WMS volumes not allocated to WUGs, including WMS name, source name, sponsor name, and WMS supply by planning decade.			x	x	x
18	MWP Existing Sales and Transfers	MWP projected WUG and wholesales contract demands and wholesale/retail sales by source type.	§357.31(b)		x	x**	x**
19	MWP WMS Summary	Recommended WMS and WMSPs, by MWP; including unallocated WMS supplies	§357.35(g)(1)		x	x**	x**

* reports names in the TWDB Database Reports application will be prefaced by *2026 Regional Water Plan*

** included if the RWPG designated the WUG or WWP as a MWP

3 Appendix

3.1 TWDB data sources for regional water plan development

3.1.1 Planning data resources

1. Planning Projections Dashboard
   http://www.twdb.texas.gov/waterplanning/data/projections/2027/projections.asp
2. Other Planning Data and Dashboards
3. http://www.twdb.texas.gov/waterplanning/data/index.asp
4. Historical Water Use Estimates
   http://www.twdb.texas.gov/waterplanning/waterusesurvey/estimates/index.asp
   a. Water use summaries (by region, county, basin, cities, utilities)
   b. Annual reports by industry type (NAICS Code)
   c. Water reuse reports by reuse type and planning region
   d. Municipal and industrial water intake reports by planning region
5. Historical Groundwater Pumpage Estimates
   http://www.twdb.texas.gov/waterplanning/waterusesurvey/historical-pumpage.asp
6. Mining Water Use Study
   https://www.twdb.texas.gov/waterplanning/data/projections/MiningStudy/index.asp

3.1.2 Surface water resources

1. Texas Instream Flows Program (SB2) and Related Documents
   http://www.twdb.texas.gov/surfacewater/flows/instream/index.asp
2. Texas Environmental Flows (SB3) and Related Documents
   http://www.twdb.texas.gov/surfacewater/flows/environmental/index.asp
3. Freshwater Inflow Needs and Related Documents
   http://www.twdb.texas.gov/surfacewater/flows/freshwater/index.asp
4. Water Data for Texas – Historic and current reservoir data, drought status and resources, groundwater well level, and coastal hydrology data.
   http://www.waterdatafortexas.org/reservoirs/statewide
5. Cumulative Effects of Recommended Strategies Tool (CERST)
   a. User guide:
      https://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2026/projectdocs/SWR_Studies/TWDB_CERST_User_Guide_Final_20211004.pdf
   b. Tool:
      https://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2026/projectdocs/SWR_Studies/TWDB_CERST_v1.0_2021.10.05.zip
6. Projected Reservoir Rating Curves based on elevational sedimentation rates
   https://www.twdb.texas.gov/surfacewater/data/WAMRatingCurve/index.asp
7. Brazos Trends Study Report

http://www.twdb.texas.gov/publications/reports/contracted_reports/doc/2100012466.pdf

8. Zhu, J., Fernando, N. and Guthrie, C., 2020. *Extension of Naturalized Flow Using Linear Regression*. In World Environmental and Water Resources Congress 2020: Water Resources Planning and Management and Irrigation and Drainage (pp. 162-173). Reston, VA: American Society of Civil Engineers https://www.twdb.texas.gov/surfacewater/data/ExtendedNatFlow/index.asp

3.1.3 Groundwater resources

1. TWDB Groundwater Availability Models http://www.twdb.texas.gov/groundwater/models/gam/index.asp
2. TWDB Research Projects in Support of Groundwater Models http://www.twdb.texas.gov/groundwater/models/research/index.asp
3. Groundwater Joint Planning – Desired future conditions and modeled available groundwater. http://www.twdb.texas.gov/groundwater/dfc/index.asp
4. TWDB Groundwater Database Reports – Reports containing information on selected water wells, springs, oil/gas tests (that were originally intended to be or were converted to water wells), water levels, and water quality to gain representative information about aquifers in Texas to support water planning from a local to a more regional perspective. http://www.twdb.texas.gov/groundwater/data/gwdbrpt.asp
5. TWDB Groundwater Data Viewer – Interactive mapping application that provides access to water-related data GIS datasets relating to groundwater resources, including brackish groundwater data. http://www2.twdb.texas.gov/apps/waterdatainteractive/groundwaterdataviewer
6. Automated Groundwater Levels via Water Data for Texas – The TWDB, in partnership with its cooperators, installs and monitors automatic water level recorders in observation wells throughout the state. These water levels are included in TWDB Groundwater Database Reports and the Groundwater Data Viewer but can be viewed in a finer resolution on Water Data for Texas. https://www.waterdatafortexas.org/groundwater
7. Brackish Resources Aquifer Characterization (BRACS) http://www.twdb.texas.gov/groundwater/bracs/studies.asp
8. Brackish Groundwater Production Zones http://www.twdb.texas.gov/groundwater/bracs/HB30.asp

3.1.4 Conservation resources

1. Water Conservation best management practices (agricultural, commercial/institution, industrial, municipal, and wholesale) http://www.twdb.texas.gov/conservation/BMPs/index.asp
2. Water loss audit information http://www.twdb.texas.gov/conservation/municipal/waterloss/index.asp
3. Water conservation plans http://www.twdb.texas.gov/conservation/municipal/plans/index.asp

4. Historical water loss audit and conservation annual report data
   http://www.twdb.texas.gov/conservation/municipal/waterloss/historical-annual-report.asp
5. Municipal Water Conservation Planning Tool
   https://www.twdb.texas.gov/conservation/municipal/plans/doc/TWDB_MWCPT_v1.xlsm
6. Agricultural resources
   https://www.twdb.texas.gov/conservation/resources/agricultural-resources.asp
7. Agricultural water conservation demonstration initiatives
   https://www.twdb.texas.gov/conservation/agriculture/demonstration/index.asp

3.1.5 Drought resources

1. Drought dashboard
2. https://waterdatafortexas.org/drought/

3.1.6 ASR resources

1. Aquifer Storage and Recovery
   http://www.twdb.texas.gov/innovativewater/asr/index.asp
2. Statewide Survey of Aquifer Suitability for Aquifer Storage and Recovery Projects or Aquifer Recharge Projects

   https://www.twdb.texas.gov/innovativewater/asr/projects/Statewide/index.asp
3. Statewide Survey of ASR and AR Suitability Interactive Web Map
   https://twdb-wsc.maps.arcgis.com/apps/webappviewer/index.html?id=50d9b795672243d387cef438f7c62311
4. ASR projects
   http://www.twdb.texas.gov/innovativewater/asr/projects.asp

3.1.7 Other innovative water technologies

1. Desalination
   https://www.twdb.texas.gov/innovativewater/desal/index.asp
2. Desalination Database
   http://www.twdb.texas.gov/innovativewater/desal/maps.asp
3. Water Reuse
   https://www.twdb.texas.gov/innovativewater/reuse/index.asp
4. Rainwater Harvesting
   https://www.twdb.texas.gov/innovativewater/rainwater/index.asp

3.1.8 Other

1. TWDB-funded research relevant to regional water planning

   http://www.twdb.texas.gov/waterplanning/rwp/research/index.asp