REGION C WATER PLANNING GROUP

Senate Bill One Fourth Round of Regional Water Planning - Texas Water Development Board

May 5, 2015

Kevin Patteson
Executive Administrator
Texas Water Development Board
1700 North Congress Avenue
Austin, Texas 78701

RE: Region C Adoption of City of Bedford Minor Amendment to *2011 Region C Water Plan*

Dear Mr. Patteson:

On March 27, 2015 TWDB notified Region C of its minor amendment determination for the City of Bedford's proposed minor amendment to the *2011 Region C Water Plan*, which included a specific conservation strategy project of water main replacements and automatic meter reading (AMR) upgrades. At its meeting on April 20, 2015 the Region C Water Planning Group voted to approve and adopt Bedford's minor amendment to the *2011 Region C Water Plan*. As required, Region C published notice of this meeting 14 days in advance, with Bedford's proposed minor amendment being made available to the public on the Region C website. Public Comments were accepted at the April 20 meeting and by Region C's Political Subdivision (Trinity River Authority) prior to and for 14 days after this meeting. This public comment process has been fully documented as part of this Minor Amendment.

With this letter Region C is submitting this Minor Amendment to the *2011 Region C Water Plan* to TWDB for its consideration and adoption into the 2012 State Water Plan.

Please call me if you have any questions regarding our request.

Sincerely,

Jo M. (Jody) Puckett
Chair, Region C Water Planning Group

C: Kevin Ward, Region C Secretary
Connie Townsend, TWDB Project Manager
Amy Kaarlela, Freese and Nichols, Inc.

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City of Bedford

Minor Amendment
to the *2011 Region C Water Plan*

May 5, 2015

City of Bedford, Minor Amendment to the *2011 Region C Water Plan*

Table of Contents

1.0 Rules and Guidance

1.1 Texas Administrative Code 357.51(c)

The following text was taken directly from the Texas Administrative Code 357.51(c).

"(c) Minor Amendments to RWPs and State Water Plan.
(1) Minor Amendment to RWP. A RWPG may amend its RWP by first providing a copy of the proposed amendment to the EA for a determination as to whether the amendment would be minor.
(2) EA Pre-Adoption Review. The EA shall evaluate the proposed minor amendment prior to the RWPG's vote to adopt the amendment. An amendment is minor if it meets the following criteria:
(A) does not result in over-allocation of an existing or planned source of water;
(B) does not relate to a new reservoir;
(C) does not have a significant effect on instream flows, environmental flows or freshwater flows to bays and estuaries;
(D) does not have a significant substantive impact on water planning or previously adopted management strategies; and
(E) does not delete or change any legal requirements of the plan.
(3) Determination by EA. If the EA determines that the proposed amendment is minor, EA shall notify, in writing, the RWPG as soon as practicable.
(4) RWPG Public Meeting. After receipt of the written determination from the EA, the RWPG shall conduct a public meeting in accordance with §357.21(c) of this title. The public shall have an opportunity to comment and the RWPG shall amend the proposed minor amendment based on public comments, as appropriate, and to comply with existing statutes and rules related to regional water planning responses.
(5) Board Approval of Minor Amendment. After adoption of the minor amendment, the RWPG shall submit the amendment to the Board which shall approve the amendment at its next regularly scheduled meeting unless the amendment contradicts or is in substantial conflict with statutes and rules relating to regional water planning."

1.2 TWDB External Amendment Guidance dated February 2, 2014, Minor Amendment

The following text was taken directly from the TWDB document "External Amendment Guidance" dated February 2, 2014.

"The process for a minor amendment to a regional water plan is described in 31 TAC Ch. 357.51(c) and has significantly less notice requirements than a full regional plan amendment carried out under 31 TAC Ch. 357.51(b), however, the amendment must meet certain criteria. These include:

(1) does not result in overallocation of an existing or planned source of water;
(2) does not relate to a new reservoir;
(3) does not have a significant effect on instream flows, environmental flows or freshwater flows to bays and estuaries;
(4) does not have a significant substantive impact on water planning or previously adopted management strategies; and
(5) does not delete or change any legal requirements of the plan.

Steps to conduct a minor amendment to the plan are as follows:

A. The entity proposing a revision to the regional water plan requests an agenda item on the RWPG's agenda for consideration of the minor amendment. Such consideration would be a posted agenda item for RWPG action at a

regularly-posted public RWPG meeting. If the RWPG supports the minor amendment, the RWPG will submit a request for a minor amendment determination to the TWDB EA for approval (required in all cases).
B. Materials to submit to the EA include:

- a cover letter from the RWPG requesting a determination on the minor amendment and stating the need for the minor amendment;
- a summary of the RWPG action taken;
- evidence that the WMS for the minor amendment meets the criteria listed in 31 TAC Ch. 357.51(c)(2);
- information to demonstrate that the WMS has been fully evaluated in accordance with statute, rule, and contractual technical guidelines; and,
- all relevant data in the regional water planning database that would require updates in the Source module, WMS module, WUG module, or WWP module, such as source availability, water supplies (for a WUG or a WWP) or WMS (for a WUG or a WWP). Data requirements vary on a case-by-case basis. (The project manager shall coordinate with applicant and region to work with the WSSA Team. The project manager should submit data to the WSSA Team Lead via email to initiate amendment analysis and allow at least 2 weeks for the internal analysis to occur.)

C. TWDB staff performs an internal analysis including, but not limited to: a water supply over-allocation analysis; identification of potential inter-regional conflicts; and confirmation that no new unmet needs result from the amendment.

D. TWDB staff prepares an internal memo to the EA considering the proposed amendment to the regional plan in the context of the associated rule requirements (e.g. 31 TAC 357.51(c)); draft memo to include recommendation on a determination, and an attached signature-ready letter in accordance with the staff recommendation. A memo template is included as part of this WPD.

E. Within 30 days of receipt of all required information, the EA will issue a response letter to the RWPG Chair, applicant, and political subdivision with the EA's determination of whether or not the amendment is considered minor.

F. After receipt of the EA's determination that the amendment qualifies as minor, the RWPG shall conduct a public meeting subject to the Open Meetings Act with at least two weeks notice prior to the public meeting. The public shall have an opportunity to comment at the meeting and the RWPG shall revise the proposed minor amendment, if necessary [31 TAC Ch. 357.21(c)(4)] and, if appropriate, adopt the minor amendment. Significant modifications to minor amendments would require additional TWDB review.

G. After adoption of the minor amendment, the RWPG shall submit written documentation of the amendment, including an addendum to the current regional water plan. The board shall approve the amendment at its next regularly scheduled meeting per 31 TAC Ch.357.51 (c)(5).

H. The TWDB will then amend the state water plan as appropriate.

I. If the minor amendment is denied by the EA, the RWPG may choose to proceed with a full amendment process as appropriate. Consideration to approve such an action would need to be posted as an agenda item at a regular RWPG meeting. Alternatively, the RWPG could approve in the same motion as pursuing the minor amendment for the entity to proceed with a full amendment should the EA conclude the change does not qualify for a minor amendment. "

2.0 Cover letter from the RWPG and Summary of the RWPG action taken

REGION C WATER PLANNING GROUP

Senate Bill One Fourth Round of Regional Water Planning - Texas Water Development Board

March 6, 2015

Kevin Patteson
Executive Administrator
Texas Water Development Board
1700 North Congress
Austin, Texas 78701

RE: Region C Support of City of Bedford Amendment Pursuit

Dear Mr. Patteson:

The City of Bedford is currently pursuing an amendment to the *2011 Region C Water Plan*, to include a specific conservation strategy project of water main replacements and automatic meter reading (AMR) upgrades. At present, the *2011 Region C Water Plan* has a more generic water management strategy assigned to the City for "Basic Municipal Water Conservation" that does not include any capital costs. The City's engineer made a presentation to the Region C Water Planning Group at the January 26, 2015 RCWPG meeting, and the RCWPG voted to support Bedford's efforts to pursue this amendment.

We believe that this amendment meets the criteria of a minor amendment per TAC Chapter 357.51(c)(2), and that there is a need for this amendment to enable Bedford to apply for and receive SWIFT funding. With this letter, the RCWPG is formally requesting that TWDB make a "Minor Amendment Determination" on this proposed amendment for Bedford. Included with this letter is detailed information about this proposed amendment (including the fully evaluated strategy) as outlined in TWDB guidance for Minor Amendments.

Please call me if you have any questions regarding our request.

Sincerely,

Jo M. (Jody) Puckett
Chair, Region C Water Planning Group

C: Kevin Ward, Region C Secretary
Connie Townsend, TWDB Project Manager
Amy Kaarlela, Freese and Nichols, Inc.

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3.0 Evidence that the WMS for the minor amendment meets the criteria as listed in Texas Administrative Code 357.51(c)(2)

Criteria listed in TAC 357.51(c)(2)	Evidence
Does not result in over-allocation of an existing or planned source of water	This is a conservation strategy which saves water and as such does not use any existing or planned source of water, so it does not over-allocate any existing or planned source of water
Does not relate to a new reservoir	This is a conservation strategy which does not related to a new reservoir
Does not have a significant effect on instream flows, environmental flows or freshwater flows to bays and estuaries	This is a conservation strategy which does not have any effect on instream flows, environmental flows or freshwater flows to bays and estuaries
Does not have a significant substantive impact on water planning or previously adopted management strategies	This conservation strategy does not have any impact on water planning, and only affects the previously adopted Basic Municipal Conservation Strategy for Bedford. No other previously adopted strategies are impacted.
Does not delete or change any legal requirements of the plan	This conservation strategy does not affect any legal requirements of the regional plan

4.0 Full Evaluation of the Water Management Strategy

Note: This entire Section 4.0 should be considered to be an addition to Appendix P (Strategy Evaluation) of the 2011 Region C Water Plan. The strategy presented here is considered part of the "Water system audit, leak detection and repair, and pressure control" subset of the "Basic Conservation Package" Strategy as listed in Tables P.1 and P.2. The strategy presented here does not affect any of the evaluation criteria or results in Tables P.1 and P.2 for the overall Basic Conservation Package, and therefore revisions to Tables P.1 or P.2 are not necessary. Table Q-259 on page 10 of this document will become a new table in Appendix Q of the 2011 Region C Water Plan.

4.1 Description

The City of Bedford, Texas would like to undertake the "Water Distribution System Conservation Program" to reduce water lost through leaks and pipe breaks, as well as inaccurate and old water meters. This Conservation program will be considered a component of the "Water system audit, leak detection and repair, and pressure control" category under the Basic Water Conservation Package for Bedford in the *2011 Region C Water Plan*. The City of Bedford's water distribution system consists of approximately 165 miles of 8"-inch to 12"-inch water distribution piping.

Approximately 90% of the distribution system is made up of cast iron pipe or asbestos cement pipe all of which is more than 60 years old. These older pipes are proving problematic in that the city is experiencing more and more leaks and pipe breakages. Also, the city is in the process of introducing a second, higher-pressure zone. It is well recognized that with higher pressures, the leakage problem will be further exacerbated. Current water audits show the City of Bedford's unaccounted for water loss is at an acceptable level (less than 10%). Evidence exists that the lost water will continue to grow. A snapshot evaluation of January 2015 water loss showed this unaccounted for water loss growing to exceed 11.5%. The City estimates that "unaccounted for" water would reach 20% by the year 2020 and remain at this level through 2060. The City feels that this is a highly conservative estimate given the already 11.5% water loss and pipe breaks in the system, because of general pipe age and poor pipe materials, are increasing at a significant rate as displayed on page 8.

Mr. Thomas Hoover, the Public Works Director, reported that the water distribution system is in dire need of repair. Mr. Hoover reported that the water distribution is experiencing an increasing number of breaks, which of course are a major cause of lost water. The water distribution system map (page 8) has been color coded showing the location and year for significant water pipe breaks. This break history is very troubling. The break history is tabulated below.
2013 – 33 breaks
2014 – 25 breaks
2015 (two months) -39 breaks-extrapolates to 234 for full year.

Bedford feels that if the water distribution is not addressed with a major replacement program, that the 20% level of water loss would be quickly achieved, easily by 2020, and likely exceeded. The city in fact feels that this 20% water loss estimate may be conservative.

In addition, this year the City will be raising the pressure in a significant portion of the system. Further, the City expects to introduce a complete new pressure zone in the Northwest Quadrant of the City. As is recognized in the literature, water system leakage is generally proportional to system pressure. The City expects these higher pressure to cause even more breaks and higher leakage.

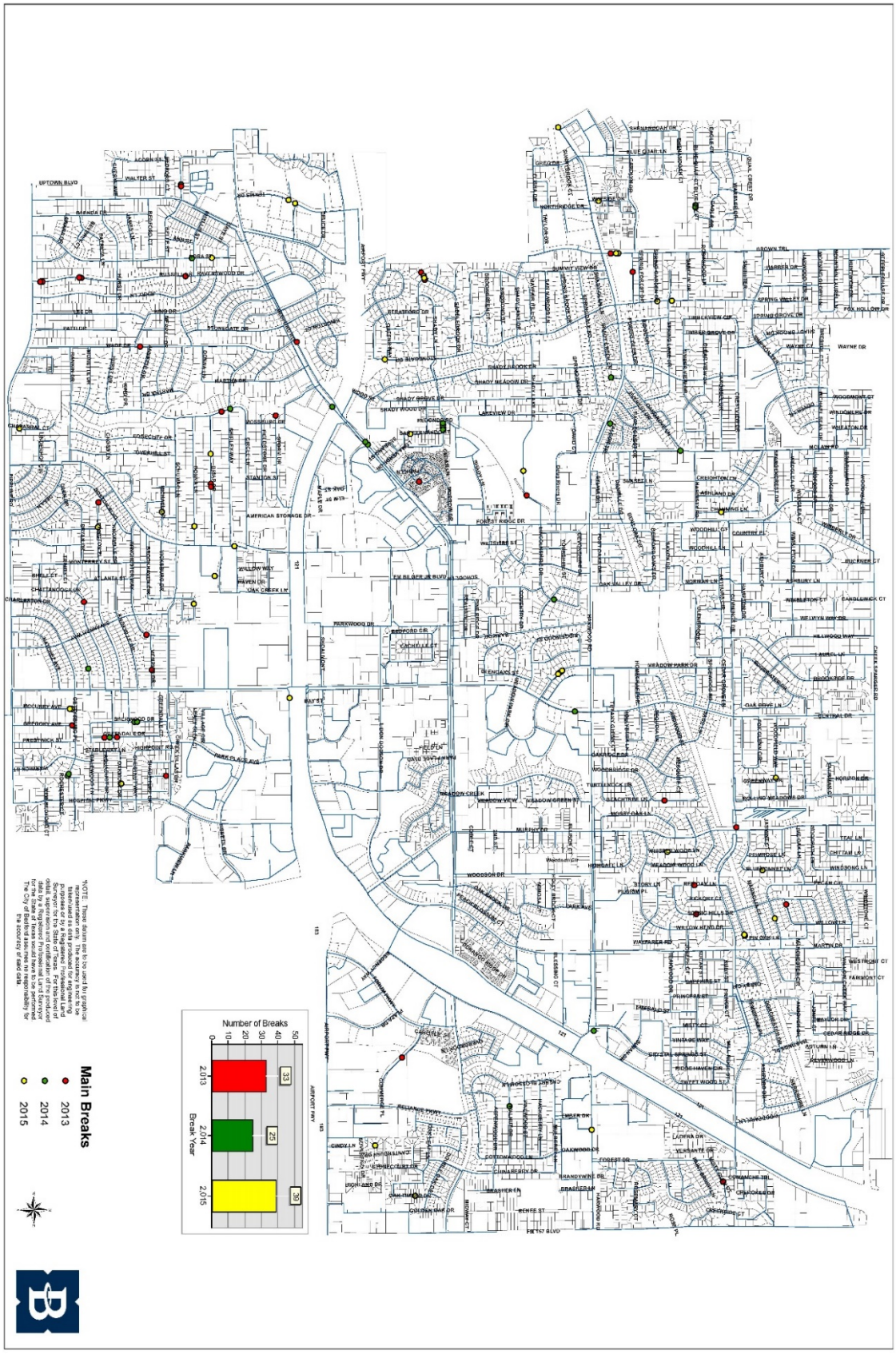
The City's water distribution system has been operating at somewhat lower system pressure, for which one of the reasons is to protect the fragile piping system. This likely contributed to the rather modest

levels of unaccounted for water in as reported to TWDB in 2013 (approximately 6%). The City recently completed Water Audit for 2014 showing the water loss at 7.55%, a significant increase. Additionally, as mentioned above, a snapshot evaluation of January 2015 water loss showed this unaccounted for water loss growing to exceed 11.5%. With the addition of the new pressure zone, losses are expected to increase significantly.

The city's intention is to replace, in like size, 150 miles of existing water distribution main over the next 10 years. We do not expect the need to acquire any easements. The permitting will be very simple, given that almost all of the mains are in public streets or previously dedicated easements.

The city plans to upgrade their outdated water meters with new state-of-the-art Automatic Meter Readers (AMR). A large percentage of the city's water meters read inaccurately, based upon a significant sample survey. By improving meter accuracy, this will send an important price signal to consumers and further curb water usage. Further, in the event of water pipe breakage on the customer side, the AMR system can alert the city and ultimately the customer, to expedite repairs and curtail water loss. Below is an exhibit which shows the results of an in depth study of the City's water meters, demonstrating water metering error from 3% to 13%. Some meters may register higher and some meters may register lower so it is uncertain what total effect accurate meters may have on the amount of "unaccounted for" water. But what is undeniable, with the ability to quickly monitor and respond to unusual water usage on the customer side (pipe break inside the house, leaking toilet, etc.), AMR will have a positive conservation benefit that would be in addition to the benefit of repairing the leaking mains in the distribution system.

Although the expected "unaccounted for" water in the distribution system will reach the 20% level, it is recognized that no system has zero losses. Therefore it is expected that 75% of this "unaccounted for" water will be recovered through system improvements, equating to a 15% net savings in water supply.


Main Breaks
2013
2014
2015
Number of Breaks
0
10
20
30
40
50
2013
2014
2015
Break Year
33
25
39

4.2 Evaluation

Region C Water Management Strategy Analysis
Minor Amendment to *2011 Region C Water Plan*

WUG Name:	Bedford
WMS Name:	Municipal Conservation - Basic
WMS Project ID:	C01CONSBAS
WMS Type:	Conservation
ORIGINAL Supply Quantity for BASIC Conservation Package:	2010 – 274 acre-feet/year 2020 – 486 acre-feet/year 2030 – 631 acre-feet/year 2040 – 736 acre-feet/year 2050 – 843 acre-feet/year 2060 – 954 acre-feet/year
ADDITIONAL Supply Quantity added by the $77M Capital Cost Project described in this Minor Amendment:	2010 – 0 acre-feet/year 2020 – 784 acre-feet/year 2030 – 1,600 acre-feet/year 2040 – 1,621 acre-feet/year 2050 – 1,653 acre-feet/year 2060 – 1,687 acre-feet/year
AMENDED TOTAL Supply Quantity for BASIC Conservation Package:	2010 – 274 acre-feet/year 2020 – 1,270 acre-feet/year 2030 – 2,231 acre-feet/year 2040 – 2,357 acre-feet/year 2050 – 2,496 acre-feet/year 2060 – 2,641 acre-feet/year
Implementation Date:	2015- 2025
Development Timeline:	10 years
ADDITIONAL Capital Cost: **ADDITIONAL Annual Cost:** **Term:**	$77,308,705 in 2008 Dollars in 2020 $6,740,125 in 2008 Dollars in 2020 and 2030 only 20 years
Unit Water Cost:	The Unit cost of the strategy described in this amendment is $3,995 per acre-ft (during loan period) ($6.74 million annual cost divided by 2060 supply of 1,687 acre-feet/year). After the loan period, the cost of the strategy described in this amendment is $0.00 per acre-ft. The "Effective" unit cost of the entire modified Basic Conservation Strategy (with the inclusion of the strategy described in this

	amendment) is $2,591 per ac-ft (during loan period) ($102,395 current annual cost plus $6.74 million additional annual cost divided by max savings 2,641 acre-feet/year) $41 per ac-ft (after loan period)

STRATEGY ANALYSES

Supply Development

The main replacement and AMR system described above is anticipated to save up to 15% of the water used in the system when fully implemented (by 2030). Prior to that (2020), the savings are only 7.5% due to partial implementation.

	2010	2020	2030	2040	2050	2060
Bedford Demand	10,138	10,447	10,665	10,808	11,017	11,246
Additional Savings (Acre-feet/year)	0	784	1,600	1,621	1,653	1,687
Savings as % of total Demand	0.00%	7.50%	15.00%	15.00%	15.00%	15.00%

Environmental Considerations

None. This area is entirely urban and the project will not affect any area that is not currently developed. There are no wetlands or agricultural lands impacted.

Permitting and Development

None. No permits needed for this project.

Cost Analysis

Cost is estimated at $77,308,705 in Sept 2008 Dollars. See detailed cost estimate below.

Table Q-259

Bedford - Municipal Conservation - Basic
Water Distribution System Conservation

Owner: Bedford
Amount: 1,687 Acre-ft/yr

CAPITAL COSTS*	Size	Quantity	Unit	Unit Price**	Cost
Pipeline	8 in.	700,000	LF	$85.90	$60,128,993
Pipeline	12 in.	90,909	LF	$94.49	$8,589,856
Water meters		15,000	LS	$572.66	$8,589,856
CONSTRUCTION TOTAL					**$77,308,705**

ANNUAL COSTS*	
Debt Service (6% for 20 years)	$6,740,125
Total Annual Costs	**$6,740,125**
UNIT COSTS* (Until Amortized)	
Per Acre-Foot of treated water	$3,995
Per 1,000 Gallons	$12.26
UNIT COSTS* (After Amortization)	
Per Acre-Foot	$0
Per 1,000 Gallons	$0.00

*September 2008 Dollars

** Unit prices include engineering

WATER MANAGEMENT STRATEGY EVALUATION

The Bedford Water Conservation Strategy was evaluated based on the Methodology for Evaluating Water Management Strategies as outlined in Section 4C.2 (specifically Table 4C.6) of the *2011 Region C Water Plan*. That table is shown below. On the next page is a table that specifically evaluates Bedford's conservation strategy based on the factors from the 2011 Plan.

Table 4C.6 (from *2011 Region C Water Plan*)
Factors Used to Evaluate Water Management Strategies for Region C

Quantity of Water Made Available
Reliability of Supply
Unit Cost of Delivered and Treated Water
Environmental Factors
- Total Acres Impacted
- Wetland Acres
- Environmental Water Needs
- Wildlife Habitat
- Threatened and Endangered Species
- Cultural Resources
- Bay and Estuary Flows
- Water Quality
- Other
Impacts on Agricultural and Rural Areas
Impacts on Natural Resources
Impacts on Other Water Management Strategies and Possible Third Party Impacts

Impacts to Key Water Quality Parameters
Consistency with Plans of Region C Water Suppliers
Consistency with Other Regions

Evaluation Factor	**Evaluation of Bedford Conservation Strategy**
Quantity of Water Made Available	1,687 acre-feet per year
Reliability of Supply	High. Supply (water savings) will be not be subject to drought or consumer activity. Will be automatic when pipes and meter are replaced.
Unit Cost of Delivered and Treated Water	Unit cost is $12.26/thousand gallons. High compared to most other strategies.
Environmental Factors	
- Total Acres Impacted	182 acres (150 miles of pipe x 10 ft right-of-way, converted to acres)
- Wetland Acres	0 acres
- Environmental Water Needs	None
- Wildlife Habitat	None. This is all urban area.
- Threatened and Endangered Species	None. This is all urban area.
- Cultural Resources	None. This is all urban area that is already developed with water lines.
- Bay and Estuary Flows	Not applicable.
- Water Quality	This project has no negative impact on water quality. This project may improve the quality of water in the distribution system because there will now be less leakage and breaks.
- Other	Not applicable.
Impacts on Agricultural and Rural Areas	None. This is all urban area.
Impacts on Natural Resources	None. This is all urban area.
Impacts on Other Water Management Strategies and Possible Third Party Impacts	Does not affect any other strategies.
Impacts to Key Water Quality Parameters	No impact to Key Water Quality parameters. This project may improve the quality of water in the distribution system because there will now be less leakage and breaks.
Consistency with Plans of Region C Water Suppliers	Water suppliers affected by this are Bedford's wholesale supplier (Trinity River Authority) and TRA's supplier (Tarrant Regional Water District). Both of these suppliers encourage and support conservation effort of their customers, so this strategy is consistent with the plans of these Region C water suppliers.
Consistency with Other Regions	This strategy has a positive impact on some other regions in that it reduces the amount of interbasin transfer that might be needed from other regions.

4.3 Changes to Text and Tables from the *2011 Region C Water Plan*

The pages that follow contain updated text and tables from the *2011 Region C Water Plan*. Below is a list of items presenting on the following pages. The portions of the text or table that have been updated are highlighted in yellow.

It should be noted that the original hard copy (paper plan) of the *2011 Region C Water Plan* had slightly different supply volumes for Bedford's Basic Conservation than did the TWDB online Regional Planning Database (DB12). The values differed by 5 acre-feet in 2020, 3 acre-feet in 2030, 2 acre-feet in 2040, 2 acre-feet in 2050, and 1 acre-foot in 2060.) As is the policy of TWDB, the values in DB12 are considered to be the true values. As such, tables in this amendment packet have been adjusted to match the DB12 values and then modified for the supply volume related to the project described in this amendment.

Executive Summary*, Table ES.2, Page ES.14, Total Cost of strategies
Chapter 4E text, Page 4E.15*, TRWD conservation quantity
Chapter 4E, Table 4E.4*, Page 4E.18, TRWD wholesale conservation quantity
Chapter 4E, Table 4E.5*, Page 4E.21, TRWD wholesale conservation quantity
Chapter 4E text, TRA, Page 4E.34 and 4E.35, Conservation quantity
Chapter 4E, Table 4E.13, Page 4E.39 and Page 4E.40, TRA wholesale conservation quantity
Chapter 4E, Table 4E.14, Page 4E.42, TRA wholesale conservation quantity
Chapter 4F text, Page 4F.389, Bedford write-up
Chapter 4F, Table 4F.306, Page 4F.389, Bedford conservation quantity
Chapter 4F, Table 4F.344, Page 4F.424, Bedford conservation quantity and costs
Chapter 4F, Table 4F.345, Page 4F.430, total Tarrant County conservation quantity and costs
Chapter 6, Page 6.17*, Description of Basic Conservation Package
Chapter 6, Page 6.18*, Description of Bedford Conservation Main Replacement Program
Chapter 6, Table 6.7, Page 6.35, Quantity for Total Municipal Conservation Strategy
Appendix C, Table C-20, Page C.10, Bedford Summary Table
Appendix K, Page K.10, Section 6.6
Appendix K, Table 1.3*, Page K.4
Appendix Q, Table Q-10*, Pages Q.20-Q.23, Basic Conservation Capital Cost
Appendix Z, Table Z.2*, Page Z.5, Summary of Recommended Strategies Region C WUGs and WWPs

It should be noted that the City of Fort Worth is concurrently seeking a Minor Amendment to the 2011 Region C Water Plan for a similar water conservation strategy. The tables and text above marked with an "" will be affected by both Bedford and Fort Worth Amendments. The final amendment to the 2011 Region C Water Plan will include these tables with the combined effects of the Bedford and Fort Worth Minor Amendments.

Executive Summary, Table ES.2, Page ES.14, Total Cost of strategies
Note: This table was previously updated as part of Errata #1 dated December 8, 2010.

Table ES.2
2060 Supplies for the Largest Wholesale Providers and for Region C

Wholesale Water Provider	Supplies Available in 2060 from Current Sources [(a)]	Supplies Available in 2060 from New Strategies[(a)]	Total Supplies Available in 2060[(a)]	% of Total Supply from Conservation and Reuse	Cost of Strategies (Millions)
Dallas Water Utilities	548,580	559,802	1,108,356	22.1%	$5,816
Tarrant Regional Water District	508,333	624,086	1,132,419	18.0%	$4,735
North Texas Municipal Water District	421,405	631,862	1,053,267	24.4%	$5,266
City of Fort Worth	278,645	340,031	618,676	14.4%	$1,056
Trinity River Authority	125,822	118,129	243,951	36.2%	$186
Upper Trinity Regional Water District	56,025	137,990	194,015	26.3%	$1,129
Greater Texoma Utility Authority	19,560	63,736	83,296	6.0%	$240
Total for Region C[(c)]	**1,774,509**	**2,209,478[(b)]**	**3,983,987[(b)]**	**23.3%[(b)]**	**$21,202**

Notes:

(a) Some supplies are used by more than one supplier. For example, TRWD supplies water to TRA and Fort Worth, DWU supplies water to UTRWD, etc.

(b) These values are estimated.

(c) Total for Region C is not a sum of the numbers above. It includes other providers as well. Some supplies serve multiple suppliers.

It should be noted that the original Table ES.2 in the 2011 Region C Plan had the following values which were later corrected:
Tarrant Regional Water District Supplies Available in 2060 from New Strategies: 626,185,
Tarrant Regional Water District Total Supplies Available in 2060: 1,134,518, and
Tarrant Regional Water District % of Total Supplies from Conservation and Reuse: 18.2%.

Chapter 4E text, page 4E.15, TRWD conservation quantity

Conservation. Conservation for TRWD is the projected water savings from the Region C recommended water conservation program for TRWD's existing and potential customers. Not including savings from low-flow plumbing fixtures (which amount to about 5 percent of demand and are built into the demand projections) and not including reuse, conservation by TRWD customers is projected to reach 88,586 acre-feet per year by 2060.

Chapter 4E, Table 4E.4, Page 4E.18, TRWD wholesale conservation quantity

Table 4E.4
Summary of Recommended Water Management Strategies for TRWD

Planned Supplies (Ac-Ft/Yr)	**2010**	**2020**	**2030**	**2040**	**2050**	**2060**
Projected Demands	**448,806**	**560,680**	**657,866**	**754,210**	**860,389**	**985,584**
Existing Supplies						
West Fork System	*109,833*	*109,167*	*108,500*	*107,833*	*107,167*	*106,500*
Benbrook Lake	*6,833*	*6,833*	*6,833*	*6,833*	*6,833*	*6,833*
Cedar Creek Lake	*175,000*	*175,000*	*175,000*	*175,000*	*175,000*	*175,000*
Richland-Chambers Reservoir	*210,000*	*210,000*	*210,000*	*210,000*	*210,000*	*210,000*
Richland-Chambers Reuse	*10,000*	*10,000*	*10,000*	*10,000*	*10,000*	*10,000*
Total Available Supplies	***511,666***	***511,000***	***510,333***	***509,666***	***509,000***	***508,333***
Need (Demand - Supply)	***0***	***49,680***	***147,533***	***244,544***	***351,389***	***477,251***
Water Management Strategies						
Conservation (Wholesale Customers)	11,456	29,538	44,336	57,002	71,198	88,586
Integrated Pipeline and Reuse		105,500	105,500	105,500	105,500	105,500
Marvin Nichols Reservoir			140,000	140,000	280,000	280,000
Toledo Bend Reservoir					100,000	100,000
Oklahoma Water						50,000
Supplies from Strategies	**11,456**	135,038	289,836	302,502	556,698	624,086
Total Supplies	**523,122**	646,038	800,169	812,168	1,065,698	1,132,419
Reserve or (Shortage)	**74,315**	85,358	142,303	57,958	205,309	146,835
Note: The WWP (Tarrant Regional Water District) received the same volume of addition supply for conservation as the WUG (Bedford) received from the strategy presented in this amendment, however only the WUG (Bedford) incurs the cost of this strategy.						

Chapter 4E, Table 4E.5, Page 4E.21, TRWD wholesale conservation quantity

Table 4E.5
Summary of Costs for TRWD Recommended Strategies

Strategy	Date to be Developed	Quantity for TRWD in 2060 (Ac-Ft/Yr)	TRWD Share of Capital Costs	Unit Cost ($/1000 gal)		Table for Details
				With Debt Service	After Debt Service	
Conservation	2010-2060	88,586**	Included under County Summaries in Section 4F.			
Reuse	2018	105,500	$212,416,000	$0.63	$0.18	Q-50
Integrated Pipeline Project	2018	179,000*	$702,008,000	$1.36	$0.48	Q-41
Marvin Nichols Reservoir	2030	280,000	$2,371,116,000	$2.63	$0.74	Q-20
Toledo Bend Reservoir Phase I	2040	100,000	$1,000,766,000	$3.50	$1.27	Q-17
Oklahoma	2050	50,000	$448,332,000	$2.77	$0.79	Q-44
Total TRWD Capital Costs			**$4,734,638,000**			

*This supply is not a new supply for TRWD. The pipeline will transmit 179,000 af/y of existing supply and water supply made available by other strategies.

**Water Management Strategy evaluation information can be found in new Table Q-259.

Chapter 4E text, TRA, pages 4E.34 and 4E.35, Conservation quantity

Conservation. Conservation is the projected conservation savings for existing and potential customers of the TRA, based on the Region C recommended water conservation program. Not including savings from low-flow plumbing fixtures (which are built into the demand projections) and not including reuse, conservation by TRA customers is projected to reach 16,239 acre-feet per year by 2060.

Chapter 4E, Table 4E.13, Pages 4E.39 and 4E.40, TRA wholesale conservation quantity. *Note: this table has been slightly scaled down in size from the original table in order to fit on one page.*

Table 4E.13
Summary of Recommended Water Management Strategies for Trinity River Authority

Planned Supplies (Ac-Ft/Yr)	**2010**	**2020**	**2030**	**2040**	**2050**	**2060**
Projected Demands	**107,937**	**135,520**	**154,266**	**166,089**	**182,022**	**201,874**
Currently Available Supplies						
Joe Pool Lake (Midlothian and Grand Prairie)	*5,954*	*7,104*	*6,951*	*6,798*	*6,644*	*6,491*
Joe Pool Lake (Grand Prairie Raw)	*300*	*300*	*300*	*300*	*300*	*300*
Navarro Mills Lake	*19,342*	*18,333*	*17,325*	*16,317*	*15,308*	*14,300*
Lake Bardwell	*9,600*	*9,600*	*9,295*	*8,863*	*8,432*	*8,000*
Lake Livingston	*20,000*	*20,000*	*20,000*	*20,000*	*20,000*	*20,000*
Current Reuse	*13,248*	*13,379*	*13,379*	*13,379*	*13,379*	*13,379*
Current TRWD (Tarrant Co.)	*42,133*	*43,659*	*39,156*	*34,433*	*30,548*	*26,991*
Current TRWD (East Texas)	*14,323*	*28,620*	*31,110*	*34,086*	*35,644*	*36,361*
Currently Available Supplies	***124,900***	***140,995***	***137,516***	***134,176***	***130,255***	***125,822***
Need (Demand - Supply)	***0***	***0***	***16,750***	***31,913***	***51,767***	***76,052***
Water Management Strategies						
Conservation	1,723	6,502	9,783	11,741	13,828	16,239
Tarrant Co. WSP (TRWD)	0	1,627	7,841	12,949	17,108	20,949
Ellis Co. WSP and Other East Texas (TRWD)	0	1,521	7,735	15,374	23,626	33,157
Additional Freestone County Raw Water (TRWD)	0	1,000	1,000	1,000	1,000	1,000
Planned Supplies (Ac-Ft/Yr)						
Additional Los Colinas Reuse	0	7,000	7,000	7,000	7,000	7,000
Ennis Indirect Reuse (through TRA)	0	0	0	333	2,521	3,696
Dallas County Reuse (SE Power)	0	0	6,760	6,760	6,760	6,760
Ellis County Reuse (SE Power)	0	0	0	0	0	2,200
Freestone Co. Reuse (SE Power)	0	0	0	0	6,760	6,760
Kaufman Co. Reuse (SE Power)	0	1,000	1,000	1,000	1,000	1,000
Tarrant and Denton Co. Reuse	0	15,000	15,000	15,000	15,000	15,000
Joe Pool Lake Reuse	0	4,368	4,368	4,368	4,368	4,368
Total Supplies from Strategies	**1,723**	38,018	60,487	75,525	98,971	118,129
Total Supplies	**126,623**	179,013	198,003	209,701	229,226	243,951
Reserve or (Shortage)	**18,685**	43,493	43,737	43,612	47,204	42,077

Note: The WWP (Trinity River Authority) received the same volume of addition supply for conservation as the WUG (Bedford) received from the strategy presented in this amendment, however only the WUG (Bedford) incurs the cost of this strategy.

Chapter 4E, Table 4E.14, Page 4E.42, TRA wholesale conservation quantity

Table 4E.14
Summary of Costs for TRA Recommended Strategies

Strategy	Date to be Developed	Quantity for TRA in 2060 (Ac-Ft/Yr)	TRA Share of Capital Costs	Unit Cost ($/1000 gal)		Table for Details
				With Debt Service	After Debt Service	
Conservation	2010	16,239**	Included under County Summaries in Section 4F.			
Tarrant County System - More TRWD Water	2020	20,949	N/A	N/A	$0.69	None
Tarrant County System - Expansion to 102 mgd	2020	7,473	$29,504,000	$1.91	$1.03	Q-80
Tarrant County System - Expansion to 117 mgd	2020	7,473	$29,504,000	$1.91	$1.03	Q-80
Ellis County Project and Other East Texas Additional TRWD	2020	53,222	$50,912,000	$6.44	$0.43	Q-74
Freestone County Raw Water	2020	1,000	N/A	$0.82	$0.82	None
Additional Los Colinas Reuse	2015	7,000	$14,530,000	$0.87	$0.41	Q-75
Ennis Indirect Reuse (through TRA)	2040	3,696	Included in Ennis costs in Table 43.43			
Dallas County Steam Electric Reuse	2030	6,760	$14,895,000	$1.19	$0.46	Q-76
Ellis County Steam Electric Reuse	2060	2,200	$10,384,000	$1.55	$0.50	Q-77
Freestone County Steam Electric Reuse	2050	6,700	$17,266,000	$0.96	$0.41	Q-78
Kaufman County Steam Electric Reuse	2020	1,100	$9,761,000	$2.77	$0.59	Q-78
Tarrant and Denton County Reuse	2020	15,000	$9,506,000	$1.49	$0.92	Q-81
Joe Pool Lake Reuse*	2020	4,368	N/A	N/A	N/A	None
Total TRA Capital Costs			**$186,262,000**			

* There is no cost to get water in the lake. Capital costs and purchase costs to get the supply out of the lake are to be determined by who uses the supply.
** TRA has no retail sales, so conservation savings are reflected in their customers' conservation savings, and Water Management Strategy evaluation information can be found in new Table Q-259.

Chapter 4F text, page 4F.389, Bedford write-up

Bedford

Bedford is located in northeastern Tarrant County and has a population of about 50,000. The city's water supply is groundwater (Trinity aquifer) and treated water from the Trinity River Authority (TRA), which gets raw water from TRWD. Water management strategies include conservation (including a main replacement and automatic meter readers, which falls under the "Water system audit, leak detection and repair, and pressure control" component within the larger "Basic Municipal Water Conservation" strategy), additional water from TRA, and supplemental wells to replace existing wells. Table 4F.306 shows the projected population and demand, the current supplies, and the water management strategies for Bedford.

Chapter 4F, Table 4F.306, Page 4F.389, Bedford conservation quantity

Table 4F.306
Projected Population and Demand, Current Supplies,
and Water Management Strategies for the City of Bedford

(Values in Ac-Ft/Yr)	Projected Population and Demand					
	2010	**2020**	**2030**	**2040**	**2050**	**2060**
Projected Population	**50,001**	**52,395**	**54,407**	**56,098**	**57,519**	**58,713**
Projected Water Demand						
Municipal Demand	10,138	10,447	10,665	10,808	11,017	11,246
Total Projected Demand	***10,138***	***10,447***	***10,665***	***10,808***	***11,017***	***11,246***
Currently Available Water Supplies						
Trinity Aquifer	1,109	1,109	1,109	1,109	1,109	1,109
Trinity River Authority (TRWD)	8,755	8,567	7,450	6,543	5,853	5,222
Total Current Supplies	***9,864***	***9,676***	***8,559***	***7,652***	***6,962***	***6,331***
Need (Demand - Current Supply)	***274***	***771***	***2,106***	***3,156***	***4,055***	***4,915***
Water Management Strategies						
Water Conservation	274	1,318	2,303	2,430	2,570	2,716
Additional Water from TRA (TRWD)*	0	242	1,406	2,349	3,140	3,887
Supplemental Wells	0	0	0	0	0	0
Total Water Management Strategies	***274***	***1,560***	***3,709***	***4,779***	***5,710***	***6,603***
Reserve (Shortage)	**0**	**789**	**1,603**	**1,623**	**1,655**	**1,688**
Note: The WWPs that supply Bedford (Tarrant Regional Water District and Trinity River Authority) received the same volume of addition supply for conservation as the WUG (Bedford) received from the strategy presented in this amendment, however only the WUG (Bedford) incurs the cost of this strategy.						

Chapter 4F, Table 4F.344, Page 4F.424, Bedford conservation quantity and costs (only Bedford rows shown here; previously Basic and Expanded Conservation were combined on one row)

Table 4F.344
Costs for Recommended Water Management Strategies for Tarrant County
Not Covered Under Wholesale Water Providers

Water User Group	Strategy	Imple-mented by:	Quantity In 2060** (Ac-Ft/Yr)	Capital Costs	Unit Cost ($/1000 gal)		Table for Details
					With Debt Service	After Debt Service	
Bedford	Conservation-Basic	2010	2,641	$77,308,705	$7.95	$0.13	Q-10 and Q-295
	Conservation-Expanded	2010	75	$0	$1.30	$1.30	Q-11
	Supplemental wells	2010	0	$2,062,000	N/A	N/A	Q-13
	Additional TRA (TRWD)	2020	3,887	$0	$2.27	$2.27	None

Note: In all other tables, the Basic and Expanded Conservation are combined. They have been shown separately here to demonstrate that the volume of supply associated with Basic Conservation is consistent with other information presented in this Minor Amendment.
Note: This table only shows the rows for Bedford from the original Table 4F.344. All other rows for Tarrant County WUGs have not been repeated for the purpose of this amendment.

Chapter 4F, Table 4F.345, Page 4F.430, total Tarrant County conservation quantity and costs

Table 4F.345
Summary of Recommended Water Management Strategies for Tarrant County
Not Covered Under Wholesale Water Providers

Type of Strategy	Quantity in 2060 (Ac-Ft/Yr)	Capital Costs
Conservation	68,834	$77,570,705
Purchase from WWP or WUG	135,235	$13,233,000
Supplemental wells	0	$66,220,000
New water treatment plant and expansions	2,520	$52,902,000
Transmission facilities	4,043	$31,125,000
Additional Groundwater	585	$1,795,000
Reuse (including transmission facilities)	4,289	$14,902,000
Total		**$257,747,705**

* The conservation quantities represent conservation in the county, not the sum of the individual water user groups.

Chapter 6, page 6.17 Description of Basic Conservation Package, edited to include the highlighted text below.

The Basic Water Conservation Package includes:

- Low flow plumbing fixture rules (required by state and federal law)
- Public and school education
- Water use reduction due to increasing water prices
- Water system audit, leak detection and repair, and pressure control. For select WUGs/WWPs, this may include:
  - Replacement of water mains that are a significant source of water loss;
  - Installation of Automatic Meter Reading technology
  - Implementation/Installation of Advanced Meter Infrastructure (AMI) System to significantly reduce water loss
  - Other measures deemed appropriate to prevent water loss
- New efficient residential clothes washer standards
- Water conservation pricing structure (in Expanded Package in 2006 Water Plan)
- Water waste prohibition (in Expanded Package in 2006 Water Plan).

Chapter 6, Page 6.18, Add the following Description of Bedford Conservation Main Replacement Program after the end of the second paragraph, just prior to the description of the Expanded Water Conservation Package.

Description of Bedford Conservation Main Replacement Program

The City of Bedford, Texas would like to undertake the "Water Distribution System Conservation Program" to reduce water lost through leaks and pipe breaks, as well as inaccurate and old water meters. This Conservation program will be considered a component of the “Water system audit, leak detection and repair, and pressure control” category under the Basic Water Conservation Package for Bedford in the 2011 Region C Water Plan. The City of Bedford's water distribution system consists of approximately 165 miles of 8"-inch to 12"-inch water distribution piping.

Approximately 90% of the distribution system is made up of cast iron pipe or asbestos cement pipe all of which is more than 60 years old. These older pipes are proving problematic in that the city is experiencing more and more leaks and pipe breakages. Also, the city is in the process of introducing a second, higher-pressure zone. It is well recognized that with higher pressures, the leakage problem will be further exacerbated. Current water audits show the City of Bedford's unaccounted for water loss is at an acceptable level (less than 10%). Evidence exists that the lost water will continue to grow. A snapshot evaluation of January 2015 water loss showed this unaccounted for water loss growing to exceed 11.5%. The City estimates that “unaccounted for” water would reach 20% by the year 2020 and remain at this level through 2060. The City feels that this is a highly conservative estimate given the already 11.5% water loss and pipe breaks in the system, because of general pipe age and poor pipe materials, are increasing at a significant rate as displayed on page 8.

Mr. Thomas Hoover, the Public Works Director, reported that the water distribution system is in dire need of repair. Mr. Hoover reported that the water distribution is experiencing an increasing number of breaks, which of course are a major cause of lost water. The water distribution system map (page 8) has been color coded showing the location and year for significant water pipe breaks. This break history is very troubling. The break history is tabulated below.

2013 – 33 breaks

2014 – 25 breaks

2015 (two months) -39 breaks-extrapolates to 234 for full year.

Bedford feels that if the water distribution is not addressed with a major replacement program, that the 20% level of water loss would be quickly achieved, easily by 2020, and likely exceeded. The city in fact feels that this 20% water loss estimate may be conservative.

In addition, this year the City will be raising the pressure in a significant portion of the system. Further, the City expects to introduce a complete new pressure zone in the Northwest Quadrant of the City. As is

recognized in the literature, water system leakage is generally proportional to system pressure. The City expects these higher pressure to cause even more breaks and higher leakage.

The City's water distribution system has been operating at somewhat lower system pressure, for which one of the reasons is to protect the fragile piping system. This likely contributed to the rather modest levels of unaccounted for water in as reported to TWDB in 2013 (approximately 6%). The City recently completed Water Audit for 2014 showing the water loss at 7.55%, a significant increase. Additionally, as mentioned above, a snapshot evaluation of January 2015 water loss showed this unaccounted for water loss growing to exceed 11.5%. With the addition of the new pressure zone, losses are expected to increase significantly.

The city's intention is to replace, in like size, 150 miles of existing water distribution main over the next 10 years. We do not expect the need to acquire any easements. The permitting will be very simple, given that almost all of the mains are in public streets or previously dedicated easements.

The city plans to upgrade their outdated water meters with new state-of-the-art Automatic Meter Readers (AMR). A large percentage of the city's water meters read inaccurately, based upon a significant sample survey. By improving meter accuracy, this will send an important price signal to consumers and further curb water usage. Further, in the event of water pipe breakage on the customer side, the AMR system can alert the city and ultimately the customer, to expedite repairs and curtail water loss. Below is an exhibit which shows the results of an in depth study of the City's water meters, demonstrating water metering error from 3% to 13%. Some meters may register higher and some meters may register lower so it is uncertain what total effect accurate meters may have on the amount of "unaccounted for" water. But what is undeniable, with the ability to quickly monitor and respond to unusual water usage on the customer side (pipe break inside the house, leaking toilet, etc.), AMR will have a positive conservation benefit that would be in addition to the benefit of repairing the leaking mains in the distribution system.

Although the expected "unaccounted for" water in the distribution system will reach the 20% level, it is recognized that no system has zero losses. Therefore it is expected that 75% of this "unaccounted for" water will be recovered through system improvements, equating to a 15% net savings in water supply.

Chapter 6, Table 6.7, Page 6.35, Quantity for Total Municipal Conservation Strategy

Table 6.7
Summary of Existing and Recommended Conservation (Including Reuse) for Region C
- Values in Acre-Feet per Year –

Strategy	2010	2020	2030	2040	2050	2060
Municipal Conservation						
Low flow plumbing fixture rules [a]	22,029	69,122	86,663	105,067	151,981	211,201
Municipal Recommended Conservation	46,690	107,624	153,189	194,343	237,373	286,604
Non-Municipal Conservation						
Efficient new steam electric power plants	3,262	7,824	14,545	26,725	43,403	65,619
Non-Municipal conservation strategies [b]	57	1,069	3,334	4,518	5,147	5,737
Reuse Strategies						
Existing Reuse	203,974	246,510	289,995	312,992	321,405	336,082
Proposed Reuse Strategies	1,937	257,036	275,628	276,688	292,539	300,574
Total Conservation and Reuse	277,949	689,185	823,353	920,333	1,051,847	1,205,816
Total Region C Municipal Demands	1,546,970	1,833,671	2,087,597	2,344,115	2,612,176	2,924,157
Total Municipal Demand without Conservation	1,572,261	1,910,617	2,188,805	2,475,907	2,807,560	3,200,977

a. The Total Region C Demands on the line above includes projected conservation savings from low flow plumbing fixtures and efficient new steam electric power plants. These savings were added to the Region C Demands to obtain "Total Demand without Conservation", a projection of Region C's demands if no conservation occurred.

b. Non-municipal water conservation measures include estimated conservation savings from manufacturing and irrigation rebates.

Appendix C, Table C-20, Page C.10

Table C-20
Bedford

(Values in Ac-Ft/Yr)	Projected Population and Demand					
	2010	**2020**	**2030**	**2040**	**2050**	**2060**
Projected Population	**50,001**	**52,395**	**54,407**	**56,098**	**57,519**	**58,713**
Projected Water Demand						
Municipal Demand	10,138	10,447	10,665	10,808	11,017	11,246
Total Projected Demand	***10,138***	***10,447***	***10,665***	***10,808***	***11,017***	***11,246***
Currently Available Water Supplies						
Trinity Aquifer	1,109	1,109	1,109	1,109	1,109	1,109
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Total Water Management Strategies	***274***	***1,560***	***3,709***	***4,779***	***5,710***	***6,603***
Reserve (Shortage)	**0**	**789**	**1,603**	**1,623**	**1,655**	**1,688**

6.6 *Special Description of Bedford's Conservation Main Replacement and AMR Program*

The City of Bedford, Texas would like to undertake the "Water Distribution System Conservation Program" to reduce water lost through leaks and pipe breaks, as well as inaccurate and old water meters. This Conservation program will be considered a component of the "Water system audit, leak detection and repair, and pressure control" category under the Basic Water Conservation Package for Bedford in the 2011 Region C Water Plan. The City of Bedford's water distribution system consists of approximately 165 miles of 8"-inch to 12"-inch water distribution piping.

Approximately 90% of the distribution system is made up of cast iron pipe or asbestos cement pipe all of which is more than 60 years old. These older pipes are proving problematic in that the city is experiencing more and more leaks and pipe breakages. Also, the city is in the process of introducing a second, higher-pressure zone. It is well recognized that with higher pressures, the leakage problem will be further exacerbated. Current water audits show the City of Bedford's unaccounted for water loss is at an acceptable level (less than 10%). Evidence exists that the lost water will continue to grow. A snapshot evaluation of January 2015 water loss showed this unaccounted for water loss growing to exceed 11.5%. The City estimates that "unaccounted for" water would reach 20% by the year 2020 and remain at this level through 2060. The City feels that this is a highly conservative estimate given the already 11.5% water loss and pipe breaks in the system, because of general pipe age and poor pipe materials, are increasing at a significant rate as displayed on page 8.

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In addition, this year the City will be raising the pressure in a significant portion of the system. Further, the City expects to introduce a complete new pressure zone in the Northwest Quadrant of the City. As is

recognized in the literature, water system leakage is generally proportional to system pressure. The City expects these higher pressure to cause even more breaks and higher leakage.

The City's water distribution system has been operating at somewhat lower system pressure, for which one of the reasons is to protect the fragile piping system. This likely contributed to the rather modest levels of unaccounted for water in as reported to TWDB in 2013 (approximately 6%). The City recently completed Water Audit for 2014 showing the water loss at 7.55%, a significant increase. Additionally, as mentioned above, a snapshot evaluation of January 2015 water loss showed this unaccounted for water loss growing to exceed 11.5%. With the addition of the new pressure zone, losses are expected to increase significantly.

The city's intention is to replace, in like size, 150 miles of existing water distribution main over the next 10 years. We do not expect the need to acquire any easements. The permitting will be very simple, given that almost all of the mains are in public streets or previously dedicated easements.

The city plans to upgrade their outdated water meters with new state-of-the-art Automatic Meter Readers (AMR). A large percentage of the city's water meters read inaccurately, based upon a significant sample survey. By improving meter accuracy, this will send an important price signal to consumers and further curb water usage. Further, in the event of water pipe breakage on the customer side, the AMR system can alert the city and ultimately the customer, to expedite repairs and curtail water loss. Below is an exhibit which shows the results of an in depth study of the City's water meters, demonstrating water metering error from 3% to 13%. Some meters may register higher and some meters may register lower so it is uncertain what total effect accurate meters may have on the amount of "unaccounted for" water. But what is undeniable, with the ability to quickly monitor and respond to unusual water usage on the customer side (pipe break inside the house, leaking toilet, etc.), AMR will have a positive conservation benefit that would be in addition to the benefit of repairing the leaking mains in the distribution system.

Although the expected "unaccounted for" water in the distribution system will reach the 20% level, it is recognized that no system has zero losses. Therefore it is expected that 75% of this "unaccounted for" water will be recovered through system improvements, equating to a 15% net savings in water supply.

Appendix K, Table 1.3, Page K.4

Table 1.3: Summary of Cost

Table 1.3: Summary of Cost by Municipal Conservation Strategy

Strategy	Implementation Date	Conservation Package	Cost Per 1,000 Gallons of Water Saved					
			2010	2020	2030	2040	2050	2060
Low Flow Plumbing Fixtures	2010	Minimum	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Implement New Federal Clothes Washer Standards	2010	Minimum	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Minimum Package Subtotal			$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Public and School Education	2010	Basic	$0.82	$0.77	$0.63	$0.54	$0.47	$0.40
Impact of Increasing Water Prices	2010	Basic	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Water System Audit	2010	Basic	$4.13	$4.00	$2.51	$1.02	$1.01	$1.03
Water Conservation Pricing Structure	2010	Basic	$0.40	$0.07	$0.00	$0.00	$0.00	$0.00
Water Waste Prohibition		Basic	$1.95	$0.90	$0.54	$0.50	$0.50	$0.51
Basic Package Subtotal			$0.93	$1.01	$0.72	$0.44	$0.38	$0.33
Residential Customer Audit	2010	Expanded	$2.35	$2.05	$1.84	$1.86	$1.88	$1.92
Landscape Irrigation Restrictions	2010	Expanded	$0.35	$0.35	$0.34	$0.35	$0.35	$0.36
ICI Water Audit	2020	Expanded	$0.89	$1.04	$1.05	$1.06	$1.09	$1.10
Coin-Op Water-Efficient Clothes Washer Rebate	2020	Expanded	$0.49	$0.32	$0.24	$0.23	$0.22	$0.22
Expanded Conservation Package Subtotal			$0.49	$1.05	$0.95	$0.97	$0.99	$1.01

Table Q-10
Supply and Costs by User Group for Basic Conservation Package

Water User Group Name	Capital Costs						Total Annual Cost per Acre-Foot						Value of Total Supply from Basic Conservation (Acre-Feet)						Total Annual Cost					
	2010	2020	2030	2040	2050	2060	2010	2020	2030	2040	2050	2060	2010	2020	2030	2040	2050	2060	2010	2020	2030	2040	2050	2060
ABLES SPRINGS WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	9	33	52	69	91	118	$0	$0	$0	$0	$0	$0
ADDISON	$0	$0	$0	$0	$0	$0	$220	$153	$121	$101	$87	$76	189	340	465	587	707	826	$41,500	$52,079	$56,335	$59,301	$61,368	$62,700
ALEDO	$0	$5,000	$0	$0	$0	$0	$80	$323	$258	$221	$199	$182	5	54	108	166	193	212	$436	$17,418	$27,820	$36,768	$38,417	$38,417
ALLEN	$0	$8,711	$0	$0	$0	$0	$4	$146	$104	$90	$81	$73	192	1,115	1,672	1,914	2,145	2,376	$759	$163,259	$173,259	$173,125	$173,125	$173,125
ALVORD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	7	10	12	14	17	$0	$0	$0	$0	$0	$0
ANNA	$0	$0	$0	$0	$0	$0	$0	$261	$204	$169	$138	$104	24	141	261	397	574	1,061	$0	$36,833	$53,167	$67,000	$79,000	$110,000
ANNETTA	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	3	11	16	19	23	27	$0	$0	$0	$0	$0	$0
ANNETTA SOUTH	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	1	4	6	8	9	10	$0	$0	$0	$0	$0	$0
ARGYLE	$0	$0	$0	$0	$0	$0	$307	$182	$145	$125	$109	$97	34	135	238	305	386	475	$10,486	$24,601	$34,460	$38,117	$42,158	$46,167
ARGYLE WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$212	$189	$169	14	38	50	78	88	98	$0	$0	$0	$16,644	$16,644	$16,644
ARLINGTON	$0	$0	$0	$0	$0	$0	$189	$110	$87	$76	$68	$61	2,123	3,969	5,273	6,290	7,031	7,798	$400,523	$437,500	$458,333	$476,721	$476,721	$476,721
ATHENS	$0	$25,605	$0	$0	$0	$0	$20	$278	$191	$165	$144	$125	21	170	290	383	505	662	$436	$47,234	$55,397	$63,054	$72,947	$82,612
AUBREY	$0	$0	$0	$0	$0	$0	$0	$308	$0	$0	$0	$0	6	48	61	88	126	181	$0	$14,910	$0	$0	$0	$0
AURORA	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	3	9	13	15	18	22	$0	$0	$0	$0	$0	$0
AZLE	$5,000	$0	$0	$0	$0	$0	$751	$5	$3	$0	$0	$0	98	83	145	209	279	350	$73,536	$436	$436	$0	$0	$0
BALCH SPRINGS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	28	95	132	149	164	180	$0	$0	$0	$0	$0	$0
BARDWELL	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	1	6	8	11	13	16	$0	$0	$0	$0	$0	$0
BARTONVILLE	$0	$0	$0	$0	$0	$0	$497	$231	$196	$174	$157	$143	9	54	71	80	88	97	$4,361	$12,528	$13,889	$13,889	$13,889	$13,889
BARTONVILLE WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$194	3	10	15	18	20	33	$0	$0	$0	$0	$0	$6,332
BEDFORD*	$0	$77,308,705	$0	$0	$0	$0	$365	$5,388	$3,068	$45	$43	$41	274	1,270	2,231	2,357	2,496	2,641	$100,001	$6,842,520	$6,844,532	$106,098	$107,519	$108,713
BELLS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	11	17	22	26	30	$0	$0	$0	$0	$0	$0
BENBROOK	$5,000	$0	$0	$0	$0	$0	$388	$222	$175	$146	$125	$109	172	328	445	602	800	1,045	$66,603	$72,686	$77,936	$88,000	$100,250	$113,750
BETHEL-ASH WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	3	11	17	21	25	30	$0	$0	$0	$0	$0	$0
BETHESDA WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	30	95	120	150	186	231	$0	$0	$0	$0	$0	$0
BLACKLAND WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	7	28	43	55	69	87	$0	$0	$0	$0	$0	$0
BLOOMING GROVE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$269	$240	$216	2	5	6	10	11	12	$0	$0	$0	$2,691	$2,691	$2,691
BLUE MOUND	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	12	16	17	18	19	$0	$0	$0	$0	$0	$0
BLUE RIDGE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	5	23	47	80	125	150	$0	$0	$0	$0	$0	$0
BOLIVAR WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	19	70	162	356	601	862	$0	$0	$0	$0	$0	$0
BONHAM	$0	$0	$0	$0	$0	$0	$0	$339	$256	$214	$174	$145	16	99	162	259	401	555	$0	$33,574	$41,500	$55,500	$70,000	$80,500
BOYD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	3	10	16	20	25	27	$0	$0	$0	$0	$0	$0
BRANDON-IRENE WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0	2	2	3	3	3	$0	$0	$0	$0	$0	$0
BRIDGEPORT	$0	$0	$0	$0	$0	$0	$0	$277	$214	$183	$160	$141	11	83	150	205	270	360	$0	$23,014	$32,169	$37,524	$43,033	$50,684
BRYSON	$0	$0	$0	$0	$0	$0	$588	$321	$255	$229	$207	$189	3	5	7	7	8	9	$1,626	$1,677	$1,710	$1,710	$1,710	$1,710
BUENA VISTA - BETHEL SUD	$0	$0	$0	$0	$0	$0	$341	$118	$99	$86	$76	$71	108	352	475	616	778	963	$36,891	$41,436	$46,772	$52,833	$59,459	$68,008
BURLESON	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	13	34	50	64	82	104	$0	$0	$0	$0	$0	$0
CADDO BASIN SUD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	11	39	55	70	87	106	$0	$0	$0	$0	$0	$0
CARROLLTON	$10,000	$0	$0	$0	$0	$0	$268	$157	$125	$110	$98	$89	753	1,307	1,690	1,952	2,205	2,459	$202,122	$205,872	$211,497	$214,150	$216,813	$218,500
CASH SUD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	1	4	6	8	11	13	$0	$0	$0	$0	$0	$0
CEDAR HILL	$31,256	$0	$0	$0	$0	$0	$262	$126	$98	$88	$80	$74	371	948	1,304	1,501	1,645	1,789	$97,108	$119,453	$128,085	$131,622	$131,622	$131,622
CELINA	$5,000	$0	$0	$0	$0	$0	$422	$223	$151	$108	$86	$75	37	314	780	1,570	2,696	3,449	$15,575	$69,910	$117,683	$169,084	$232,128	$260,148
CHATFIELD WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	6	30	49	65	83	105	$0	$0	$0	$0	$0	$0
CHICO	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	8	12	16	21	27	$0	$0	$0	$0	$0	$0
COCKRELL HILL	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	6	21	28	31	33	36	$0	$0	$0	$0	$0	$0
COLLEGE MOUND WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	13	55	86	108	136	172	$0	$0	$0	$0	$0	$0
COLLEYVILLE	$0	$24,497	$0	$0	$0	$0	$289	$145	$103	$92	$84	$77	220	477	649	725	799	874	$63,469	$69,136	$67,000	$67,000	$67,000	$67,000
COLLINSVILLE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	15	24	32	40	49	$0	$0	$0	$0	$0	$0
COMBINE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	15	23	28	34	43	$0	$0	$0	$0	$0	$0
COMBINE WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	8	30	46	60	77	100	$0	$0	$0	$0	$0	$0
COMMUNITY WATER COMPANY	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	3	13	21	27	34	43	$0	$0	$0	$0	$0	$0
COMMUNITY WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	7	25	27	29	31	33	$0	$0	$0	$0	$0	$0
COPPELL	$7,192	$0	$0	$0	$0	$0	$268	$159	$130	$114	$103	$93	360	609	748	847	942	1,039	$96,353	$96,637	$96,878	$96,456	$96,631	$96,778
COPPER CANYON	$0	$0	$0	$0	$0	$0	$393	$227	$180	$157	$140	$125	10	20	30	40	51	63	$3,817	$4,633	$5,450	$6,267	$7,083	$7,900
CORINTH	$0	$0	$0	$0	$0	$0	$374	$222	$175	$150	$132	$117	142	271	366	445	531	615	$53,241	$60,167	$64,000	$67,000	$70,000	$72,250
CORSICANA	$0	$0	$0	$31,760	$0	$0	$10	$3	$2	$193	$149	$129	45	137	194	423	567	665	$436	$436	$436	$81,520	$84,373	$85,545
CRANDALL	$0	$19,942	$0	$0	$0	$0	$200	$325	$225	$200	$180	$162	9	60	103	140	189	253	$1,739	$19,651	$23,115	$27,961	$33,914	$40,966
CRESSON	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	1	3	4	5	7	9	$0	$0	$0	$0	$0	$0
CROSS ROADS	$0	$0	$0	$0	$0	$0	$277	$192	$159	$137	$121	$109	16	55	67	77	88	98	$4,361	$10,622	$10,622	$10,622	$10,622	$10,622
CROWLEY	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	20	67	109	160	207	239	$0	$0	$0	$0	$0	$0
CULLEOKA WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	18	74	102	126	154	185	$0	$0	$0	$0	$0	$0
DALLAS	$0	$0	$0	$0	$0	$0	$307	$179	$148	$130	$116	$105	10,808	19,933	25,343	30,684	37,818	48,848	$3,313,395	$3,560,726	$3,753,433	$4,002,082	$4,403,054	$5,111,462
DALLAS COUNTY WCID #6	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0
DALWORTHINGTON GARDENS	$0	$0	$0	$0	$0	$0	$0	$230	$177	$153	$135	$120	5	33	44	53	61	69	$0	$7,492	$7,821	$8,036	$8,178	$8,268
DANVILLE WSC	$0	$0	$0	$0	$0	$0	$0	$258	$219	$196	$174	$156	11	68	99	133	172	219	$0	$17,469	$21,674	$25,986	$30,069	$34,185
DAWSON	$0	$0	$0	$0	$0	$0	$0	$0	$0	$259	$227	$202	2	5	7	13	15	19	$0	$0	$3,289	$3,517	$3,798	
DE SOTO	$0	$0	$0	$0	$0	$0	$677	$361	$283	$243	$213	$192	310	663	934	1,181	1,473	1,669	$209,905	$239,229	$264,171	$287,450	$313,656	$320,835
DECATUR	$0	$5,000	$0	$0	$0	$0	$34	$296	$222	$187	$162	$144	13	88	158	234	341	445	$436	$26,001	$34,926	$43,570	$55,190	$64,165
DENISON	$0	$0	$25,961	$0	$0	$0	$53	$16	$183	$144	$129	$116	43	145	382	496	566	641	$2,263	$2,263	$70,000	$71,500	$73,000	$74,500
DENTON	$0	$10,000	$0	$0	$0	$0	$5	$177	$126	$103	$88	$75	186	1,514	2,651	3,904	5,428	8,290	$872	$268,347	$333,333	$402,917	$477,218	$623,362
DENTON COUNTY FWSD No.1A	$0	$0	$0	$0	$0	$0	$293	$177	$145	$127	$113	$99	30	78	127	184	251	330	$8,695	$13,758	$18,519	$23,419	$28,265	$32,727
DOUBLE OAK	$0	$0	$0	$0	$0	$0	$409	$245	$194	$171	$153	$139	21	34	43	49	55	61	$8,444	$8,444	$8,444	$8,444	$8,444	$8,444
DUNCANVILLE	$0	$0	$0	$0	$0	$0	$481	$213	$190	$178	$169	$160	358	810	910	968	1,020	1,081	$172,523	$172,523	$172,523	$172,523	$172,523	$172,523
EAST CEDAR CREEK FWSD	$0	$0	$0	$0	$0	$0	$567	$294	$227	$201	$181	$164	48	103	156	189	227	267	$27,427	$30,249	$35,347	$38,159	$40,970	$43,782

* Cost estimate for this Bedford Water Management Strategy is found in Table Q-259

Water User Group Name	Capital Costs						Total Annual Cost per Acre-Foot						Value of Total Supply from Basic Conservation (Acre-Feet)						Total Annual Cost					
	2010	2020	2030	2040	2050	2060	2010	2020	2030	2040	2050	2060	2010	2020	2030	2040	2050	2060	2010	2020	2030	2040	2050	2060
EAST FORK SUD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	24	66	84	98	113	130	$0	$0	$0	$0	$0	$0
ECTOR	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	1	4	5	6	6	7	$0	$0	$0	$0	$0	$0
EDGECLIFF	$0	$0	$0	$0	$0	$0	$0	$326	$250	$222	$202	$183	4	22	29	32	36	39	$0	$7,219	$7,219	$7,219	$7,219	$7,219
ENNIS	$27,821	$0	$0	$0	$0	$0	$775	$379	$302	$264	$232	$202	150	377	559	775	1,065	1,462	$116,591	$143,214	$169,164	$204,488	$246,944	$295,578
EULESS	$0	$48,804	$0	$0	$0	$0	$408	$217	$151	$135	$123	$113	264	597	865	977	1,080	1,182	$107,701	$129,775	$130,620	$131,938	$132,983	$133,498
EUSTACE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	5	7	7	8	8	$0	$0	$0	$0	$0	$0
EVERMAN	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	9	30	40	42	45	47	$0	$0	$0	$0	$0	$0
FAIRFIELD	$0	$0	$0	$5,000	$0	$0	$65	$18	$12	$252	$219	$194	7	24	37	73	95	116	$436	$436	$436	$18,408	$20,786	$22,569
FAIRVIEW	$0	$5,000	$0	$0	$0	$0	$15	$181	$127	$108	$97	$88	29	179	312	468	523	578	$436	$32,503	$39,736	$50,667	$50,667	$50,667
FARMERS BRANCH	$5,502	$0	$0	$0	$0	$0	$426	$224	$188	$166	$149	$135	369	747	940	1,114	1,293	1,480	$157,125	$167,334	$176,617	$184,579	$192,250	$199,222
FARMERSVILLE	$0	$0	$0	$0	$0	$0	$0	$330	$266	$222	$192	$160	6	59	103	176	290	437	$0	$19,333	$27,500	$39,167	$55,500	$70,000
FATE	$0	$0	$0	$0	$0	$0	$0	$196	$155	$132	$115	$102	21	164	253	349	443	531	$0	$32,183	$39,311	$45,987	$50,826	$54,051
FERRIS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	14	20	25	31	37	$0	$0	$0	$0	$0	$0
FILES VALLEY WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	6	9	10	12	14	$0	$0	$0	$0	$0	$0
FLO COMMUNITY WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0	1	2	2	2	2	$0	$0	$0	$0	$0	$0
FLOWER MOUND	$42,253	$0	$0	$0	$0	$0	$194	$92	$63	$57	$51	$47	620	1,399	2,254	2,528	2,795	3,063	$120,351	$129,239	$143,000	$143,000	$143,000	$143,000
FOREST HILL	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	14	56	81	94	109	121	$0	$0	$0	$0	$0	$0
FORNEY	$0	$0	$0	$0	$0	$0	$0	$281	$216	$182	$158	$140	28	214	324	426	529	639	$0	$60,167	$70,000	$77,500	$83,500	$89,205
FORNEY LAKE WSC	$0	$0	$0	$0	$0	$0	$0	$272	$218	$186	$163	$143	17	80	124	176	246	342	$0	$21,715	$27,075	$32,878	$40,056	$49,027
FORT WORTH	$0	$0	$0	$0	$0	$0	$152	$93	$75	$66	$59	$53	4,872	10,202	15,717	22,042	30,118	40,789	$742,597	$950,587	$1,181,683	$1,454,650	$1,773,210	$2,161,533
FRISCO	$0	$38,971	$0	$0	$0	$0	$11	$163	$89	$79	$73	$69	310	3,277	7,657	10,222	12,374	13,114	$3,398	$535,006	$678,643	$808,862	$898,917	$898,917
FROST	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	1	3	4	4	4	4	$0	$0	$0	$0	$0	$0
GAINESVILLE	$0	$0	$0	$0	$0	$0	$0	$0	$241	$208	$180	$155	27	95	225	288	359	441	$0	$0	$54,100	$59,933	$64,600	$68,500
GARLAND	$0	$81,051	$0	$0	$0	$0	$21	$153	$105	$95	$87	$80	340	2,259	3,305	3,667	4,002	4,353	$7,066	$344,604	$346,119	$346,583	$346,583	$346,583
GASTONIA-SCURRY SUD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	12	46	68	88	114	147	$0	$0	$0	$0	$0	$0
GLENN HEIGHTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	21	71	107	132	158	186	$0	$0	$0	$0	$0	$0
GRAND PRAIRIE	$10,000	$0	$0	$0	$0	$0	$494	$234	$199	$178	$162	$151	1,212	2,886	3,878	4,753	5,725	6,128	$598,232	$675,939	$770,032	$845,983	$926,782	$926,782
GRAPEVINE	$0	$45,647	$0	$0	$0	$0	$233	$131	$88	$78	$71	$65	453	939	1,437	1,597	1,756	1,919	$105,332	$122,730	$125,733	$125,000	$125,000	$125,000
GUN BARREL CITY	$0	$0	$0	$0	$0	$0	$0	$278	$217	$189	$167	$147	11	72	105	136	174	224	$0	$19,881	$22,752	$25,698	$29,035	$32,923
GUNTER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	3	16	28	39	51	62	$0	$0	$0	$0	$0	$0
HACKBERRY	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	9	14	17	19	20	$0	$0	$0	$0	$0	$0
HALTOM CITY	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	56	221	303	340	371	401	$0	$0	$0	$0	$0	$0
HASLET	$0	$5,000	$0	$0	$0	$0	$77	$209	$164	$137	$120	$106	6	60	131	154	176	198	$436	$12,603	$21,519	$21,083	$21,083	$21,083
HEATH	$0	$0	$0	$0	$0	$0	$0	$237	$183	$155	$134	$118	16	114	180	254	348	469	$0	$27,111	$33,011	$39,302	$46,722	$55,425
HEBRON	$0	$0	$0	$0	$0	$0	$0	$320	$237	$207	$184	$165	0	5	6	7	8	9	$0	$1,500	$1,500	$1,500	$1,500	$1,500
HICKORY CREEK	$0	$0	$0	$0	$0	$0	$477	$275	$224	$199	$180	$164	24	57	80	110	122	133	$11,575	$15,522	$17,972	$21,895	$21,895	$21,895
HICKORY CREEK SUD	$0	$0	$0	$0	$0	$0	$568	$308	$247	$225	$204	$187	1	3	4	5	6	7	$732	$855	$957	$1,047	$1,140	$1,245
HIGH POINT WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	21	33	42	53	68	$0	$0	$0	$0	$0	$0
HIGHLAND PARK	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	22	61	86	102	117	132	$0	$0	$0	$0	$0	$0
HIGHLAND VILLAGE	$0	$0	$5,000	$0	$0	$0	$14	$4	$200	$158	$142	$129	31	98	253	321	356	391	$436	$436	$50,746	$50,667	$50,667	$50,667
HONEY GROVE	$0	$5,000	$0	$0	$0	$0	$139	$1,022	$489	$404	$347	$302	3	30	67	85	105	127	$436	$31,142	$32,769	$34,366	$36,399	$38,433
HOWE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	5	22	39	54	66	78	$0	$0	$0	$0	$0	$0
HUDSON OAKS	$0	$5,000	$0	$0	$0	$0	$118	$348	$269	$225	$200	$181	4	23	36	48	61	76	$436	$7,960	$9,547	$10,681	$12,167	$13,653
HURST	$0	$33,764	$0	$0	$0	$0	$52	$228	$158	$143	$130	$119	56	393	546	605	665	727	$2,944	$89,444	$86,500	$86,500	$86,500	$86,500
HUTCHINS	$0	$0	$0	$0	$0	$0	$398	$232	$185	$161	$143	$124	23	48	75	111	163	298	$8,989	$11,167	$13,889	$17,972	$23,417	$36,833
IRVING	$10,000	$0	$0	$0	$0	$0	$204	$121	$96	$82	$71	$63	1,574	2,856	3,767	4,580	5,378	6,167	$321,713	$344,312	$361,379	$373,397	$383,131	$390,481
ITALY	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	13	19	23	27	32	$0	$0	$0	$0	$0	$0
JACKSBORO	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	6	19	26	28	30	33	$0	$0	$0	$0	$0	$0
JOHNSON COUNTY SUD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	7	23	30	39	50	63	$0	$0	$0	$0	$0	$0
JOSEPHINE	$0	$0	$0	$0	$0	$0	$0	$249	$194	$166	$145	$129	2	15	22	31	41	52	$0	$3,648	$4,326	$5,145	$5,926	$6,776
JUSTIN	$19,324	$0	$0	$0	$0	$0	$451	$264	$200	$171	$154	$140	23	69	130	235	313	375	$10,156	$18,270	$25,900	$40,142	$48,083	$52,627
KAUFMAN	$0	$22,543	$0	$0	$0	$0	$144	$333	$5	$0	$0	$0	14	103	81	100	120	155	$1,965	$34,197	$436	$0	$0	$0
KELLER	$0	$0	$0	$0	$0	$0	$318	$339	$220	$202	$186	$172	268	592	1,009	1,101	1,196	1,290	$85,191	$200,610	$222,033	$222,033	$222,033	$222,033
KEMP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	9	14	15	16	17	$0	$0	$0	$0	$0	$0
KENNEDALE	$0	$0	$0	$0	$0	$0	$516	$281	$227	$200	$181	$164	37	89	122	147	169	190	$19,333	$24,952	$27,766	$29,423	$30,540	$31,294
KERENS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	10	14	16	17	19	$0	$0	$0	$0	$0	$0
KIOWA HOMEOWNERS WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	6	20	28	31	34	38	$0	$0	$0	$0	$0	$0
KRUGERVILLE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	3	10	14	20	28	42	$0	$0	$0	$0	$0	$0
KRUM	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	9	25	34	41	49	59	$0	$0	$0	$0	$0	$0
LADONIA	$0	$0	$0	$0	$0	$0	$0	$200	$159	$137	$120	$106	2	23	36	46	59	80	$0	$4,633	$5,722	$6,267	$7,083	$8,444
LAKE DALLAS	$0	$0	$0	$0	$0	$0	$540	$299	$240	$213	$193	$175	40	84	114	128	142	156	$21,789	$25,055	$27,318	$27,318	$27,318	$27,318
LAKE WORTH	$0	$0	$0	$0	$0	$0	$1,387	$686	$536	$465	$409	$369	29	62	84	102	121	138	$40,692	$42,776	$45,066	$47,356	$49,646	$50,791
LAKESIDE	$0	$0	$0	$18,728	$0	$0	$555	$175	$31	$601	$322	$274	3	9	14	50	96	117	$1,633	$1,633	$436	$29,775	$30,828	$32,073
LANCASTER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	62	281	378	411	442	474	$0	$0	$0	$0	$0	$0
LAVON WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	10	96	149	197	262	363	$0	$0	$0	$0	$0	$0
LEONARD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	3	12	22	37	58	77	$0	$0	$0	$0	$0	$0
LEWISVILLE	$61,985	$0	$0	$0	$0	$0	$246	$136	$109	$95	$85	$76	721	1,422	1,868	2,308	2,878	3,569	$177,540	$192,907	$203,374	$220,003	$243,753	$270,644
LINCOLN PARK	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	1	5	7	9	10	13	$0	$0	$0	$0	$0	$0
LINDSAY	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	5	7	8	8	9	$0	$0	$0	$0	$0	$0
LITTLE ELM	$5,000	$0	$0	$0	$0	$0	$373	$207	$163	$140	$127	$116	179	371	540	684	753	823	$66,603	$76,623	$87,823	$95,649	$95,649	$95,649
LOG CABIN	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	1	6	8	9	9	10	$0	$0	$0	$0	$0	$0
LOWRY CROSSING	$0	$0	$0	$0	$0	$0	$0	$312	$247	$217	$195	$176	4	22	33	39	43	48	$0	$6,904	$8,199	$8,444	$8,444	$8,444
LUCAS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	14	56	83	116	175	254	$0	$0	$0	$0	$0	$0
LUELLA WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	5	18	27	33	36	43	$0	$0	$0	$0	$0	$0
M E N WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	6	18	26	30	34	39	$0	$0	$0	$0	$0	$0
MABANK	$0	$5,000	$0	$0	$0	$0	$73	$547	$239	$209	$185	$164	6	69	169	206	253	313	$436	$37,767	$40,499	$43,077	$46,802	$51,422
MACBEE SUD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0	2	3	3	4	6	$0	$0	$0	$0	$0	$0

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Water User Group Name	Capital Costs						Total Annual Cost per Acre-Foot						Value of Total Supply from Basic Conservation (Acre-Feet)						Total Annual Cost					
	2010	2020	2030	2040	2050	2060	2010	2020	2030	2040	2050	2060	2010	2020	2030	2040	2050	2060	2010	2020	2030	2040	2050	2060
MALAKOFF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	3	11	15	17	20	22	$0	$0	$0	$0	$0	$0
MANSFIELD	$28,819	$0	$0	$0	$0	$0	$215	$107	$81	$69	$61	$55	507	1,232	1,872	2,499	3,085	3,733	$109,224	$131,882	$152,364	$173,016	$188,409	$203,800
MARILEE SUD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	9	42	65	84	111	143	$0	$0	$0	$0	$0	$0
MAYPEARL	$0	$0	$0	$0	$0	$0	$0	$311	$243	$217	$196	$178	2	12	18	20	22	24	$0	$3,681	$4,361	$4,361	$4,361	$4,361
MCKINNEY	$0	$53,573	$0	$0	$0	$0	$15	$207	$116	$103	$95	$89	303	3,347	7,621	10,503	12,257	13,108	$4,671	$691,692	$886,546	$1,084,326	$1,163,787	$1,163,787
MCLENDON-CHISHOLM	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	11	15	18	22	27	$0	$0	$0	$0	$0	$0
MELISSA	$0	$0	$0	$0	$5,000	$0	$36	$3	$2	$0	$150	$127	12	146	255	401	916	1,151	$436	$436	$436	$0	$137,500	$146,305
MESQUITE	$0	$62,452	$0	$0	$0	$0	$25	$137	$93	$83	$75	$69	221	1,609	2,478	2,821	3,113	3,402	$5,445	$220,448	$230,004	$233,168	$233,445	$233,501
MIDLOTHIAN	$23,236	$0	$0	$0	$0	$0	$617	$285	$235	$206	$182	$164	156	591	905	1,198	1,527	1,890	$96,518	$168,270	$212,204	$246,478	$277,961	$309,443
MILFORD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	1	4	5	5	6	6	$0	$0	$0	$0	$0	$0
MILLIGAN WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	3	10	12	13	13	14	$0	$0	$0	$0	$0	$0
MINERAL WELLS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	10	19	25	27	29	32	$0	$0	$0	$0	$0	$0
MOUNTAIN PEAK SUD	$0	$0	$0	$0	$0	$0	$495	$285	$228	$203	$180	$160	37	73	96	125	170	231	$18,492	$20,719	$21,958	$25,306	$30,545	$36,906
MT ZION WSC	$0	$0	$0	$0	$0	$0	$0	$274	$212	$184	$163	$146	3	18	23	27	30	34	$0	$4,906	$4,906	$4,906	$4,906	$4,906
MUENSTER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$252	$221	$197	3	9	13	23	27	32	$0	$0	$0	$5,722	$5,994	$6,267
MURPHY	$0	$0	$0	$0	$0	$0	$0	$185	$150	$129	$114	$102	42	367	452	524	595	667	$0	$67,750	$67,750	$67,750	$67,750	$67,750
MUSTANG SUD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	16	64	101	202	315	434	$0	$0	$0	$0	$0	$0
NAVARRO MILLS WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	5	18	27	33	41	49	$0	$0	$0	$0	$0	$0
NEVADA	$0	$0	$0	$0	$0	$0	$0	$208	$165	$138	$119	$100	2	21	31	73	139	392	$0	$4,361	$5,178	$10,078	$16,611	$39,167
NEW FAIRVIEW	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	13	20	26	32	40	$0	$0	$0	$0	$0	$0
NEW HOPE	$0	$0	$0	$0	$0	$0	$0	$226	$173	$147	$128	$113	2	16	33	57	98	244	$0	$3,544	$5,722	$8,444	$12,528	$27,500
NEWARK	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	9	15	22	32	47	$0	$0	$0	$0	$0	$0
NORTH COLLIN WSC	$0	$0	$0	$0	$0	$0	$0	$268	$226	$204	$183	$165	12	67	95	123	157	196	$0	$17,999	$21,533	$25,153	$28,737	$32,195
NORTH HUNT WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	1	2	3	3	4	4	$0	$0	$0	$0	$0	$0
NORTH RICHLAND HILLS	$0	$54,029	$0	$0	$0	$0	$46	$197	$133	$117	$106	$97	103	744	1,131	1,315	1,485	1,652	$4,710	$146,589	$150,048	$154,108	$157,439	$159,689
NORTHLAKE	$0	$0	$0	$0	$0	$0	$0	$0	$279	$239	$204	$181	3	29	57	125	207	276	$0	$0	$15,939	$29,971	$42,349	$50,096
OAK GROVE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	6	9	12	15	19	$0	$0	$0	$0	$0	$0
OAK LEAF	$0	$0	$0	$0	$0	$0	$445	$252	$201	$177	$159	$144	10	20	29	37	47	58	$4,367	$5,107	$5,837	$6,582	$7,415	$8,336
OAK POINT	$0	$5,000	$0	$0	$0	$0	$50	$338	$270	$235	$210	$189	9	77	140	177	219	267	$436	$26,079	$37,700	$41,550	$45,864	$50,421
OVILLA	$0	$0	$0	$0	$0	$0	$389	$216	$176	$154	$136	$122	28	78	130	187	219	260	$10,758	$16,802	$22,845	$28,685	$29,950	$31,807
PALMER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	11	16	18	20	23	$0	$0	$0	$0	$0	$0
PANTEGO	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	13	18	21	23	25	$0	$0	$0	$0	$0	$0
PARADISE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	4	6	7	10	12	$0	$0	$0	$0	$0	$0
PARKER	$0	$0	$0	$0	$0	$0	$0	$183	$142	$115	$88	$71	12	162	292	555	929	1,433	$0	$29,600	$41,500	$64,000	$82,000	$102,000
PAYNE SPRINGS	$0	$0	$0	$0	$0	$0	$477	$274	$218	$193	$174	$157	5	9	11	14	16	20	$2,190	$2,343	$2,493	$2,646	$2,835	$3,065
PECAN HILL	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	1	5	7	9	11	13	$0	$0	$0	$0	$0	$0
PELICAN BAY	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	3	10	14	17	20	24	$0	$0	$0	$0	$0	$0
PILOT POINT	$0	$0	$0	$0	$0	$0	$0	$339	$263	$0	$0	$0	9	58	122	90	103	117	$0	$19,516	$32,167	$0	$0	$0
PLANO	$0	$0	$0	$0	$0	$0	$0	$105	$80	$69	$60	$54	506	2,954	3,892	4,578	5,246	5,916	$0	$309,250	$312,500	$314,167	$315,833	$316,667
PONDER	$0	$0	$0	$0	$0	$0	$0	$297	$248	$205	$181	$163	3	47	111	202	262	297	$0	$13,889	$27,500	$41,500	$47,333	$48,500
POST OAK BEND CITY	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	6	12	20	35	61	$0	$0	$0	$0	$0	$0
POTTSBORO	$0	$5,000	$0	$0	$0	$0	$70	$346	$278	$242	$216	$194	6	45	77	112	151	181	$436	$15,575	$21,519	$27,028	$32,583	$35,167
PRINCETON	$0	$0	$0	$0	$0	$0	$0	$276	$215	$170	$129	$96	12	119	215	413	777	1,300	$0	$32,997	$46,167	$70,000	$100,000	$125,000
PROSPER	$0	$0	$0	$0	$0	$0	$0	$211	$151	$118	$89	$78	22	241	514	848	1,344	1,609	$0	$50,833	$77,500	$100,000	$120,000	$125,000
R-C-H WSC	$0	$0	$0	$0	$0	$0	$0	$318	$257	$229	$206	$187	7	46	58	67	74	82	$0	$14,651	$14,978	$15,250	$15,250	$15,250
RED OAK	$0	$0	$0	$0	$0	$0	$0	$280	$222	$189	$165	$145	27	190	288	354	424	503	$0	$53,167	$64,000	$67,000	$70,000	$73,000
RENO	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	13	17	19	21	22	$0	$0	$0	$0	$0	$0
RHOME	$0	$0	$0	$0	$0	$0	$279	$174	$141	$121	$107	$96	17	43	85	137	199	270	$4,691	$7,464	$11,983	$16,611	$21,239	$25,867
RICE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$222	$192	$169	2	7	10	20	26	34	$0	$0	$0	$4,334	$4,955	$5,717
RICE WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	13	48	74	95	119	150	$0	$0	$0	$0	$0	$0
RICHARDSON	$0	$10,000	$0	$0	$0	$0	$4	$140	$105	$91	$80	$71	196	1,400	1,861	2,151	2,433	2,728	$872	$195,872	$195,872	$195,000	$195,000	$195,000
RICHLAND HILLS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	11	39	56	65	73	79	$0	$0	$0	$0	$0	$0
RIVER OAKS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	10	34	45	49	52	55	$0	$0	$0	$0	$0	$0
ROANOKE	$0	$0	$0	$0	$0	$0	$0	$249	$191	$161	$138	$119	16	111	182	261	396	538	$0	$27,687	$34,873	$42,060	$54,602	$64,296
ROCKETT SUD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	64	235	371	466	533	569	$0	$0	$0	$0	$0	$0
ROCKWALL	$0	$0	$0	$0	$0	$0	$0	$155	$115	$93	$81	$73	88	739	1,135	1,537	1,793	2,008	$0	$114,647	$130,000	$143,595	$146,067	$146,067
ROWLETT	$0	$0	$0	$0	$0	$0	$0	$182	$136	$116	$102	$91	115	664	956	1,189	1,410	1,641	$0	$120,856	$130,178	$137,714	$143,811	$148,747
ROYSE CITY	$0	$0	$0	$0	$0	$0	$0	$247	$190	$152	$128	$107	31	215	357	532	733	979	$0	$53,167	$67,669	$80,776	$93,469	$105,000
RUNAWAY BAY	$0	$0	$0	$0	$0	$0	$0	$311	$242	$210	$187	$167	3	16	25	32	41	50	$0	$4,960	$5,986	$6,811	$7,628	$8,444
SACHSE	$0	$19,826	$0	$0	$0	$0	$36	$222	$153	$138	$125	$115	48	275	429	476	524	572	$1,728	$61,195	$65,500	$65,500	$65,500	$65,500
SAGINAW	$0	$0	$0	$0	$0	$0	$0	$301	$235	$201	$178	$160	35	191	271	331	388	443	$0	$57,374	$63,567	$66,744	$69,060	$70,749
SAINT PAUL	$0	$0	$0	$0	$0	$0	$0	$292	$238	$209	$187	$169	2	24	58	106	140	163	$0	$7,083	$13,889	$22,056	$26,139	$27,500
SANCTUARY	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	10	16	20	25	29	$0	$0	$0	$0	$0	$0
SANGER	$0	$0	$0	$0	$0	$0	$517	$279	$224	$197	$178	$162	41	122	206	274	339	386	$21,375	$33,917	$46,043	$54,100	$60,162	$62,500
SANSOM PARK VILLAGE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	6	22	30	33	35	38	$0	$0	$0	$0	$0	$0
SARDIS-LONE ELM WSC	$0	$0	$0	$0	$0	$0	$419	$241	$192	$171	$154	$140	77	173	265	298	330	363	$32,251	$41,584	$50,917	$50,917	$50,917	$50,917
SAVOY	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	1	4	5	6	6	7	$0	$0	$0	$0	$0	$0
SCURRY	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	4	6	8	9	11	$0	$0	$0	$0	$0	$0
SEAGOVILLE	$0	$0	$0	$0	$0	$0	$566	$0	$0	$0	$0	$0	61	73	112	144	174	201	$34,540	$0	$0	$0	$0	$0
SEVEN POINTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	8	12	15	18	23	$0	$0	$0	$0	$0	$0
SHADY SHORES	$0	$0	$0	$0	$0	$0	$0	$328	$0	$0	$0	$0	5	28	27	29	31	33	$0	$9,065	$0	$0	$0	$0
SHERMAN	$0	$0	$0	$33,049	$0	$0	$43	$13	$0	$273	$190	$165	67	217	333	880	1,411	1,850	$2,881	$2,881	$0	$240,553	$267,507	$305,185
SOUTH GRAYSON WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	6	22	31	39	48	60	$0	$0	$0	$0	$0	$0
SOUTHLAKE	$0	$0	$0	$0	$0	$0	$265	$160	$126	$107	$93	$82	253	434	556	679	821	963	$67,029	$69,454	$70,161	$72,886	$76,282	$79,000
SOUTHMAYD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	8	13	21	33	43	$0	$0	$0	$0	$0	$0
SOUTHWEST FANNIN COUNTY SUD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	15	44	62	72	82	93	$0	$0	$0	$0	$0	$0
SPRINGTOWN	$19,443	$0	$0	$0	$0	$0	$554	$288	$221	$196	$181	$167	20	48	71	93	117	144	$10,890	$13,862	$15,575	$18,111	$21,083	$24,056

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Water User Group Name	Capital Costs						Total Annual Cost per Acre-Foot						Value of Total Supply from Basic Conservation (Acre-Feet)						Total Annual Cost					
	2010	2020	2030	2040	2050	2060	2010	2020	2030	2040	2050	2060	2010	2020	2030	2040	2050	2060	2010	2020	2030	2040	2050	2060
SUNNYVALE	$0	$0	$0	$0	$0	$0	$0	$200	$157	$133	$114	$101	14	97	157	224	303	348	$0	$19,333	$24,778	$29,833	$34,500	$35,200
TALTY	$0	$0	$0	$0	$0	$0	$0	$177	$140	$118	$102	$88	5	60	104	160	238	345	$0	$10,709	$14,586	$18,881	$24,201	$30,326
TEAGUE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	6	22	32	38	45	52	$0	$0	$0	$0	$0	$0
TERRELL	$0	$21,683	$0	$0	$0	$0	$66	$176	$112	$91	$78	$69	28	535	1,024	1,490	1,875	2,332	$1,890	$94,398	$115,000	$135,000	$147,000	$160,000
THE COLONY	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	77	299	416	462	505	540	$0	$0	$0	$0	$0	$0
TIOGA	$0	$18,528	$0	$0	$0	$0	$760	$353	$232	$203	$186	$172	2	26	48	60	72	81	$1,615	$9,324	$11,116	$12,167	$13,356	$13,950
TOM BEAN	$5,000	$0	$0	$0	$0	$0	$1,216	$417	$356	$311	$278	$259	22	67	81	93	108	117	$27,075	$27,889	$28,702	$29,079	$29,893	$30,299
TOOL	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	15	21	26	31	38	$0	$0	$0	$0	$0	$0
TRENTON	$0	$0	$0	$0	$0	$0	$0	$1,246	$462	$326	$249	$207	2	22	69	115	181	255	$0	$27,891	$31,708	$37,433	$45,066	$52,699
TRINIDAD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	6	8	9	10	11	$0	$0	$0	$0	$0	$0
TROPHY CLUB	$0	$0	$0	$0	$0	$0	$0	$208	$161	$136	$118	$104	20	123	174	219	270	325	$0	$25,614	$27,992	$29,822	$31,796	$33,770
TWO WAY SUD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	9	34	51	65	80	96	$0	$0	$0	$0	$0	$0
UNIVERSITY PARK	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	45	131	184	213	241	270	$0	$0	$0	$0	$0	$0
VALLEY VIEW	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	3	16	31	46	83	110	$0	$0	$0	$0	$0	$0
VAN ALSTYNE	$0	$0	$0	$0	$0	$0	$0	$296	$234	$201	$178	$161	5	70	152	218	265	305	$0	$20,694	$35,667	$43,833	$47,333	$48,967
VENUS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0
VIRGINIA HILL WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	14	20	21	22	24	$0	$0	$0	$0	$0	$0
WALNUT CREEK SUD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	40	159	307	406	454	498	$0	$0	$0	$0	$0	$0
WATAUGA	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	36	122	165	178	189	200	$0	$0	$0	$0	$0	$0
WAXAHACHIE	$0	$0	$0	$0	$0	$0	$0	$414	$267	$225	$192	$166	56	433	769	1,090	1,528	2,134	$0	$179,256	$205,274	$245,254	$293,409	$355,052
WEATHERFORD	$5,000	$0	$0	$0	$0	$0	$418	$225	$176	$151	$133	$115	173	370	527	670	832	1,027	$72,471	$83,186	$92,575	$100,931	$110,353	$118,499
WEST CEDAR CREEK MUD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	25	113	179	232	298	383	$0	$0	$0	$0	$0	$0
WEST WISE RURAL SUD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	5	18	27	32	38	45	$0	$0	$0	$0	$0	$0
WESTON	$0	$0	$0	$0	$0	$0	$0	$289	$210	$170	$133	$99	5	39	92	299	584	1,108	$0	$11,167	$19,333	$50,833	$77,500	$110,000
WESTOVER HILLS	$0	$18,461	$0	$0	$0	$0	$1,035	$314	$151	$111	$100	$91	2	12	17	19	21	24	$1,609	$3,748	$2,574	$2,139	$2,139	$2,139
WESTWORTH VILLAGE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	6	17	23	27	30	35	$0	$0	$0	$0	$0	$0
WHITE SETTLEMENT	$27,254	$0	$0	$0	$0	$0	$268	$34	$4	$0	$0	$0	349	70	99	115	134	154	$93,459	$2,376	$436	$0	$0	$0
WHITESBORO	$0	$5,000	$0	$0	$0	$0	$61	$374	$289	$251	$225	$204	7	42	61	78	100	147	$436	$15,575	$17,655	$19,597	$22,569	$30,000
WHITEWRIGHT	$0	$0	$0	$0	$0	$0	$0	$303	$242	$213	$191	$172	3	30	52	72	95	121	$0	$9,065	$12,615	$15,345	$18,076	$20,806
WILLOW PARK	$0	$0	$0	$0	$0	$0	$0	$320	$0	$0	$0	$0	8	51	56	74	88	100	$0	$16,260	$0	$0	$0	$0
WILMER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	5	19	29	44	88	147	$0	$0	$0	$0	$0	$0
WOODBINE WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	8	28	39	46	52	59	$0	$0	$0	$0	$0	$0
WORTHAM	$0	$0	$0	$0	$0	$0	$1,934	$731	$593	$511	$452	$401	14	38	49	58	68	78	$26,937	$27,891	$28,845	$29,799	$30,563	$31,326
WYLIE	$0	$5,000	$0	$0	$0	$0	$5	$419	$253	$222	$207	$193	89	567	1,075	1,391	1,496	1,601	$436	$237,469	$272,100	$309,443	$309,443	$309,443
COLLIN COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	11	36	42	41	39	37	$0	$0	$0	$0	$0	$0
COOKE COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	13	47	65	70	74	78	$0	$0	$0	$0	$0	$0
DALLAS COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	1	5	5	5	4	3	$0	$0	$0	$0	$0	$0
DENTON COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	113	378	543	661	788	929	$0	$0	$0	$0	$0	$0
ELLIS COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	17	54	73	81	87	94	$0	$0	$0	$0	$0	$0
FANNIN COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	16	53	70	74	75	76	$0	$0	$0	$0	$0	$0
FREESTONE COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	14	47	64	69	73	77	$0	$0	$0	$0	$0	$0
GRAYSON COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	37	123	165	168	164	155	$0	$0	$0	$0	$0	$0
HENDERSON COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	7	9	10	11	12	$0	$0	$0	$0	$0	$0
JACK COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	7	23	33	39	44	50	$0	$0	$0	$0	$0	$0
KAUFMAN COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	25	68	91	99	105	112	$0	$0	$0	$0	$0	$0
NAVARRO COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	8	11	12	13	14	$0	$0	$0	$0	$0	$0
PARKER COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	44	166	233	254	253	251	$0	$0	$0	$0	$0	$0
ROCKWALL COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	9	13	14	15	17	$0	$0	$0	$0	$0	$0
TARRANT COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	53	173	183	194	204	215	$0	$0	$0	$0	$0	$0
WISE COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	49	166	216	232	245	259	$0	$0	$0	$0	$0	$0
Total	$354,084	$77,981,791	$30,961	$88,537	$5,000	$0	$30,110	$39,992	$28,426	$24,095	$21,110	$19,001	34,316	91,200	136,516	174,046	214,910	261,988	$8,411,506	$21,143,609	$23,029,931	$18,461,967	$20,393,786	$22,378,552

Appendix Z, Table Z.2, Page Z.5

Note: Table Z.2 was previously amended in Errata #1 and #2 to the 2011 Region C Plan.

Table Z.2[1,6] Revised

Summary of Recommended Strategies
Region C WUGs and WWPs

Recommended Strategy	Capital Cost	First Decade of Water Strategy	First Decade Water Supply Volume (acre-feet/year)	First Decade Estimated Annual Average Unit Cost ($/acre-foot/year)	Year 2060 Water Supply Volume (acre-feet/year)	Year 2060 Estimated Annual Average Unit Cost ($/acre-foot/year)
ADDITIONAL DRY YEAR SUPPLY	$1,750,000.00	2010	25,000	$0.00	0	$0.00
ADDITIONAL PIPELINE FROM LAKE TAWAKONI (MORE LAKE FORK SUPPLY)	$496,243,000.00	2020	77,994	$557.77	69,128	$107.79
COLLIN-GRAYSON MUNICIPAL ALLIANCE SYSTEM	$77,366,000.00	2020	3,255	$3,044.55	27,412	$982.38
COOKE COUNTY PROJECT	$50,280,000.00	2020	2,240	$1,658.04	4,480	$394.42
DIRECT REUSE	$264,783,000.00	2010	1,552	$691.37	46,250	$138.57
DIRECT REUSE - FRISCO	$31,448,606.00	2020	2,240	$1,358.93	5,650	$134.34
Dallas Reuse Projects[2]	$225,487,000.00		52,070		61,487	
DWU REUSE	*$82,920,000.00*	*2020*	*34,902*	*$232.78*	*50,382*	*$41.69*
MAIN STEM TRINITY PUMP STATION (LAKE RAY HUBBARD INDIRECT REUSE - DWU)	*$142,567,000.00*	*2020*	*17,168*	*$730.08*	*11,105*	*$196.04*
ENNIS REUSE	$31,779,000.00	2040	333	$14,738.74	3,696	$1,327.92
FACILITY IMPROVEMENTS	$2,314,558,600.00	2010	0	$0.00	0	$0.00
FACILITY IMPROVEMENTS- REUSE SOURCES	$590,686,000.00	2010	0	$0.00	0	$0.00
FANNIN COUNTY PROJECT	$38,471,000.00	2020	1,254	$3,838.12	5,113	$394.68
FASTRILL REPLACEMENT (REGION C COMPONENT)	$1,980,278,000.00	2060	112,100	$1,724.36	112,100	$1,724.36
GOLF COURSE CONSERVATION	$0.00	2010	56	$278.52	3,121	$277.84
GRAYSON COUNTY PROJECT	$136,016,000.00	2010	200	$0.00	24,640	$140.85
INDIRECT REUSE	$0.00	2020	4,368	$0.00	4,368	$0.00
INDIRECT REUSE - JACKSBORO FOR JACK CO MINING	$200,000.00	2010	385	$0.00	385	$0.00
LAKE PALESTINE CONNECTION (INTEGRATED PIPELINE WITH TRWD)	$887,954,000.00	2020	111,776	$772.91	107,347	$203.86
LAKE RALPH HALL	$286,401,000.00	2020	34,050	$616.09	34,050	$75.27
LAKE RALPH HALL INDIRECT REUSE [7]	$0.00	2020	6,129	$0.00	18,387	$0.00
LAKE TEXOMA - AUTHORIZED (BLEND)	$336,356,000.00	2030	69,200	$495.56	113,000	$87.23
LAKE TEXOMA - INTERIM PURCHASE FROM GTUA	$0.00	2020	21,900	$0.00	0	$0.00
LOWER BOIS D ARC CREEK RESERVOIR	$615,498,000.00	2020	54,796	$971.79	108,487	$78.67
MAIN STEM PS (ADDITIONAL EAST FORK) NTMWD	$0.00	2020	34,900	$0.00	0	$0.00
MANUFACTURING CONSERVATION	$0.00	2010	1	$0.00	2,618	$211.38

Table Z.2[1,6] Revised

Summary of Recommended Strategies
Region C WUGs and WWPs

Recommended Strategy	Capital Cost	First Decade of Water Strategy	First Decade Water Supply Volume (acre-feet/year)	First Decade Estimated Annual Average Unit Cost ($/acre-foot/year)	Year 2060 Water Supply Volume (acre-feet/year)	Year 2060 Estimated Annual Average Unit Cost ($/acre-foot/year)
MARVIN NICHOLS RESERVOIR[3]	$3,345,052,000.00	2030	227,400	$364.26	472,300	$83.04
MUNICIPAL CONSERVATION-BASIC	$78,460,280.00	2010	41,967	$200.40	266,117	$84.24
MUNICIPAL CONSERVATION-EXPANDED	$480,774.00	2010	4,756	$168.50	20,541	$395.75
NEW WELLS - CARRIZO WILCOX AQUIFER	$1,853,000.00	2010	154	$344.81	467	$446.30
NEW WELLS - TRINITY AQUIFER	$7,778,150.00	2010	1,882	$410.00	2,306	$228.85
NEW WELLS - WOODBINE AQUIFER	$14,543,000.00	2010	763	$662.88	1,932	$339.28
OKLAHOMA WATER TO IRVING	$194,825,000.00	2030	25,000	$810.28	25,000	$244.12
OKLAHOMA WATER TO NTMWD, TRWD, UTRWD	$756,044,500.00	2060	115,000	$290.44	115,000	$290.44
OVERDRAFT TRINITY AQUIFER - EXISTING WELLS	$0.00	2010	2,168	$105.25	0	$0.00
OVERDRAFT TRINITY AQUIFER - NEW WELLS	$269,000.00	2010	75	$493.33	0	$0.00
PURCHASE FROM WATER PROVIDER (1)	$0.00	2010	46	$0.00	0	$0.00
REDISTRIBUTION OF SUPPLIES	$0.00	2010	530	$0.00	58,031	$0.00
SUBORDINATION AGREEMENT- FUTURE-ONLY SOURCES	$8,217,000.00	2020	280	$2,560.71	215	$558.14
SUPPLEMENTAL WELLS	$495,381,934.00	2010	0	$0.00	0	$0.00
TOLEDO BEND PROJECT (500,000)[4]	$2,406,236,000.00	2010	363	$0.00	400,217	$1,072.45
TRA 10-MILE CREEK REUSE PROJECT	$14,895,000.00	2030	6,760	$259.17	6,760	$99.11
TRA DENTON CREEK WWTP REUSE	$9,506,000.00	2020	3,750	$0.00	3,750	$229.07
TRA ELLIS COUNTY REUSE	$10,384,000.00	2060	2,200	$505.00	2,200	$505.00
TRA FREESTONE COUNTY REUSE	$17,266,000.00	2050	6,760	$323.49	6,760	$323.49
TRA KAUFMAN COUNTY REUSE	$9,761,000.00	2020	1,000	$901.00	1,000	$192.00
TRA LAS COLINAS REUSE	$14,530,000.00	2020	7,000	$284.49	7,000	$133.69
TRA TARRANT COUNTY PROJECT	$59,008,000.00	2010	0	$0.00	0	$0.00
TRWD THIRD PIPELINE AND REUSE	$914,424,000.00	2020	105,500	$1,015.87	105,500	$324.48
WATER TREATMENT PLANT - EXPANSION	$19,970,000.00	2020	1,260	$0.00	2,268	$1,090.39
WATER TREATMENT PLANT - NEW	$308,309,400.00	2010	0	$0.00	807	$19,346.39
WRIGHT PATMAN - REALLOCATION OF FLOOD POOL (112K)	$896,478,000.00	2040	112,100	$761.95	112,100	$761.95
CONVEYANCE PROJECT (1)[5]	$413,884,000.00	2010	194	$11,560.82	25,178	$679.25
CONVEYANCE PROJECT (2)[5]	$69,299,100.00	2020	1,672	$0.00	1,237	$3,153.97
CONVEYANCE PROJECT (3)[5]	$6,465,400.00	2020	213	$6,530.52	2,016	$1,026.79
GRAYSON COUNTY PROJECT[5]	$146,071,000.00	2020	5,600	$3,693.13	19,600	$513.75

Table Z.2[1,6] Revised

Summary of Recommended Strategies
Region C WUGs and WWPs

Recommended Strategy	Capital Cost	First Decade of Water Strategy	First Decade Water Supply Volume (acre-feet/year)	First Decade Estimated Annual Average Unit Cost ($/acre-foot/year)	Year 2060 Water Supply Volume (acre-feet/year)	Year 2060 Estimated Annual Average Unit Cost ($/acre-foot/year)
PURCHASE FROM WATER PROVIDER (1)[5]	$164,114,900.00	2010	402	$0.00	30,103	$1,067.12
PURCHASE FROM WATER PROVIDER (2)[5]	$3,538,000.00	2020	52	$5,950.00	86	$609.30
PURCHASE FROM WATER PROVIDER (3)[5]	$65,481,250.00	2020	4,004	$2,384.37	6,417	$1,706.16
WATER TREATMENT PLANT - EXPANSION[5]	$2,708,430,000.00	2010	0	$0.00	2,618	$106,248.98
WATER TREATMENT PLANT-EXPANSION- REUSE SOURCES[5]	$32,750,000.00	2010	0	$0.00	0	$0.00

[1]Information in this table matches the TWDB Database (DB12).

[2]Dallas has two future reuse projects. In DB12, these two projects share the same source. The sum of these two projects' supply in the database is equal to the sum of the two projects' supply shown in Table 4E.1 of the Plan, however the distribution of the supply between the two projects in the database differs somewhat from the distribution in Table 4E.1. Consider the databased to be consistent with the Plan.

[3]Cost shown here is for both Phase I & II for NTMWD & TRWD, but only Phase I for UTRWD. UTRWD will not need Phase II of the project until after 2060.

[4]This is the cost from the TWDB Database (DB12), which includes Sabine River Authority's portion of the the cost. Total costs in the Region C Plan (Table ES.2) only includes costs for WWPs located in Region C and does not include SRA's portion of Toledo Bend costs.

[5]Strategy supply volumes may already be listed in other strategies.

[6]A number of costs from the Region C Plan could not be entered into DB12. WUGs with no demand are not in DB12, however, historical use from some of the WUGs indicate there is a demand. The Region C Plan outlines strategies (and associated costs) for these WUGs.

[7]Capital cost of the Lake Ralph Hall Indirect Reuse project is included in the capital cost of Lake Ralph Hall. Unit costs shown for Lake Ralph Hall take into account the supply from the Lake Ralph Hall Indirect Reuse Project.

Note: Table Z.2 was previously amended in Errata #1 and #2 to the 2011 Region C Plan.

5.0 Required regional water planning database (DB12) updates

1. Adjust amount of supply for Bedford's "Municipal Conservation-Basic" WMS to WUG module only. https://www.twdb.texas.gov/apps/db12/detail_wms_wug.asp?soid=483&wugid=1584

WUG Name:	WUG ID:	WUG Region:	County Name:	Basin Name:
1. BEDFORD	030044000	C	TARRANT	TRINITY

Selected Strategies

1.

WMS Sponsor Region:	WMS Project ID:	WMS Project Name:
C	C01CONSBAS	MUNICIPAL CONSERVATION-BASIC

Source Region:	Source Name:	County Name:	Basin Name:
C	CONSERVATION	TARRANT	TRINITY

	2010:	2020:	2030:	2040:	2050:	2060:
Total Strategy Supply Volume for this WMS WUG:	274	486	631	736	843	954

Values should be changed to:

Total Strategy Supply Volume for this WMS WUG:

2010	2020	2030	2040	2050	2060
274	1,270	2,231	2,357	2,496	2,641

2. Add Capital Cost, adjust annual costs, and add Term of Debt service to Bedford's "Municipal Conservation-Basic" WMS to WUG module only.
https://www.twdb.texas.gov/apps/db12/detail_wms_wug.asp?soid=483&wugid=1584

WUG Name:	WUG ID:	WUG Region:	County Name:	Basin Name:
1. BEDFORD	030044000	C	TARRANT	TRINITY

Selected Strategies		
1. WMS Sponsor Region:	WMS Project ID:	WMS Project Name:
C	C01CONSBAS	MUNICIPAL CONSERVATION-BASIC

Source Region:	Source Name:	County Name:	Basin Name:
C	CONSERVATION	TARRANT	TRINITY

	2010:	2020:	2030:	2040:	2050:	2060:
Total Strategy Supply Volume for this WMS WUG:	274	486	631	736	843	954

Per previous page, above values were changed to:
Total Strategy Supply Volume for this WMS WUG:

2010	2020	2030	2040	2050	2060
274	1,270	2,231	2,357	2,496	2,641

DB12 costing data for this strategy is shown below:

Note: Costing data is based on WUG ID.						
	2010	2020	2030	2040	2050	2060
WUG WMS Annual Cost:	$100,001.00	$102,395.00	$104,407.00	$106,098.00	$107,519.00	$108,713.00

WUG Capital Cost:	$0.00
Term of Debt Service:	0

Values should be changed to below (only 2020 and 2030 values are changed):

WUG WMS Annual Cost:

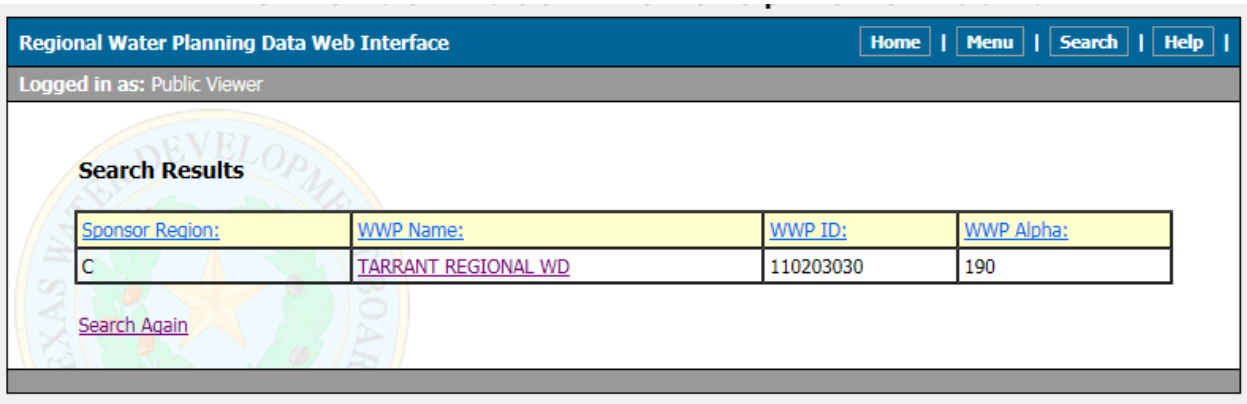
2010	2020	2030	2040	2050	2060
$100,001.00	$6,842,520.00	$6,844,532.00	$106,098.00	$107,519.00	$108,713.00

WUG Capital Cost: $77,308,705

Term of Debt Service: 20 (years)

3. Adjust Supply Volumes for "WHOLESALE WATER PROVIDER CUSTOMERS CONSERVATION" WMSs in WWP Module under Tarrant Regional Water District. Note: these volumes are for Basic and Enhanced Conservation combined

WWP Name: Tarrant Regional WD
WWP ID: 110203030
WWP Alpha: 190
WWP Sponsor Region: C



Customer:

11.	Region	Recipient Name:	Recipient Alpha:	WUG Name:	County Name:	Basin Name:
	C	BEDFORD		BEDFORD	TARRANT	TRINITY

	2000:	2010:	2020:	2030:	2040:	2050:	2060:
Current Demand:		9029	9338	9556	9699	9908	10137

View Customer

Customer		
Region:	Recipient Name:	Recipient Alpha:
C	BEDFORD	

WUG Name:	WUG ID:	City ID:	Data Category:
BEDFORD	030044000	0044	MUN

WUG Region:	C
County Name:	TARRANT
County ID:	220
Basin Name:	TRINITY
Basin ID:	08

Regional Comments:	

	2000:	2010:	2020:	2030:	2040:	2050:	2060:
Current Demand:		9029	9338	9556	9699	9908	10137

Edit Strategy Supply Volume:

4.

WMS Sponsor Region:	WMS Project ID:	WMS Project Name:
C	C01CONWWP	WHOLESALE WATER PROVIDER CUSTOMER CONSERVATION

Source Region:	Source Name:	County Name:	Basin Name:
C	CONSERVATION	TARRANT	TRINITY

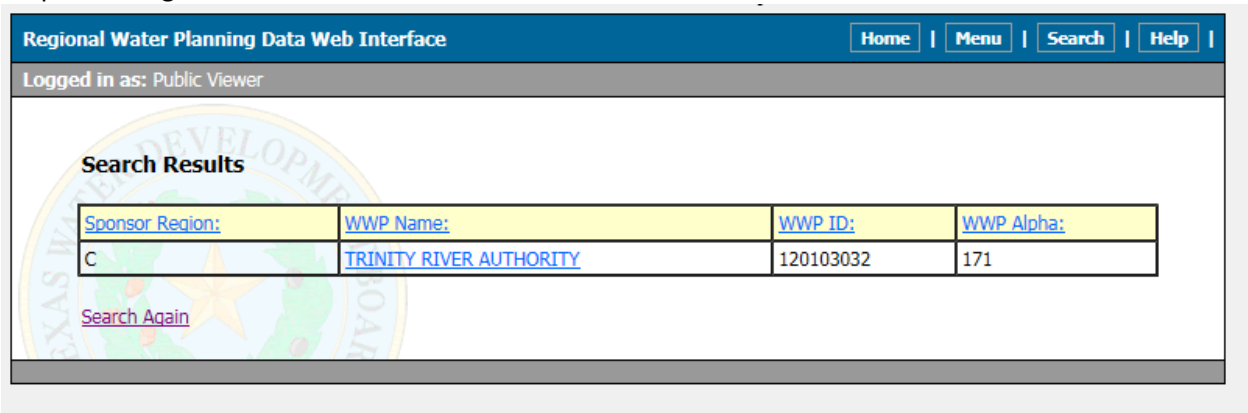
	2010:	2020:	2030:	2040:	2050:	2060:
Total Strategy Supply Volume for this WMS WWP Customer:	274	534	703	809	917	1029

Strategy Supply Volume should be changed to:

2010	2020	2030	2040	2050	2060
274	1,318	2,303	2,430	2,570	2,716

4. Adjust Supply Volumes for "WHOLESALE WATER PROVIDER CUSTOMERS CONSERVATION" WMSs in WWP Module under Trinity River Authority. Note: these volumes are for Basic and Enhanced Conservation combined

WWP Name: Trinity River Authority
WWP ID: 120103032
WWP Alpha: 171
WWP Sponsor Region: C



Customer:

3.	Region	Recipient Name:	Recipient Alpha:	WUG Name:	County Name:	Basin Name:
	C	BEDFORD		BEDFORD	TARRANT	TRINITY

	2000:	2010:	2020:	2030:	2040:	2050:	2060:
Current Demand:		9029	9338	9556	9699	9908	10137

View Customer

Customer

Region:	Recipient Name:	Recipient Alpha:
C	BEDFORD	

WUG Name:	WUG ID:	City ID:	Data Category:
BEDFORD	030044000	0044	MUN

WUG Region:	C
County Name:	TARRANT
County ID:	220
Basin Name:	TRINITY
Basin ID:	08

Regional Comments:	

	2000:	2010:	2020:	2030:	2040:	2050:	2060:
Current Demand:		9029	9338	9556	9699	9908	10137

Edit Strategy Supply Volume*:

4.

WMS Sponsor Region:	WMS Project ID:	WMS Project Name:
C	C01CONWWP	WHOLESALE WATER PROVIDER CUSTOMER CONSERVATION

Source Region:	Source Name:	County Name:	Basin Name:
C	CONSERVATION	TARRANT	TRINITY

	2010:	2020:	2030:	2040:	2050:	2060:
Total Strategy Supply Volume for this WMS WWP Customer:	274	529	700	807	915	1028

*It should be noted that the original DB12 values for Bedford in the TRA WWP module were slightly in error. Although they matched the paper plan, they did not match the values in DB12 for Bedford in the WUG Module or the values for Bedford in the TRWD WWP Module. The values were off by the following amounts: 5 acre-feet in 2020, 3 acre-feet in 2030, 2 acre-feet in 2040, 2 acre-feet in 2050, and 1 acre-foot in 2060. This error is being corrected as part of this Minor Amendment. The corrected original amounts should be as follows:

2010:	2020:	2030:	2040:	2050:	2060:
274	534	703	809	917	1029

After the above correction, the Amended Strategy Supply Volume due to the Basic Conservation Strategy outlined in this Minor Amendment should be:

2010	**2020**	**2030**	**2040**	**2050**	**2060**
274	1,318	2,303	2,430	2,570	2,716

6.0 Adoption and Public Participation Process

This section documents the Adoption Process and the Public Participation Process for this Minor Amendment.

Adoption Timeline

January 26, 2015 – City of Bedford representative made a presentation to Region C Water Planning Group (RCWPG) at public meeting. The RCWPG voted to support Bedford's efforts to pursue a minor amendment; and RCWPG authorized submittal of a Request for Minor Amendment Determination to TWDB Executive Administrator (EA).

March 6, 2015 – Region C Consultants submitted the proposed Bedford Minor Amendment packet to TWDB for Minor Amendment Determination. This request letter can be found in Section 2.0 of this document.

March 27, 2015 – TWDB sent notice to RCWPG that Bedford's proposed amendment constituted a minor amendment under 31 TAC 357.51(c) and was therefore subject to the rules related to a Minor Amendment. TWDB's response letter can be found on pages 48 and 49 of this document.

April 6, 2015 – Region C political subdivision (Trinity River Authority) posted notice of the April 20, 2015 meeting at which the Bedford Minor Amendment would be considered for adoption by the RCWPG. This notice fulfilled the 14-day notice requirement and contained links to the website where the amendment document was posted as well as information regarding opportunity for public comment. The public comment period was prior to and 14 days following the April 20, 2015 meeting. A copy of this public notice can be found on pages 50 through 53 of this document.

April 20, 2015 – The RCWPG voted at a public meeting to adopt Bedford's Minor Amendment as part of the *2011 Region C Water Plan*. An opportunity for public comment was provided at the meeting and no comments were made. It was also announced that written comments would be accepted by TRA during the next 14 days.

May 5, 2015 – Public comment period is closed. No public comments were received.

May 5, 2015 – Final, Adopted Minor Amendment document was transmitted to TWDB.

Public Comments

No public comments were received related to Bedford's Minor Amendment.

Texas Water Development Board

P.O. Box 13231, 1700 N. Congress Ave.
Austin, TX 78711-3231, www.twdb.texas.gov
Phone (512) 463-7847, Fax (512) 475-2053

March 27, 2015

Ms. Jody Puckett
Region C Chair
City of Dallas Water Utility
1500 Marilla Street, Rm 4AN
Dallas, Texas 75201

Re: Region C's written request, received March 10, 2015, for a determination regarding whether or not amending the 2011 Region C Regional Water Plan to include capital costs and project detail updates for the infrastructure water loss savings component of the City of Bedford's recommended Municipal Conservation – Basic water management strategy would be a minor amendment under 31 TAC Ch. 357.51(c).

Dear Ms. Puckett:

I have reviewed Region C's request, and based on the planning group's request and revised supporting materials received March 24, 2015, have determined that revising the City of Bedford's recommended Municipal Conservation – Basic water management strategy constitutes a minor amendment under 31 TAC §357.51(c).

If Region C adopts the proposed minor amendment, the planning group will need to:

1. Provide the Texas Water Development Board (TWDB) with documentation of the Region C's action adopting this water management strategy as a minor amendment;
2. Issue and distribute an addendum to the 2011 Region C Regional Water Plan updating the plan accordingly; and,
3. Provide TWDB with corrected DB12 data to reflect all the associated changes to the 2011 Region C Regional Water Plan and the 2012 State Water Plan.

If Region C makes any substantive changes to the project components or configuration during the minor amendment process, TWDB will need to review the modified proposed amendment to ensure that the modified project still meets all of the criteria under 31 TAC §357.51(c).

If you have any questions concerning this approval or its associated requirements, please contact Connie Townsend, the Board's designated regional water planning project manager for this region.

Sincerely,

Kevin Patteson
Executive Administrator

cc: J. Kevin Ward, General Manager, Trinity River Authority
Connie Townsend, TWDB

REGION C WATER PLANNING GROUP

OPEN PUBLIC MEETING

MONDAY, APRIL 20, 2015 AT 1:00 P.M.

THE MEETING WILL BE HELD AT
TRINITY RIVER AUTHORITY
CENTRAL WASTEWATER TREATMENT PLANT[1,2]
6500 W. SINGLETON BOULEVARD
GRAND PRAIRIE, TEXAS 75212

AGENDA

I. ROLL CALL

II. APPROVAL OF MINUTES – JANUARY 26, 2015 and MARCH 2, 2015

III. 5th Cycle (2017-2021) Regional Planning Pre-Planning Meeting

A. Overview of Scope

B. Receive Oral Comments from the Public

C. Receive Written Comments from the Public

IV. ACTION ITEMS FOR CONSIDERATION

A. Consider Approval/Adoption of Region C Initially Prepared Plan (IPP) and Authorization for TRA to Submit IPP to TWDB by May 1 Deadline.

B. Consider Approval/Adoption of Confidential Information Related to Emergency Interconnects and Authorization for TRA to Submit Information to TWDB by May 1 Deadline.

C. Consider Approving Date for IPP Public Hearing and Authorizing TRA to Post 30-day Public Notice.

[1] Persons with disabilities who plan to attend the Region C Water Planning Group meeting – and who may need auxiliary aids or services such as mobility assistance, interpreters for persons who are deaf or hearing-impaired, readers, large print, or Braille – are requested to contact Lee Shaffer in the TRA Central Wastewater Treatment Plant at (972) 263-2251 at least five work days prior to the meeting so that appropriate arrangements can be made.

[2] The TRA Central Regional Wastewater Plant is a secured facility. Members of the public interested in attending this meeting must provide government-issued identification prior to entering the plant site. Please be sure extra time is allotted for this security check. No person will be allowed to enter the facility without proper identification. Thank you in advance for your cooperation and understanding.

D. Consider Approval of Request to TWDB to perform the Socioeconomic Analysis of Unmet Water Needs in Region C

E. Consider Approval and Adoption of Minor Amendment to the *2011 Region C Plan,* Related to Changes to Conservation Water Management Strategies for Bedford and Consider Authorizing TRA to submit Adopted Amendment to TWDB for approval consideration by TWDB Board

F. Consider Approval and Adoption of Minor Amendment to the *2011 Region C Plan,* Related to Changes to Conservation Water Management Strategies for Fort Worth and Consider Authorizing TRA to submit Adopted Amendment to TWDB for approval consideration by TWDB Board

G. Ratify Amendment Number 7 of Contract Between TWDB and TRA that was fully executed on February 23, 2015 Related to the 2016 Region C Water Plan

H. Consider Authorizing TRA to Amend Contract with FNI (Amendment Number 7)

I. Consider Appointment of a Region C Sub-Committee on SWIFT Prioritization

J. Consider Approval of May 2015 Newsletter

V. DISCUSSION ITEMS

A. Schedule Update
B. TCEQ Notification that a Watermaster is Being Considered in the Red River Basin

VI. OTHER DISCUSSION

A. Updates from the Chair
B. Report from Regional Liaisons
C. Report from Texas Water Development Board
D. Report from Texas Department of Agriculture
E. Report from Texas Parks and Wildlife Department
F. Other Reports
G. Confirm Date and Location of Public Hearing for IPP– Possible dates include: June 24, 2015, 7 pm, Bob Duncan Center, 2800 South Center Street, Arlington, Texas 76014.
H. Confirm Date and Location of Next Meeting – Possible dates include: September 28, 2015, 1pm, TRA Central Wastewater Treatment Plant, 6500 W. Singleton Blvd, Grand Prairie, Texas 75212
I. Public Comments

VII. ADJOURNMENT

Written comments concerning Item III, above, may also be submitted to the Trinity River Authority and TWDB. Comments can be submitted to the Trinity River Authority and the TWDB as follows:

J. Kevin Ward
Administrative Agent for Region C
Trinity River Authority of Texas
P. O. Box 60
Arlington, Texas 76004

Kevin Patteson
Executive Administrator
Texas Water Development Board
P. O. Box 13231
Austin, Texas 78711-3231

The minor amendments contemplated by Items IV – E and IV – F, above, are available for review and comment at the following Web addresses:

Item IV – E:

http://www.regioncwater.org/Documents/Misc/BedfordMinorAmendment-FullDocumentation.pdf

Item IV – F:

http://www.regioncwater.org/Documents/Misc/FortWorthMinorAmendment-FullDocumentation.pdf

The Region C Water Planning Group will accept written and oral comments on Items IV – E and IV – F at the above-identified meeting. Written comments may also be submitted before or within 14 days following the foregoing meeting to the Trinity River Authority at the following address:

J. Kevin Ward, Administrative Officer
Region C Water Planning Group
c/o Trinity River Authority
P.O. Box 60
Arlington, TX 76004
(817) 467-4343

Other questions concerning the foregoing meeting and agenda may be directed to the same address.

RCWPG AGENDA for APRIL 20, 2015
April 6, 2015
PAGE 4

SUBMITTED BY: _____
J. Kevin Ward, Administrative Officer

DATE: April 6, 2015

POSTED BY: _____
DATE: _____
TIME: _____
LOCATION: _____

City of Fort Worth

Minor Amendment
to the *2011 Region C Water Plan*

May 5, 2015

City of Fort Worth, Minor Amendment to the *2011 Region C Water Plan*

Table of Contents

1.0 Rules and Guidance

1.1 Texas Administrative Code 357.51(c)

The following text was taken directly from the Texas Administrative Code 357.51(c).

"(c) Minor Amendments to RWPs and State Water Plan.
(1) Minor Amendment to RWP. A RWPG may amend its RWP by first providing a copy of the proposed amendment to the EA for a determination as to whether the amendment would be minor.
(2) EA Pre-Adoption Review. The EA shall evaluate the proposed minor amendment prior to the RWPG's vote to adopt the amendment. An amendment is minor if it meets the following criteria:
(A) does not result in over-allocation of an existing or planned source of water;
(B) does not relate to a new reservoir;
(C) does not have a significant effect on instream flows, environmental flows or freshwater flows to bays and estuaries;
(D) does not have a significant substantive impact on water planning or previously adopted management strategies; and
(E) does not delete or change any legal requirements of the plan.
(3) Determination by EA. If the EA determines that the proposed amendment is minor, EA shall notify, in writing, the RWPG as soon as practicable.
(4) RWPG Public Meeting. After receipt of the written determination from the EA, the RWPG shall conduct a public meeting in accordance with §357.21(c) of this title. The public shall have an opportunity to comment and the RWPG shall amend the proposed minor amendment based on public comments, as appropriate, and to comply with existing statutes and rules related to regional water planning responses.
(5) Board Approval of Minor Amendment. After adoption of the minor amendment, the RWPG shall submit the amendment to the Board which shall approve the amendment at its next regularly scheduled meeting unless the amendment contradicts or is in substantial conflict with statutes and rules relating to regional water planning."

1.2 TWDB External Amendment Guidance dated February 2, 2014, Minor Amendment

The following text was taken directly from the TWDB document "External Amendment Guidance" dated February 2, 2014.

"The process for a minor amendment to a regional water plan is described in 31 TAC Ch. 357.51(c) and has significantly less notice requirements than a full regional plan amendment carried out under 31 TAC Ch. 357.51(b), however, the amendment must meet certain criteria. These include:

(1) does not result in overallocation of an existing or planned source of water;
(2) does not relate to a new reservoir;
(3) does not have a significant effect on instream flows, environmental flows or freshwater flows to bays and estuaries;
(4) does not have a significant substantive impact on water planning or previously adopted management strategies; and
(5) does not delete or change any legal requirements of the plan.

Steps to conduct a minor amendment to the plan are as follows:

A. The entity proposing a revision to the regional water plan requests an agenda item on the RWPG's agenda for consideration of the minor amendment. Such consideration would be a posted agenda item for RWPG action at a

regularly-posted public RWPG meeting. If the RWPG supports the minor amendment, the RWPG will submit a request for a minor amendment determination to the TWDB EA for approval (required in all cases).
B. Materials to submit to the EA include:

- a cover letter from the RWPG requesting a determination on the minor amendment and stating the need for the minor amendment;
- a summary of the RWPG action taken;
- evidence that the WMS for the minor amendment meets the criteria listed in 31 TAC Ch. 357.51(c)(2);
- information to demonstrate that the WMS has been fully evaluated in accordance with statute, rule, and contractual technical guidelines; and,
- all relevant data in the regional water planning database that would require updates in the Source module, WMS module, WUG module, or WWP module, such as source availability, water supplies (for a WUG or a WWP) or WMS (for a WUG or a WWP). Data requirements vary on a case-by-case basis. (The project manager shall coordinate with applicant and region to work with the WSSA Team. The project manager should submit data to the WSSA Team Lead via email to initiate amendment analysis and allow at least 2 weeks for the internal analysis to occur.)

C. TWDB staff performs an internal analysis including, but not limited to: a water supply over-allocation analysis; identification of potential inter-regional conflicts; and confirmation that no new unmet needs result from the amendment.

D. TWDB staff prepares an internal memo to the EA considering the proposed amendment to the regional plan in the context of the associated rule requirements (e.g. 31 TAC 357.51(c)); draft memo to include recommendation on a determination, and an attached signature-ready letter in accordance with the staff recommendation. A memo template is included as part of this WPD.

E. Within 30 days of receipt of all required information, the EA will issue a response letter to the RWPG Chair, applicant, and political subdivision with the EA's determination of whether or not the amendment is considered minor.

F. After receipt of the EA's determination that the amendment qualifies as minor, the RWPG shall conduct a public meeting subject to the Open Meetings Act with at least two weeks notice prior to the public meeting. The public shall have an opportunity to comment at the meeting and the RWPG shall revise the proposed minor amendment, if necessary [31 TAC Ch. 357.21(c)(4)] and, if appropriate, adopt the minor amendment. Significant modifications to minor amendments would require additional TWDB review.

G. After adoption of the minor amendment, the RWPG shall submit written documentation of the amendment, including an addendum to the current regional water plan. The board shall approve the amendment at its next regularly scheduled meeting per 31 TAC Ch.357.51 (c)(5).

H. The TWDB will then amend the state water plan as appropriate.

I. If the minor amendment is denied by the EA, the RWPG may choose to proceed with a full amendment process as appropriate. Consideration to approve such an action would need to be posted as an agenda item at a regular RWPG meeting. Alternatively, the RWPG could approve in the same motion as pursuing the minor amendment for the entity to proceed with a full amendment should the EA conclude the change does not qualify for a minor amendment. "

2.0 Cover letter from the RWPG and Summary of the RWPG action taken

REGION C WATER PLANNING GROUP

Senate Bill One Fourth Round of Regional Water Planning - Texas Water Development Board

March 11, 2015

Kevin Patteson
Executive Administrator
Texas Water Development Board
1700 North Congress
Austin, Texas 78701

RE: Region C Support of City of Fort Worth Amendment Pursuit

Dear Mr. Patteson:

The City of Fort Worth is currently pursuing an amendment to the *2011 Region C Water Plan*, to include a specific conservation strategy project of Advanced Meter Infrastructure (AMI) program. At present, the *2011 Region C Water Plan* has a more generic water management strategy assigned to the City for "Basic Municipal Water Conservation" that does not include any capital costs. The City's engineer made a presentation to the Region C Water Planning Group at the March 2, 2015 RCWPG meeting, and the RCWPG voted to support Fort Worth's efforts to pursue this amendment.

We believe that this amendment meets the criteria of a minor amendment per TAC Chapter 357.51(c)(2), and that there is a need for this amendment to enable Fort Worth to apply for and receive $76 million in SWIFT funding. With this letter, the RCWPG is formally requesting that TWDB make a "Minor Amendment Determination" on this proposed amendment for Fort Worth. Included with this letter is detailed information about this proposed amendment (including the fully evaluated strategy) as outlined in TWDB guidance for Minor Amendments.

Please call me if you have any questions regarding our request.

Sincerely,

Jo M. (Jody) Puckett
Chair, Region C Water Planning Group

C: Kevin Ward, Region C Secretary
Connie Townsend, TWDB Project Manager
Amy Kaarlela, Freese and Nichols, Inc.

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3.0 Evidence that the WMS for the minor amendment meets the criteria as listed in Texas Administrative Code 357.51(c)(2)

Criteria listed in TAC 357.51(c)(2)	Evidence
Does not result in over-allocation of an existing or planned source of water	This is a conservation strategy which saves water and as such does not use any existing or planned source of water, so it does not over-allocate any existing or planned source of water
Does not relate to a new reservoir	This is a conservation strategy which does not related to a new reservoir
Does not have a significant effect on instream flows, environmental flows or freshwater flows to bays and estuaries	This is a conservation strategy which does not have any effect on instream flows, environmental flows or freshwater flows to bays and estuaries
Does not have a significant substantive impact on water planning or previously adopted management strategies	This conservation strategy does not have any impact on water planning, and only affects the previously adopted Basic Municipal Conservation Strategy for Fort Worth. No other previously adopted strategies are impacted.
Does not delete or change any legal requirements of the plan	This conservation strategy does not affect any legal requirements of the regional plan

4.0 Full Evaluation of the Water Management Strategy

Note: This entire Section 4.0 should be considered to be an addition to Appendix P (Strategy Evaluation) of the 2011 Region C Water Plan. The strategy presented here is considered part of the "Water system audit, leak detection and repair, and pressure control" subset of the "Basic Conservation Package" Strategy as listed in Tables P.1 and P.2. The strategy presented here does not affect any of the evaluation criteria or results in Tables P.1 and P.2 for the overall Basic Conservation Package, and therefore revisions to Tables P.1 or P.2 are not necessary. Table Q-260 on page 11 of this document will become a new table in Appendix Q of the 2011 Region C Water Plan.

4.1 Description

The City of Fort Worth wants to develop an Advanced Metering Infrastructure system comprised of state-of-the-art electronic/digital hardware and software, which combine interval data measurement with continuously available remote communications. The AMI system will enable measurement of detailed, time-based information and frequent collection and transmittal of such information to various parties. AMI or Advanced Metering Infrastructure typically refers to the full measurement and collection system that includes meters at the customer site, communication networks between the customer and service provider, such as the City's Water Department, and data reception and management systems that make the information available to the service provider and customer.

The description of the program presented here is the result of a 2013 study conducted by Westin Engineering, Inc., which determined the feasibility of AMI and mobile workforce system solutions. This study recommended a robust AMI system and revealed that the expected return on investment would take approximately seven years with major improvements expected in conservation, customer service and various other field activities. The total cost of the study was $225,000. Although minor details described below may be subject to change, the overall description lays out the framework for the project. The City of Fort Worth strategy is to plan, design, test, and deploy the AMI program over a five (5) year period.

AMI Components

The customer is equipped with advanced solid state, electronic meters that collect time-based data. Meters for the City's program include water meters only. These meters will have the ability to transmit the collected data through commonly available fixed networks such as Broadband over Power Line (BPL), Power Line Communications (PLC), Fixed Radio Frequency (RF) networks, and public networks (e.g., landline, cellular, paging). The meter data are received by the AMI host system and sent to the Meter Data Management System (MDMS) that manages data storage and analysis to provide the information in useful form to the utility. AMI enables two-way communications, so communication from the utility to the meter could also take place.

AMI Costs and Benefits

Costs

The total capital costs of deploying AMI include the hardware and software costs (meter modules, network infrastructure, and network management software for the AMI system), as well as installation

costs, meter data management, project management, and information technology integration costs. Below breakdown shows the relative estimated breakdown of AMI system costs for the City.

- Endpoint Hardware (approximately 45%)
- Network Hardware (approximately 20%)
- Installation (approximately (15%)
- Project Management/Planning and Design (11%)
- IT (9 %)

Benefits

Benefits associated with AMI deployment can be broadly categorized as:

- System Operation Benefits
- Customer Service Benefits
- Water Conservation (Reduction in water loss)

Financial Benefits

System Operation Benefits - primarily associated with reduction in meter reading costs and associated management and administrative support, increased meter reading accuracy, improved City asset management, easier energy theft detection, and easier water outage management.

Customer Service Benefits - primarily associated with early detection of meter failures, billing accuracy improvements, faster service restoration, flexible billing cycles, providing a variety of time-based rate options to customers, and creating customer water use profiles for targeting Energy Efficiency/Demand Response programs.

Water Conservation Benefits – to reduce the City's relative water loss to be under 10 percent.

FUNDING: State Water Implementation Fund for Texas, SWIFT, funding for this Advanced Metering Infrastructure (AMI) program will provide for the planning, design, project management, acquisition of equipment and supplies, field testing, and full scale deployment of AMI for the City of Fort Worth.

BACKGROUND: The City of Fort Worth Water Department (Water) is addressing its complex business challenges with technology to improve operational efficiencies and empowered decision making. The Business Services Division (Division) identified improvements in water meter management and service order management as one of its most immediate objectives. Advances in water metering technology have evolved to Advanced Metering Infrastructure or AMI, which goes beyond just reading water meters. AMI comprises a system of multifunction meters, communication technologies, data management, and analytic tools, which provide significant benefits to both customers and the City. The AMI fixed network allows remote real time data collection and management to provide enhanced capability in resource management, distribution monitoring and control, and customer service. In addition, the 2-way communication capability allows the City to: a) incorporate peripheral equipment for monitoring and controlling the water distribution system to enhance safety, operations, and water quality, and b) interact with customers to provide outreach, enhanced customer service, and empowerment that enables behavior change to conserve water and reduce costs. With manual water meter reading, only one read per month is received by the City through a service contract with an

outside vendor. With AMI, there are multiple reads an hour per customer. AMI networks and smart meters provide an unprecedented amount of useful data that typical CIS systems are not capable of handling. This data consists primarily of usage data and events that are imported from the head-end servers that manage the data collection network. (The head-end system consists of hardware and software that receives the stream of meter data brought back to the utility through the AMI. Head-end systems may perform a limited amount of data validation before either making the data available for other systems to request or pushing the data out to the other systems.) Meter Data Management (MDM) is a key component of AMI that is in the process of being adopted by other water utilities. The MDM system performs long term data storage and management for the vast quantities of data delivered by smart metering systems. The MDM system will typically import the data, then validate, cleanse, and process it before making it available for billing and analysis.

In response to submissions received through the P3 RFI process, the City is pursuing implementation of a full scale Advanced Metering Infrastructure (AMI) along with an automated leak detection system. During 2015, the City is completing a preliminary assessment that will identify opportunities to reduce water loss and increase revenue through the implementation of AMI. The City is pursuing a more detailed project assessment and implementation plan. It is anticipated that the ultimate project will include:

1) Implementation of a Fixed based AMI system
2) Replacement of older, inaccurate water meters
3) Retrofitting remaining water meters
4) Right typing/sizing of large water meters
5) Automatic leak detection system
6) MDM system

A best practices assessment was conducted that compared the performance of current business practices with the industry best practices, to assess business performance gaps. There are several opportunities for improvements within the Water Department, including business process improvements to drive efficiencies by mitigating the impacts of issues identified, and adopting best practices that will save cost and improve staff productivity. The key components include the following:

A. Develop and implement strategies for advanced metering technology to improve customer management and utility operations efficiencies:

- Evaluate AMI by first quantifying the cost savings from improvements in business processes and operating procedures.
- Expand the evaluation to include meter data management (MDM) and the broader benefits to the utility enterprise.
- Develop detailed specifications and requirements to evaluate vendors.

B. Update meter specifications to include:

- Requirements for future migration to AMI with minimum cost.
- Robust performance standards and requirements backed by warranty.

C. Develop and implement a meter testing program with the following objectives:

- Verifying that meter accuracies are within specified AWWA limits.
- Optimizing the testing schedule and time to intervention.
- Actively managing and utilizing manufacturers' warranties.

D. Automate the work order management process.

- Develop specific functional requirements for work order management process.
- Perform a confirmation-of-fit by evaluating Maximo's capability against the functional requirements.
- Evaluate other solutions as needed.

E. Build interfaces among CIS and GIS for information sharing to facilitate work order management and transparency.
F. Develop management reports to manage operations and analyze trends for process improvements.
E. Develop a mobile solution for Meter Service field staff.

PROGRAM COMPONENTS: The scope of this AMI project will include residential and commercial accounts. The Water Department has selected a moderate approach that would deploy AMI over a 5 year period. This approach provides the City the optimum balance of change management and deployment cost. With this approach, planning and designing the core AMI components and approximately 10,000 of the meters are implemented during the first year as a slow pilot test to confirm goals and performance levels are being met.

The basis program components are discussed below.

1. Meters and AMI endpoints – The scope of the project includes approximately 242,000 residential and commercial meters, ranging in size from ¾-inch to 10 inch. Single port AMI endpoints are assumed; therefore one AMI endpoint is estimated for each meter. Over a 5-year period, meters will be replaced starting with the slow pilot test. Since this is a regular recurring cost to the City, the cost of meters may be shared with Department's on-going meter replacement program. Salvage credit for old meters is not included, although applying these credits will offset some project cost. Installation cost was also split, with 10% allocated to the incremental cost of adding AMI endpoints. The program also included system growth, using an average customer growth of 2% per year. As the system grows, the added costs of AMI endpoints are also included in the program. The program assumes that new customer meters will be installed by City staff, so installation cost of growth meters is not included.

2. O&M cost - cost includes endpoint failures and end-of-life replacements. It is assumed that the warranty period will begin after deployment. Therefore, any failures during deployment will be replaced by the vendor at no cost to City. The model assumes a failure rate of 2% annually, and the warranty period is 2 years. Endpoints that fail within the warranty period will incur installation labor cost only, and endpoints that fail outside the warranty will incur both component and installation costs. The life expectancy of endpoints primarily depends on battery life, and manufacturers' guarantee range from 15 years to 20 years. A 15 year change-out cycle was used. Endpoints installed in year 1 will be replaced in year 15; those installed in year 2 is replaced in year 16, and so on. Endpoints are changes with the meter change out cycle, so minimal incremental labor cost is incurred.

3. Meter Data Management (MDM) – The AMI system will utilize MDM to import data from the head-end control system for long-term storage and management and make it available for billing and analysis. O&M cost for the MDM is the annual maintenance and support from the system vendor.

4. Vendor services – Vendor services include system planning, design, systems pilot meter installation, integration, project management, training, startup and documentation. Installation services are included in the meter capital cost. The MDM will interface with City's existing CIS and GIS. An interface to the current meter reading system (Datamatic) will be required during transition. Another interface will be

required for a work management and/or mobile workforce system. Vendor services will be rendered in proportion to the meter deployment over a 5-year period.

5. Staff cost – Staff support will be required during AMI deployment. Staff support will primarily include IT, Billing, Customer Relations, and Meter Services. AMI will improve operational efficiency and staff productivity. A Senior Professional Engineer will be assigned as the AMI Program Manager.

4.2 Evaluation

Region C Water Management Strategy Analysis
Minor Amendment to *2011 Region C Water Plan*

WUG Name:	Fort Worth					
WMS Name:	Municipal Conservation - Basic					
WMS Project ID:	C01CONSBAS					
WMS Type:	Conservation					
	2010	**2020**	**2030**	**2040**	**2050**	**2060**
Original Savings for Basic Conservation Package:	4,871	10,203	15,717	22,042	30,118	40,789
ADDITIONAL Savings added by the $65M Capital Cost Project described in this Minor Amendment:	0	13,225	16,281	19,846	24,073	29,345
AMENDED TOTAL Savings for Basic Conservation Package:	4,871	23,428	31,998	41,888	54,191	70,134
Implementation Date:	2015- 2020					
Development Timeline:	5 years					
ADDITIONAL Capital Cost: **ADDITIONAL Annual Cost:** **Term:**	$65,282,908 in 2008 Dollars in 2020 $5,691,661 in 2008 Dollars in 2020 and 2030 only 20 years					
Unit Water Cost:	The Unit Cost of the strategy described in this amendment is $194 per ac-ft (during loan period) ($5.69 million annual cost divided by supply of 29,345 acre-feet/year). After the loan period, the cost of this strategy described in this amendment is $0.00 per acre-ft. The "Effective" unit cost of the entire modified Basic Conservation Strategy (with the inclusion of the strategy described in this amendment) is $95 per ac-ft (during loan period) ($950,587 current annual cost plus $5.69 million additional annual cost divided by max savings 70,134 acre-feet/year). After the loan period, the cost is $31 per ac-ft ($2,161,533 annual cost divided by 70,134 acre-feet savings).					

STRATEGY ANALYSES

Supply Development

The Advanced Meter Infrastructure program described above is anticipated to save up to 6% of the water used in the system when fully implemented (by 2020).

	2010	2020	2030	2040	2050	2060
Fort Worth Demand in 2011 Region C Plan (Acre-feet/year)	175,513	220,412	271,349	330,773	401,222	489,088
Additional Savings (Acre-feet/year)	0	13,225	16,281	19,846	24,073	29,345
% Savings	0%	6%	6%	6%	6%	6%

Environmental Considerations

None. This area is entirely urban and the project will not affect any area that is not currently developed. There are no wetlands or agricultural lands impacted.

Permitting and Development

None. No permits needed for this project.

Cost Analysis

Cost is estimated at $65,282,908 in Sept 2008 Dollars. See detailed cost estimate below.

Table Q-260

Fort Worth - Municipal Conservation - Basic
Advanced Meter Infrastructure Program

Owner: Fort Worth
Amount: 29,345 Acre-ft/yr

CAPITAL COSTS*	Quantity	Unit	Unit Price	Cost
2016-Planning, Design, Permitting	1	LS	$858,986	$858,986
2017-Network Installation/Pilot	1	LS	$10,307,827	$10,307,827
2018-Full Deployment	1	LS	$25,769,569	$25,769,569
2019-Full Deployment	1	LS	$23,192,612	$23,192,612
2020-Clean Up/Confirm Benefits	1	LS	$5,153,914	$5,153,914
CONSTRUCTION TOTAL				**$65,282,908**
ANNUAL COSTS*				
Total Annual Costs				**$5,691,661**

UNIT COSTS* (Until Amortized)	
Per Acre-Foot of treated water	$194
Per 1,000 Gallons	$0.60
Annual Costs after Amortization	$0
UNIT COSTS* (After Amortization)	
Per Acre-Foot	$0
Per 1,000 Gallons	$0.00
*September 2008 Dollars	

WATER MANAGEMENT STRATEGY EVALUATION

The Fort Worth Water Conservation Strategy was evaluated based on the Methodology for Evaluating Water Management Strategies as outlined in Section 4C.2 (specifically Table 4C.6) of the *2011 Region C Water Plan*. That table is shown below. On the next page is a table that specifically evaluates Fort Worth's conservation strategy based on the factors from the 2011 Plan.

Table 4C.6

(from *2011 Region C Water Plan*)

Factors Used to Evaluate Water Management Strategies for Region C

Quantity of Water Made Available
Reliability of Supply
Unit Cost of Delivered and Treated Water
Environmental Factors
- Total Acres Impacted
- Wetland Acres
- Environmental Water Needs
- Wildlife Habitat
- Threatened and Endangered Species
- Cultural Resources
- Bay and Estuary Flows
- Water Quality
- Other
Impacts on Agricultural and Rural Areas
Impacts on Natural Resources
Impacts on Other Water Management Strategies and Possible Third Party Impacts
Impacts to Key Water Quality Parameters
Consistency with Plans of Region C Water Suppliers
Consistency with Other Regions

Evaluation Factor	Evaluation of Fort Worth Conservation Strategy
Quantity of Water Made Available	70,134 acre-feet per year
Reliability of Supply	High. Supply (water savings) is not subject to drought or consumer activity. Will be automatic when infrastructure is placed in service.
Unit Cost of Delivered and Treated Water	Unit cost is $0.29/thousand gallons.
Environmental Factors	
- Total Acres Impacted	56 acres (242,000 meters x 10 sq ft per meter, converted to acres)
- Wetland Acres	0 acres
- Environmental Water Needs	None
- Wildlife Habitat	None. This is all urban area.
- Threatened and Endangered Species	None. This is all urban area.
- Cultural Resources	None. This is all urban area that is already developed with water lines.
- Bay and Estuary Flows	Not applicable.
- Water Quality	This project has no negative impact on water quality. This project may improve the quality of water in the distribution system because there will now be less leakage and breaks.
- Other	Not applicable.
Impacts on Agricultural and Rural Areas	None. This is all urban area.
Impacts on Natural Resources	None. This is all urban area.
Impacts on Other Water Management Strategies and Possible Third Party Impacts	Does not affect any other strategies.
Impacts to Key Water Quality Parameters	No impact to Key Water Quality parameters. This project may improve the quality of water in the distribution system because there will now be less leakage and breaks.
Consistency with Plans of Region C Water Suppliers	Water suppliers affected by this are Fort Worth's wholesale supplier (Tarrant Regional Water District). This supplier encourages and supports conservation effort of their customers, so this strategy is consistent with the plans of these Region C water suppliers.
Consistency with Other Regions	This strategy has a positive impact on some other regions in that it reduces the amount of interbasin transfer that might be needed from other regions.

4.3 Changes to Text and Tables from the *2011 Region C Water Plan*

The pages that follow contain updated text and tables from the *2011 Region C Water Plan*. Below is a list of items presenting on the following pages. The portions that have been updated are highlighted in yellow.

It should be noted that the original hard copy (paper plan) of the *2011 Region C Water Plan* had slightly different supply volumes for Fort Worth's Basic Conservation than did the TWDB online Regional Planning Database (DB12). This was due to rounding errors caused by DB12 when splitting Fort Worth's total basic conservation between the 4 counties in which Fort Worth has population. The values differed by -1 acre-foot in 2010, 1 acre-foot in 2020, 1 acre-feet in 2030, and 1 acre-foot in 2060. Values are the same in 2040 and 2050. As is the policy of TWDB, the values in DB12 are considered to be the true values. As such, tables in this amendment packet have been adjusted to match the DB12 values and then modified for the supply volume related to the project described in this amendment.

Executive Summary*, Table ES.2, Page ES.14, Total Cost of strategies
Chapter 4E text, page 4E.15*, TRWD conservation quantity
Chapter 4E, Table 4E.4*, Page, 4E.18, TRWD wholesale conservation quantity
Chapter 4E, Table 4E.5*, Page, 4E.21, TRWD wholesale conservation quantity
Chapter 4E text, page 4E.30, Fort Worth conservation quantity
Chapter 4E, Table 4E.10, Page 4E.32, Page 4E.32, Fort Worth retail conservation quantity
Chapter 4E, Table 4E.11, Page 4E.33, Fort Worth retail basic and enhanced conservation quantity and costs
Chapter 6, page 6.17* Description of Basic Conservation Package
Chapter 6*, Description of Fort Worth Conservation Advanced Meter Infrastructure Program
Chapter 6, Table 6.7*, Page 6.35, Quantity for Total Municipal Conservation Strategy
Appendix C, Table C-129, Page C.66, Fort Worth Summary Table
Appendix K, Section 6.7, Page K.10
Appendix K, Table 1.3*, Page K.4
Appendix Q, Table Q-10*, Basic Conservation Capital Cost
Appendix Z, Table Z-2*, Summary of Recommended Strategies Region C WUGs and WWPs

It should be noted that the City of Bedford is concurrently seeking a Minor Amendment to the 2011 Region C Water Plan for a similar water conservation strategy. The tables and text above marked with an "" will be affected by both Bedford and Fort Worth Amendments. The final amendment to the 2011 Region C Water Plan will include these tables with the combined effects of the Bedford and Fort Worth Minor Amendments.

Executive Summary, Table ES.2, Page ES.14, Total Cost of strategies
Note: This table was previously updated as part of Errata #1 dated December 8, 2010.

Table ES.2
2060 Supplies for the Largest Wholesale Providers and for Region C

Wholesale Water Provider	Supplies Available in 2060 from Current Sources [a]	Supplies Available in 2060 from New Strategies[a]	Total Supplies Available in 2060[a]	% of Total Supply from Conservation and Reuse	Cost of Strategies (Millions)
Dallas Water Utilities	548,580	559,802	1,108,356	22.1%	$5,816
Tarrant Regional Water District	508,333	651,743	1,160,076	20.0%	$4,735
North Texas Municipal Water District	421,405	631,862	1,053,267	24.4%	$5,266
City of Fort Worth	278,645	369,376	648,021	18.3%	$1,121
Trinity River Authority	125,822	116,441	242,263	35.8%	$186
Upper Trinity Regional Water District	56,025	137,990	194,015	26.3%	$1,129
Greater Texoma Utility Authority	19,560	63,736	83,296	6.0%	$240
Total for Region C[c]	**1,774,509**	**2,237,136[b]**	**4,011,645[b]**	**30.7%[b]**	**$21,190**

Notes:

(a) Some supplies are used by more than one supplier. For example, TRWD supplies water to TRA and Fort Worth, DWU supplies water to UTRWD, etc.

(b) These values are estimated.

(c) Total for Region C is not a sum of the numbers above. It includes other providers as well. Some supplies serve multiple suppliers.

It should be noted that the original Table ES.2 in the 2011 Region C Plan had the following values which were later corrected:
Tarrant Regional Water District Supplies Available in 2060 from New Strategies: 626,185,
Tarrant Regional Water District Total Supplies Available in 2060: 1,134,518, and
Tarrant Regional Water District % of Total Supplies from Conservation and Reuse: 18.2%.

Chapter 4E text, page 4E.15, TRWD conservation quantity

Conservation. Conservation for TRWD is the projected water savings from the Region C recommended water conservation program for TRWD's existing and potential customers. Not including savings from low-flow plumbing fixtures (which amount to about 5 percent of demand and are built into the demand projections) and not including reuse, conservation by TRWD customers is projected to reach 116,244 acre-feet per year by 2060.

Chapter 4E, Table 4E.4, Page, 4E.18, TRWD wholesale conservation quantity

Table 4E.4
Summary of Recommended Water Management Strategies for TRWD

Planned Supplies (Ac-Ft/Yr)	**2010**	**2020**	**2030**	**2040**	**2050**	**2060**
Projected Demands	**448,806**	**560,680**	**657,866**	**754,210**	**860,389**	**985,584**
Existing Supplies						
West Fork System	*109,833*	*109,167*	*108,500*	*107,833*	*107,167*	*106,500*
Benbrook Lake	*6,833*	*6,833*	*6,833*	*6,833*	*6,833*	*6,833*
Cedar Creek Lake	*175,000*	*175,000*	*175,000*	*175,000*	*175,000*	*175,000*
Richland-Chambers Reservoir	*210,000*	*210,000*	*210,000*	*210,000*	*210,000*	*210,000*
Richland-Chambers Reuse	*10,000*	*10,000*	*10,000*	*10,000*	*10,000*	*10,000*
Total Available Supplies	***511,666***	***511,000***	***510,333***	***509,666***	***509,000***	***508,333***
Need (Demand - Supply)	***0***	***49,680***	***147,533***	***244,544***	***351,389***	***477,251***
Water Management Strategies						
Conservation (Wholesale Customers)	11,455	41,975	59,015	75,225	93,616	116,244
Integrated Pipeline and Reuse		105,500	105,500	105,500	105,500	105,500
Marvin Nichols Reservoir			140,000	140,000	280,000	280,000
Toledo Bend Reservoir					100,000	100,000
Oklahoma Water						50,000
Supplies from Strategies	**11,455**	147,474	304,514	320,725	579,116	651,743
Total Supplies	**523,121**	658,474	814,847	830,391	1,088,116	1,160,076
Reserve or (Shortage)	**74,315**	97,794	156,981	76,180	227,727	174,492
Note: The WWP (Tarrant Regional Water District) received the same volume of addition supply for conservation as the WUG (Fort Worth) received from the strategy presented in this amendment, however only the WUG (Fort Worth) incurs the cost of this strategy.						

Chapter 4E, Table 4E.5, Page, 4E.21, TRWD wholesale conservation quantity

Table 4E.5
Summary of Costs for TRWD Recommended Strategies

Strategy	Date to be Developed	Quantity for TRWD in 2060 (Ac-Ft/Yr)	TRWD Share of Capital Costs	Unit Cost ($/1000 gal)		Table for Details
				With Debt Service	After Debt Service	
Conservation	2010-2060	116,244**	Included under County Summaries in Section 4F.			
Reuse	2018	105,500	$212,416,000	$0.63	$0.18	Q-50
Integrated Pipeline Project	2018	179,000*	$702,008,000	$1.36	$0.48	Q-41
Marvin Nichols Reservoir	2030	280,000	$2,371,116,000	$2.63	$0.74	Q-20
Toledo Bend Reservoir Phase I	2040	100,000	$1,000,766,000	$3.50	$1.27	Q-17
Oklahoma	2050	50,000	$448,332,000	$2.77	$0.79	Q-44
Total TRWD Capital Costs			**$4,734,638,000**			

*This supply is not a new supply for TRWD. The pipeline will transmit 179,000 af/y of existing supply and water supply made available by other strategies.
**Water Management Strategy evaluation information can be found in new Table Q-260.

Chapter 4E text, page 4E.30, Fort Worth conservation quantity

Conservation. Conservation is the projected conservation savings for Fort Worth and its existing and potential customers, based on the Region C recommended water conservation program. Not including savings from low-flow plumbing fixtures (which are built into the demand projections), conservation by Fort Worth and its customers is projected to reach 81,121 acre-feet per year by 2060.

Chapter 4E, Table 4E.10, Page 4E.32, Fort Worth retail conservation quantity. *Note: this table has been slightly scaled down in size from the original table in order to fit on one page.*

Table 4E.10
Summary of Recommended Water Management Strategies for Fort Worth

Planned Supplies (Ac-Ft/Yr)	**2010**	**2020**	**2030**	**2040**	**2050**	**2060**
Projected Demands	**256,732**	**314,875**	**377,372**	**444,688**	**523,473**	**618,676**
Existing Supplies						
TRWD Raw Water	*247,979*	*279,288*	*280,871*	*288,470*	*299,134*	*309,882*
Water Treatment Capacity (495 mgd Total)	*277,748*	*277,748*	*277,748*	*277,748*	*277,748*	*277,748*
TRWD Limited by Treatment	*247,979*	*277,748*	*277,748*	*277,748*	*277,748*	*277,748*
Direct Reuse (Village Creek)	*897*	*897*	*897*	*897*	*897*	*897*
Total Existing Supplies	***248,876***	***278,645***	***278,645***	***278,645***	***278,645***	***278,645***
Need (Demand - Supply)	***7,856***	***36,230***	***98,727***	***166,043***	***244,828***	***340,031***
Water Management Strategies (Raw Water for All but Reuse from TRWD)						
Conservation (retail)	4,871	23,981	33,286	43,768	56,475	72,895
Conservation (wholesale)	1,432	3,666	5,323	6,283	7,260	8,226
Village Creek Direct Reuse	1,552	3,469	3,526	3,526	3,526	3,526
Alliance Direct Reuse	0	1,120	4,694	4,694	4,694	4,694
Fort Worth Future Direct Reuse	0	0	3,460	7,979	7,979	7,979
12 mgd West Plant		6,726	6,726	6,726	6,726	6,726
Rolling Hills 50 mgd expansion		10,494	28,025	28,025	28,025	28,025
New 25 mgd Southwest Plant		0	14,013	14,013	14,013	14,013
Eagle Mountain 35 mgd exp.		0	15,956	19,618	19,618	19,618
West Plant 23 mgd expansion			0	12,065	12,892	12,892
West Plant 35 mgd expansion			0	19,618	19,618	19,618
Eagle Mountain 70 mgd exp.				19,574	39,235	39,235
Southwest Plant 25 mgd exp.					14,013	14,013
50 mgd expansion					28,025	28,025
50 mgd expansion					6,802	28,025
50 mgd expansion						28,025
50 mgd expansion						28,025
50 mgd expansion						5,817
Total Supplies from Strategies	**7,855**	49,455	115,008	185,889	268,901	369,376
Total Supplies	**256,731**	328,100	393,653	464,534	547,546	648,021
Reserve or (Shortage)	**-1**	13,225	16,281	19,846	24,073	29,345
Note: The WWP (Tarrant Regional Water District) received the same volume of addition supply for conservation as the WWP (Fort Worth) received from the strategy presented in this amendment, however only Fort Worth incurs the cost of this strategy.						

Chapter 4E, Table 4E.11, Page 4E.33, Fort Worth retail basic and expanded conservation quantity and costs. *Note: this table has been slightly scaled down in size from the original table in order to fit on one page.*

Table 4E.11
Summary of Costs for Fort Worth Recommended Strategies

Strategy	Develop-ed Before:	Quantity for Fort Worth in 2060 (Ac-Ft/Yr)	Fort Worth Share of Capital Costs	Unit Cost ($/1000 gal)		Table for Details
				With Debt Service	After Debt Service	
Basic Conservation (retail)	2010	70,134	$65,282,908	$0.29*	$0.09*	Q-10 and Q-260
Expanded Conservation (retail)	2020	2,761	$0	$1.62	$1.62	Q-11
Conservation (wholesale)	2010	8,226	Included under County Summaries in Section 4F.			
Village Creek Direct Reuse	2010	3,526	$16,095,000	$0.93	$0.23	Q-106
Alliance Direct Reuse	2020	4,694	$21,828,000	$1.27	$0.23	Q-105
Fort Worth Future Direct Reuse	2020	7,979	$144,779,000	$5.19	$1.14	Q-104
12 mgd West Plant	2020	6,726	$57,915,000	$2.62	$0.70	Q-15
Rolling Hills 50 mgd exp.	2020	28,025	$77,883,000	$1.21	$0.70	Q-15
New 25 mgd Southwest Plant	2020	14,013	$42,702,000	$1.38	$0.70	Q-15
Eagle Mountain 35 mgd exp.	2020	19,618	$58,126,000	$2.49	$0.70	Q-15
West Plant 23 mgd expansion	2030	12,892	$41,490,000	$2.49	$0.70	Q-15
West Plant 35 mgd expansion	2030	19,618	$58,126,000	$2.49	$0.70	Q-15
Eagle Mountain 70 mgd exp.	2040	39,235	$103,367,000	$1.19	$0.70	Q-15
Southwest Plant 25 mgd exp.	2050	14,013	$44,239,000	$1.28	$0.70	Q-15
50 mgd expansion	2050	28,025	$77,883,000	$1.21	$0.70	Q-15
50 mgd expansion	2050	28,025	$77,883,000	$1.21	$0.70	Q-15
50 mgd expansion	2060	28,025	$77,883,000	$1.21	$0.70	Q-15
50 mgd expansion	2060	28,025	$77,883,000	$1.21	$0.70	Q-15
50 mgd expansion	2060	28,025	$77,883,000	$1.21	$0.70	Q-15
Total Capital Costs			**$1,121,247,908**			

Note: In all other tables, the Basic and Expanded Conservation are combined. They have been shown separately here to demonstrate that the volume of supply associated with Basic Conservation is consistent with other information presented in this Minor Amendment.

*This is the "Effective" unit cost with the previous annual costs and the inclusion of the additional unit cost from the strategy described in this Minor Amendment.

Chapter 6, page 6.17 Description of Basic Conservation Package, edited to include the highlighted text below.

The Basic Water Conservation Package includes:

- Low flow plumbing fixture rules (required by state and federal law)
- Public and school education
- Water use reduction due to increasing water prices
- Water system audit, leak detection and repair, and pressure control. For select WUGs/WWPs, this may include:
  - Replacement of water mains that are a significant source of water loss;
  - Installation of Automatic Meter Reading technology
  - Implementation/Installation of Advanced Meter Infrastructure (AMI) System to significantly reduce water loss
  - Other measures deemed appropriate to prevent water loss
- New efficient residential clothes washer standards
- Water conservation pricing structure (in Expanded Package in 2006 Water Plan)
- Water waste prohibition (in Expanded Package in 2006 Water Plan).

Description of Fort Worth's Conservation Advanced Meter Infrastructure Program

As an additional basic water conservation management strategy, the City of Fort Worth is pursuing a full scale advanced metering infrastructure (AMI) system. The city's conservation efforts are greatly enhanced with an AMI system by providing an increase of efficiency in measuring water use, providing customers with daily water use information, highlighting trends in water use, enhancing leak detection efforts and reducing operational costs and the utility's carbon footprint. Additionally, the system would ensure compliance with conservation related ordinances. Additional information on this strategy can be found in Appendix P and a cost estimate is shown in Table Q-260.

Chapter 6, Table 6.7, Page 6.35, Quantity for Total Municipal Conservation Strategy

Table 6.7
Summary of Existing and Recommended Conservation (Including Reuse) for Region C
- Values in Acre-Feet per Year –

Strategy	2010	2020	2030	2040	2050	2060
Municipal Conservation						
Low flow plumbing fixture rules [a]	22,029	69,122	86,663	105,067	151,981	211,201
Municipal Recommended Conservation	46,689	120,061	167,868	212,566	259,791	314,262
Non-Municipal Conservation						
Efficient new steam electric power plants	3,262	7,824	14,545	26,725	43,403	65,619
Non-Municipal conservation strategies [b]	57	1,069	3,334	4,518	5,147	5,737
Reuse Strategies						
Existing Reuse	203,974	246,510	289,995	312,992	321,405	336,082
Proposed Reuse Strategies	1,937	257,036	275,628	276,688	292,539	300,574
Total Conservation and Reuse	277,948	701,622	838,032	938,556	1,074,265	1,233,474
Total Region C Municipal Demands	1,546,970	1,833,671	2,087,597	2,344,115	2,612,176	2,924,157
Total Municipal Demand without Conservation	1,572,261	1,910,617	2,188,805	2,475,907	2,807,560	3,200,977

a. The Total Region C Demands on the line above includes projected conservation savings from low flow plumbing fixtures and efficient new steam electric power plants. These savings were added to the Region C Demands to obtain "Total Demand without Conservation", a projection of Region C's demands if no conservation occurred.

b. Non-municipal water conservation measures include estimated conservation savings from manufacturing and irrigation rebates.

Table C-129
Fort Worth

(Values in Ac-Ft/Yr)	Projected Population and Demand					
	2010	2020	2030	2040	2050	2060
Projected Population	**742,597**	**950,587**	**1,181,683**	**1,454,650**	**1,773,210**	**2,161,533**
Projected Water Demand						
Municipal Demand	175,513	220,412	271,349	330,773	401,222	489,088
Manufacturing and Customer Demand	81,219	94,463	106,023	113,915	122,251	129,588
Total Projected Demand	***256,732***	***314,875***	***377,372***	***444,688***	***523,473***	***618,676***
Currently Available Water Supplies						
Tarrant Regional Water District (limited by treatment plant capacity)	247,979	277,748	277,748	277,748	277,748	277,748
Direct Reuse (Village Creek)	897	897	897	897	897	897
Total Current Supplies	***248,876***	***278,645***	***278,645***	***278,645***	***278,645***	***278,645***
Need (Demand - Current Supply)	***7,856***	***36,230***	***98,727***	***166,043***	***244,828***	***340,031***
Water Management Strategies						
Water Conservation*	6,303	27,647	38,609	50,051	63,735	81,121
Village Creek Direct Reuse	1,552	3,469	3,526	3,526	3,526	3,526
Fort Worth Future Reuse	0	0	3,460	7,979	7,979	7,979
Alliance Direct Reuse	0	1,120	4,694	4,694	4,694	4,694
12 mgd West Plant		6,726	6,726	6,726	6,726	6,726
Rolling Hills 50 mgd expansion		10,494	28,025	28,025	28,025	28,025
New 25 mgd Southwest Plant		0	14,013	14,013	14,013	14,013
Eagle Mountain 35 mgd exp.		0	15,956	19,618	19,618	19,618
West Plant 23 mgd expansion			0	12,065	12,892	12,892
West Plant 35 mgd expansion			0	19,618	19,618	19,618
Eagle Mountain 70 mgd exp.				19,574	39,235	39,235
Southwest Plant 25 mgd exp.					14,013	14,013
50 mgd expansion					28,025	28,025
50 mgd expansion					6,802	28,025
50 mgd expansion						28,025
50 mgd expansion						28,025
50 mgd expansion						5,817
Supplemental Wells	0	0	0	0	0	0
Total Water Management Strategies	***7,855***	***49,456***	***115,009***	***185,889***	***268,901***	***369,377***
Reserve (Shortage)	**-1**	**13,226**	**16,282**	**19,846**	**24,073**	**29,346**

*This conservation amount includes both Fort Worth retail and customer conservation. It also includes both Basic and Expanded Conservation Packages.

Appendix K, Add Section 6.7 on Page K.10 describing Fort Worth's Conservation strategy

6.7 *Special Description of Fort Worth's Conservation Advance Meter Infrastructure (AMI) Program*

As an additional basic water conservation management strategy, the City of Fort Worth is pursuing a full scale advanced metering infrastructure (AMI) system. The city's conservation efforts are greatly enhanced with an AMI system by providing an increase of efficiency in measuring water use, providing customers with daily water use information, highlighting trends in water use, enhancing leak detection efforts and reducing operational costs and the utility's carbon footprint. Additionally, the system would ensure compliance with conservation related ordinances. Additional information on this strategy can be found in Appendix P and a cost estimate is shown in Table Q-260.

Table 1.3: Summary of Cost by Municipal Conservation Strategy

Strategy	Implementation Date	Conservation Package	Cost Per 1,000 Gallons of Water Saved					
			2010	2020	2030	2040	2050	2060
Low Flow Plumbing Fixtures	2010	Minimum	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Implement New Federal Clothes Washer Standards	2010	Minimum	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Minimum Package Subtotal			$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Public and School Education	2010	Basic	$0.82	$0.77	$0.63	$0.54	$0.47	$0.40
Impact of Increasing Water Prices	2010	Basic	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Water System Audit	2010	Basic	$4.13	$1.45	$1.11	$0.48	$0.44	$0.42
Water Conservation Pricing Structure	2010	Basic	$0.40	$0.07	$0.00	$0.00	$0.00	$0.00
Water Waste Prohibition		Basic	$1.95	$0.90	$0.54	$0.50	$0.50	$0.51
Basic Package Subtotal			$0.93	$0.81	$0.60	$0.38	$0.33	$0.29
Residential Customer Audit	2010	Expanded	$2.35	$2.05	$1.84	$1.86	$1.88	$1.92
Landscape Irrigation Restrictions	2010	Expanded	$0.35	$0.35	$0.34	$0.35	$0.35	$0.36
ICI Water Audit	2020	Expanded	$0.89	$1.04	$1.05	$1.06	$1.09	$1.10
Coin-Op Water-Efficient Clothes Washer Rebate	2020	Expanded	$0.49	$0.32	$0.24	$0.23	$0.22	$0.22
Expanded Conservation Package Subtotal			$0.49	$1.05	$0.95	$0.97	$0.99	$1.01

Table Q-10
Supply and Costs by User Group for Basic Conservation Package

Water User Group Name	Capital Costs						Total Annual Cost per Acre-Foot						Value of Total Supply from Basic Conservation (Acre-Feet)						Total Annual Cost					
	2010	2020	2030	2040	2050	2060	2010	2020	2030	2040	2050	2060	2010	2020	2030	2040	2050	2060	2010	2020	2030	2040	2050	2060
ABLES SPRINGS WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	9	33	52	69	91	118	$0	$0	$0	$0	$0	$0
ADDISON	$0	$0	$0	$0	$0	$0	$220	$153	$121	$101	$87	$76	189	340	465	587	707	826	$41,500	$52,079	$56,335	$59,301	$61,368	$62,700
ALEDO	$0	$5,000	$0	$0	$0	$0	$80	$323	$258	$221	$199	$182	5	54	108	166	193	212	$436	$17,418	$27,820	$36,768	$38,417	$38,417
ALLEN	$0	$8,711	$0	$0	$0	$0	$4	$146	$104	$90	$81	$73	192	1,115	1,672	1,914	2,145	2,376	$759	$163,259	$173,259	$173,125	$173,125	$173,125
ALVORD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	7	10	12	14	17	$0	$0	$0	$0	$0	$0
ANNA	$0	$0	$0	$0	$0	$0	$0	$261	$204	$169	$138	$104	24	141	261	397	574	1,061	$0	$36,833	$53,167	$67,000	$79,000	$110,000
ANNETTA	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	3	11	16	19	23	27	$0	$0	$0	$0	$0	$0
ANNETTA SOUTH	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	1	4	6	8	9	10	$0	$0	$0	$0	$0	$0
ARGYLE	$0	$0	$0	$0	$0	$0	$307	$182	$145	$125	$109	$97	34	135	238	305	386	475	$10,486	$24,601	$34,460	$38,117	$42,158	$46,167
ARGYLE WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$212	$189	$169	14	38	50	78	88	98	$0	$0	$0	$16,644	$16,644	$16,644
ARLINGTON	$0	$0	$0	$0	$0	$0	$189	$110	$87	$76	$68	$61	2,123	3,969	5,273	6,290	7,031	7,798	$400,523	$437,500	$458,333	$476,721	$476,721	$476,721
ATHENS	$0	$25,605	$0	$0	$0	$0	$20	$278	$191	$165	$144	$125	21	170	290	383	505	662	$436	$47,234	$55,397	$63,054	$72,947	$82,612
AUBREY	$0	$0	$0	$0	$0	$0	$0	$308	$0	$0	$0	$0	6	48	61	88	126	181	$0	$14,910	$0	$0	$0	$0
AURORA	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	3	9	13	15	18	22	$0	$0	$0	$0	$0	$0
AZLE	$5,000	$0	$0	$0	$0	$0	$751	$5	$3	$0	$0	$0	98	83	145	209	279	350	$73,536	$436	$436	$0	$0	$0
BALCH SPRINGS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	28	95	132	149	164	180	$0	$0	$0	$0	$0	$0
BARDWELL	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	1	6	8	11	13	16	$0	$0	$0	$0	$0	$0
BARTONVILLE	$0	$0	$0	$0	$0	$0	$497	$231	$196	$174	$157	$143	9	54	71	80	88	97	$4,361	$12,528	$13,889	$13,889	$13,889	$13,889
BARTONVILLE WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$194	3	10	15	18	20	33	$0	$0	$0	$0	$0	$6,332
BEDFORD	$0	$0	$0	$0	$0	$0	$365	$213	$166	$145	$128	$114	274	481	628	734	841	953	$100,001	$102,395	$104,407	$106,098	$107,519	$108,713
BELLS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	11	17	22	26	30	$0	$0	$0	$0	$0	$0
BENBROOK	$5,000	$0	$0	$0	$0	$0	$388	$222	$175	$146	$125	$109	172	328	445	602	800	1,045	$66,603	$72,686	$77,936	$88,000	$100,250	$113,750
BETHEL-ASH WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	3	11	17	21	25	30	$0	$0	$0	$0	$0	$0
BETHESDA WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	30	95	120	150	186	231	$0	$0	$0	$0	$0	$0
BLACKLAND WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	7	28	43	55	69	87	$0	$0	$0	$0	$0	$0
BLOOMING GROVE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$269	$240	$216	2	5	6	10	11	12	$0	$0	$0	$2,691	$2,691	$2,691
BLUE MOUND	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	12	16	17	18	19	$0	$0	$0	$0	$0	$0
BLUE RIDGE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	5	23	47	80	125	150	$0	$0	$0	$0	$0	$0
BOLIVAR WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	19	70	162	356	601	862	$0	$0	$0	$0	$0	$0
BONHAM	$0	$0	$0	$0	$0	$0	$0	$339	$256	$214	$174	$145	16	99	162	259	401	555	$0	$33,574	$41,500	$55,500	$70,000	$80,500
BOYD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	3	10	16	20	25	27	$0	$0	$0	$0	$0	$0
BRANDON-IRENE WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0	2	2	3	3	3	$0	$0	$0	$0	$0	$0
BRIDGEPORT	$0	$0	$0	$0	$0	$0	$0	$277	$214	$183	$160	$141	11	83	150	205	270	360	$0	$23,014	$32,169	$37,524	$43,033	$50,684
BRYSON	$0	$0	$0	$0	$0	$0	$588	$321	$255	$229	$207	$189	3	5	7	7	8	9	$1,626	$1,677	$1,710	$1,710	$1,710	$1,710
BUENA VISTA - BETHEL SUD	$0	$0	$0	$0	$0	$0	$341	$118	$99	$86	$76	$71	108	352	475	616	778	963	$36,891	$41,436	$46,772	$52,833	$59,459	$68,008
BURLESON	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	13	34	50	64	82	104	$0	$0	$0	$0	$0	$0
CADDO BASIN SUD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	11	39	55	70	87	106	$0	$0	$0	$0	$0	$0
CARROLLTON	$10,000	$0	$0	$0	$0	$0	$268	$157	$125	$110	$98	$89	753	1,307	1,690	1,952	2,205	2,459	$202,122	$205,872	$211,497	$214,150	$216,813	$218,500
CASH SUD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	1	4	6	8	11	13	$0	$0	$0	$0	$0	$0
CEDAR HILL	$31,256	$0	$0	$0	$0	$0	$262	$126	$98	$88	$80	$74	371	948	1,304	1,501	1,645	1,789	$97,108	$119,453	$128,085	$131,622	$131,622	$131,622
CELINA	$5,000	$0	$0	$0	$0	$0	$422	$223	$151	$108	$86	$75	37	314	780	1,570	2,696	3,449	$15,575	$69,910	$117,683	$169,084	$232,128	$260,148
CHATFIELD WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	6	30	49	65	83	105	$0	$0	$0	$0	$0	$0
CHICO	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	8	12	16	21	27	$0	$0	$0	$0	$0	$0
COCKRELL HILL	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	6	21	28	31	33	36	$0	$0	$0	$0	$0	$0
COLLEGE MOUND WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	13	55	86	108	136	172	$0	$0	$0	$0	$0	$0
COLLEYVILLE	$0	$24,497	$0	$0	$0	$0	$289	$145	$103	$92	$84	$77	220	477	649	725	799	874	$63,469	$69,136	$67,000	$67,000	$67,000	$67,000
COLLINSVILLE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	15	24	32	40	49	$0	$0	$0	$0	$0	$0
COMBINE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	15	23	28	34	43	$0	$0	$0	$0	$0	$0
COMBINE WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	8	30	46	60	77	100	$0	$0	$0	$0	$0	$0
COMMUNITY WATER COMPANY	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	3	13	21	27	34	43	$0	$0	$0	$0	$0	$0
COMMUNITY WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	7	25	27	29	31	33	$0	$0	$0	$0	$0	$0
COPPELL	$7,192	$0	$0	$0	$0	$0	$268	$159	$130	$114	$103	$93	360	609	748	847	942	1,039	$96,353	$96,637	$96,878	$96,456	$96,631	$96,778
COPPER CANYON	$0	$0	$0	$0	$0	$0	$393	$227	$180	$157	$140	$125	10	20	30	40	51	63	$3,817	$4,633	$5,450	$6,267	$7,083	$7,900
CORINTH	$0	$0	$0	$0	$0	$0	$374	$222	$175	$150	$132	$117	142	271	366	445	531	615	$53,241	$60,167	$64,000	$67,000	$70,000	$72,250
CORSICANA	$0	$0	$0	$31,760	$0	$0	$10	$3	$2	$193	$149	$129	45	137	194	423	567	665	$436	$436	$436	$81,520	$84,373	$85,545
CRANDALL	$0	$19,942	$0	$0	$0	$0	$200	$325	$225	$200	$180	$162	9	60	103	140	189	253	$1,739	$19,651	$23,115	$27,961	$33,914	$40,966
CRESSON	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	1	3	4	5	7	9	$0	$0	$0	$0	$0	$0
CROSS ROADS	$0	$0	$0	$0	$0	$0	$277	$192	$159	$137	$121	$109	16	55	67	77	88	98	$4,361	$10,622	$10,622	$10,622	$10,622	$10,622
CROWLEY	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	20	67	109	160	207	239	$0	$0	$0	$0	$0	$0
CULLEOKA WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	18	74	102	126	154	185	$0	$0	$0	$0	$0	$0
DALLAS	$0	$0	$0	$0	$0	$0	$307	$179	$148	$130	$116	$105	10,808	19,933	25,343	30,684	37,818	48,848	$3,313,395	$3,560,726	$3,753,433	$4,002,082	$4,403,054	$5,111,462
DALLAS COUNTY WCID #6	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0
DALWORTHINGTON GARDENS	$0	$0	$0	$0	$0	$0	$0	$230	$177	$153	$135	$120	5	33	44	53	61	69	$0	$7,492	$7,821	$8,036	$8,178	$8,268
DANVILLE WSC	$0	$0	$0	$0	$0	$0	$0	$258	$219	$196	$174	$156	11	68	99	133	172	219	$0	$17,469	$21,674	$25,986	$30,069	$34,185
DAWSON	$0	$0	$0	$0	$0	$0	$0	$0	$0	$259	$227	$202	2	5	7	13	15	19	$0	$0	$3,289	$3,517	$3,798	
DE SOTO	$0	$0	$0	$0	$0	$0	$677	$361	$283	$243	$213	$192	310	663	934	1,181	1,473	1,669	$209,905	$239,229	$264,171	$287,450	$313,656	$320,835
DECATUR	$0	$5,000	$0	$0	$0	$0	$34	$296	$222	$187	$162	$144	13	88	158	234	341	445	$436	$26,001	$34,926	$43,570	$55,190	$64,165
DENISON	$0	$0	$25,961	$0	$0	$0	$53	$16	$183	$144	$129	$116	43	145	382	496	566	641	$2,263	$2,263	$70,000	$71,500	$73,000	$74,500
DENTON	$0	$10,000	$0	$0	$0	$0	$5	$177	$126	$103	$88	$75	186	1,514	2,651	3,904	5,428	8,290	$872	$268,347	$333,333	$402,917	$477,218	$623,362
DENTON COUNTY FWSD No.1A	$0	$0	$0	$0	$0	$0	$293	$177	$145	$127	$113	$99	30	78	127	184	251	330	$8,695	$13,758	$18,519	$23,419	$28,265	$32,727
DOUBLE OAK	$0	$0	$0	$0	$0	$0	$409	$245	$194	$171	$153	$139	21	34	43	49	55	61	$8,444	$8,444	$8,444	$8,444	$8,444	$8,444
DUNCANVILLE	$0	$0	$0	$0	$0	$0	$481	$213	$190	$178	$169	$160	358	810	910	968	1,020	1,081	$172,523	$172,523	$172,523	$172,523	$172,523	$172,523
EAST CEDAR CREEK FWSD	$0	$0	$0	$0	$0	$0	$567	$294	$227	$201	$181	$164	48	103	156	189	227	267	$27,427	$30,249	$35,347	$38,159	$40,970	$43,782
EAST FORK SUD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	24	66	84	98	113	130	$0	$0	$0	$0	$0	$0

Water User Group Name	Capital Costs						Total Annual Cost per Acre-Foot						Value of Total Supply from Basic Conservation (Acre-Feet)						Total Annual Cost					
	2010	2020	2030	2040	2050	2060	2010	2020	2030	2040	2050	2060	2010	2020	2030	2040	2050	2060	2010	2020	2030	2040	2050	2060
ECTOR	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	1	4	5	6	6	7	$0	$0	$0	$0	$0	$0
EDGECLIFF	$0	$0	$0	$0	$0	$0	$0	$326	$250	$222	$202	$183	4	22	29	32	36	39	$0	$7,219	$7,219	$7,219	$7,219	$7,219
ENNIS	$27,821	$0	$0	$0	$0	$0	$775	$379	$302	$264	$232	$202	150	377	559	775	1,065	1,462	$116,591	$143,214	$169,164	$204,488	$246,944	$295,578
EULESS	$0	$48,804	$0	$0	$0	$0	$408	$217	$151	$135	$123	$113	264	597	865	977	1,080	1,182	$107,701	$129,775	$130,620	$131,938	$132,983	$133,498
EUSTACE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	5	7	7	8	8	$0	$0	$0	$0	$0	$0
EVERMAN	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	9	30	40	42	45	47	$0	$0	$0	$0	$0	$0
FAIRFIELD	$0	$0	$0	$5,000	$0	$0	$65	$18	$12	$252	$219	$194	7	24	37	73	95	116	$436	$436	$436	$18,408	$20,786	$22,569
FAIRVIEW	$0	$5,000	$0	$0	$0	$0	$15	$181	$127	$108	$97	$88	29	179	312	468	523	578	$436	$32,503	$39,736	$50,667	$50,667	$50,667
FARMERS BRANCH	$5,502	$0	$0	$0	$0	$0	$426	$224	$188	$166	$149	$135	369	747	940	1,114	1,293	1,480	$157,125	$167,334	$176,617	$184,579	$192,250	$199,222
FARMERSVILLE	$0	$0	$0	$0	$0	$0	$0	$330	$266	$222	$192	$160	6	59	103	176	290	437	$0	$19,333	$27,500	$39,167	$55,500	$70,000
FATE	$0	$0	$0	$0	$0	$0	$0	$196	$155	$132	$115	$102	21	164	253	349	443	531	$0	$32,183	$39,311	$45,987	$50,826	$54,051
FERRIS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	14	20	25	31	37	$0	$0	$0	$0	$0	$0
FILES VALLEY WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	6	9	10	12	14	$0	$0	$0	$0	$0	$0
FLO COMMUNITY WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0	1	2	2	2	2	$0	$0	$0	$0	$0	$0
FLOWER MOUND	$42,253	$0	$0	$0	$0	$0	$194	$92	$63	$57	$51	$47	620	1,399	2,254	2,528	2,795	3,063	$120,351	$129,239	$143,000	$143,000	$143,000	$143,000
FOREST HILL	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	14	56	81	94	109	121	$0	$0	$0	$0	$0	$0
FORNEY	$0	$0	$0	$0	$0	$0	$0	$281	$216	$182	$158	$140	28	214	324	426	529	639	$0	$60,167	$70,000	$77,500	$83,500	$89,205
FORNEY LAKE WSC	$0	$0	$0	$0	$0	$0	$0	$272	$218	$186	$163	$143	17	80	124	176	246	342	$0	$21,715	$27,075	$32,878	$40,056	$49,027
FORT WORTH	$0	$65,282,908	$0	$0	$0	$0	$152	$284	$215	$35	$33	$31	4,871	23,428	31,998	41,888	54,191	70,134	$742,597	$6,642,248	$6,873,344	$1,454,650	$1,773,210	$2,161,533
FRISCO	$0	$38,971	$0	$0	$0	$0	$11	$163	$89	$79	$73	$69	310	3,277	7,657	10,222	12,374	13,114	$3,398	$535,006	$678,643	$808,862	$898,917	$898,917
FROST	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	1	3	4	4	4	4	$0	$0	$0	$0	$0	$0
GAINESVILLE	$0	$0	$0	$0	$0	$0	$0	$0	$241	$208	$180	$155	27	95	225	288	359	441	$0	$0	$54,100	$59,933	$64,600	$68,500
GARLAND	$0	$81,051	$0	$0	$0	$0	$21	$153	$105	$95	$87	$80	340	2,259	3,305	3,667	4,002	4,353	$7,066	$344,604	$346,119	$346,583	$346,583	$346,583
GASTONIA-SCURRY SUD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	12	46	68	88	114	147	$0	$0	$0	$0	$0	$0
GLENN HEIGHTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	21	71	107	132	158	186	$0	$0	$0	$0	$0	$0
GRAND PRAIRIE	$10,000	$0	$0	$0	$0	$0	$494	$234	$199	$178	$162	$151	1,212	2,886	3,878	4,753	5,725	6,128	$598,232	$675,939	$770,032	$845,983	$926,782	$926,782
GRAPEVINE	$0	$45,647	$0	$0	$0	$0	$233	$131	$88	$78	$71	$65	453	939	1,437	1,597	1,756	1,919	$105,332	$122,730	$125,733	$125,000	$125,000	$125,000
GUN BARREL CITY	$0	$0	$0	$0	$0	$0	$0	$278	$217	$189	$167	$147	11	72	105	136	174	224	$0	$19,881	$22,752	$25,698	$29,035	$32,923
GUNTER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	3	16	28	39	51	62	$0	$0	$0	$0	$0	$0
HACKBERRY	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	9	14	17	19	20	$0	$0	$0	$0	$0	$0
HALTOM CITY	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	56	221	303	340	371	401	$0	$0	$0	$0	$0	$0
HASLET	$0	$5,000	$0	$0	$0	$0	$77	$209	$164	$137	$120	$106	6	60	131	154	176	198	$436	$12,603	$21,519	$21,083	$21,083	$21,083
HEATH	$0	$0	$0	$0	$0	$0	$0	$237	$183	$155	$134	$118	16	114	180	254	348	469	$0	$27,111	$33,011	$39,302	$46,722	$55,425
HEBRON	$0	$0	$0	$0	$0	$0	$0	$320	$237	$207	$184	$165	0	5	6	7	8	9	$0	$1,500	$1,500	$1,500	$1,500	$1,500
HICKORY CREEK	$0	$0	$0	$0	$0	$0	$477	$275	$224	$199	$180	$164	24	57	80	110	122	133	$11,575	$15,522	$17,972	$21,895	$21,895	$21,895
HICKORY CREEK SUD	$0	$0	$0	$0	$0	$0	$568	$308	$247	$225	$204	$187	1	3	4	5	6	7	$732	$855	$957	$1,047	$1,140	$1,245
HIGH POINT WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	21	33	42	53	68	$0	$0	$0	$0	$0	$0
HIGHLAND PARK	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	22	61	86	102	117	132	$0	$0	$0	$0	$0	$0
HIGHLAND VILLAGE	$0	$0	$5,000	$0	$0	$0	$14	$4	$200	$158	$142	$129	31	98	253	321	356	391	$436	$436	$50,746	$50,667	$50,667	$50,667
HONEY GROVE	$0	$5,000	$0	$0	$0	$0	$139	$1,022	$489	$404	$347	$302	3	30	67	85	105	127	$436	$31,142	$32,769	$34,366	$36,399	$38,433
HOWE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	5	22	39	54	66	78	$0	$0	$0	$0	$0	$0
HUDSON OAKS	$0	$5,000	$0	$0	$0	$0	$118	$348	$269	$225	$200	$181	4	23	36	48	61	76	$436	$7,960	$9,547	$10,681	$12,167	$13,653
HURST	$0	$33,764	$0	$0	$0	$0	$52	$228	$158	$143	$130	$119	56	393	546	605	665	727	$2,944	$89,444	$86,500	$86,500	$86,500	$86,500
HUTCHINS	$0	$0	$0	$0	$0	$0	$398	$232	$185	$161	$143	$124	23	48	75	111	163	298	$8,989	$11,167	$13,889	$17,972	$23,417	$36,833
IRVING	$10,000	$0	$0	$0	$0	$0	$204	$121	$96	$82	$71	$63	1,574	2,856	3,767	4,580	5,378	6,167	$321,713	$344,312	$361,379	$373,397	$383,131	$390,481
ITALY	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	13	19	23	27	32	$0	$0	$0	$0	$0	$0
JACKSBORO	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	6	19	26	28	30	33	$0	$0	$0	$0	$0	$0
JOHNSON COUNTY SUD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	7	23	30	39	50	63	$0	$0	$0	$0	$0	$0
JOSEPHINE	$0	$0	$0	$0	$0	$0	$0	$249	$194	$166	$145	$129	2	15	22	31	41	52	$0	$3,648	$4,326	$5,145	$5,926	$6,776
JUSTIN	$19,324	$0	$0	$0	$0	$0	$451	$264	$200	$171	$154	$140	23	69	130	235	313	375	$10,156	$18,270	$25,900	$40,142	$48,083	$52,627
KAUFMAN	$0	$22,543	$0	$0	$0	$0	$144	$333	$5	$0	$0	$0	14	103	81	100	120	155	$1,965	$34,197	$436	$0	$0	$0
KELLER	$0	$0	$0	$0	$0	$0	$318	$339	$220	$202	$186	$172	268	592	1,009	1,101	1,196	1,290	$85,191	$200,610	$222,033	$222,033	$222,033	$222,033
KEMP	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	9	14	15	16	17	$0	$0	$0	$0	$0	$0
KENNEDALE	$0	$0	$0	$0	$0	$0	$516	$281	$227	$200	$181	$164	37	89	122	147	169	190	$19,333	$24,952	$27,766	$29,423	$30,540	$31,294
KERENS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	10	14	16	17	19	$0	$0	$0	$0	$0	$0
KIOWA HOMEOWNERS WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	6	20	28	31	34	38	$0	$0	$0	$0	$0	$0
KRUGERVILLE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	3	10	14	20	28	42	$0	$0	$0	$0	$0	$0
KRUM	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	9	25	34	41	49	59	$0	$0	$0	$0	$0	$0
LADONIA	$0	$0	$0	$0	$0	$0	$0	$200	$159	$137	$120	$106	2	23	36	46	59	80	$0	$4,633	$5,722	$6,267	$7,083	$8,444
LAKE DALLAS	$0	$0	$0	$0	$0	$0	$540	$299	$240	$213	$193	$175	40	84	114	128	142	156	$21,789	$25,055	$27,318	$27,318	$27,318	$27,318
LAKE WORTH	$0	$0	$0	$0	$0	$0	$1,387	$686	$536	$465	$409	$369	29	62	84	102	121	138	$40,692	$42,776	$45,066	$47,356	$49,646	$50,791
LAKESIDE	$0	$0	$0	$18,728	$0	$0	$555	$175	$31	$601	$322	$274	3	9	14	50	96	117	$1,633	$1,633	$436	$29,775	$30,828	$32,073
LANCASTER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	62	281	378	411	442	474	$0	$0	$0	$0	$0	$0
LAVON WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	10	96	149	197	262	363	$0	$0	$0	$0	$0	$0
LEONARD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	3	12	22	37	58	77	$0	$0	$0	$0	$0	$0
LEWISVILLE	$61,985	$0	$0	$0	$0	$0	$246	$136	$109	$95	$85	$76	721	1,422	1,868	2,308	2,878	3,569	$177,540	$192,907	$203,374	$220,003	$243,753	$270,644
LINCOLN PARK	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	1	5	7	9	10	13	$0	$0	$0	$0	$0	$0
LINDSAY	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	5	7	8	8	9	$0	$0	$0	$0	$0	$0
LITTLE ELM	$5,000	$0	$0	$0	$0	$0	$373	$207	$163	$140	$127	$116	179	371	540	684	753	823	$66,603	$76,623	$87,823	$95,649	$95,649	$95,649
LOG CABIN	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	1	6	8	9	9	10	$0	$0	$0	$0	$0	$0
LOWRY CROSSING	$0	$0	$0	$0	$0	$0	$0	$312	$247	$217	$195	$176	4	22	33	39	43	48	$0	$6,904	$8,199	$8,444	$8,444	$8,444
LUCAS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	14	56	83	116	175	254	$0	$0	$0	$0	$0	$0
LUELLA WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	5	18	27	33	36	43	$0	$0	$0	$0	$0	$0
M E N WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	6	18	26	30	34	39	$0	$0	$0	$0	$0	$0
MABANK	$0	$5,000	$0	$0	$0	$0	$73	$547	$239	$209	$185	$164	6	69	169	206	253	313	$436	$37,767	$40,499	$43,077	$46,802	$51,422
MACBEE SUD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0	2	3	3	4	6	$0	$0	$0	$0	$0	$0

* Cost estimate for this Fort Worth Water Management Strategy is found in Table Q-260

Water User Group Name	Capital Costs						Total Annual Cost per Acre-Foot						Value of Total Supply from Basic Conservation (Acre-Feet)						Total Annual Cost					
	2010	2020	2030	2040	2050	2060	2010	2020	2030	2040	2050	2060	2010	2020	2030	2040	2050	2060	2010	2020	2030	2040	2050	2060
MALAKOFF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	3	11	15	17	20	22	$0	$0	$0	$0	$0	$0
MANSFIELD	$28,819	$0	$0	$0	$0	$0	$215	$107	$81	$69	$61	$55	507	1,232	1,872	2,499	3,085	3,733	$109,224	$131,882	$152,364	$173,016	$188,409	$203,800
MARILEE SUD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	9	42	65	84	111	143	$0	$0	$0	$0	$0	$0
MAYPEARL	$0	$0	$0	$0	$0	$0	$0	$311	$243	$217	$196	$178	2	12	18	20	22	24	$0	$3,681	$4,361	$4,361	$4,361	$4,361
MCKINNEY	$0	$53,573	$0	$0	$0	$0	$15	$207	$116	$103	$95	$89	303	3,347	7,621	10,503	12,257	13,108	$4,671	$691,692	$886,546	$1,084,326	$1,163,787	$1,163,787
MCLENDON-CHISHOLM	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	11	15	18	22	27	$0	$0	$0	$0	$0	$0
MELISSA	$0	$0	$0	$0	$5,000	$0	$36	$3	$2	$0	$150	$127	12	146	255	401	916	1,151	$436	$436	$436	$0	$137,500	$146,305
MESQUITE	$0	$62,452	$0	$0	$0	$0	$25	$137	$93	$83	$75	$69	221	1,609	2,478	2,821	3,113	3,402	$5,445	$220,448	$230,004	$233,168	$233,445	$233,501
MIDLOTHIAN	$23,236	$0	$0	$0	$0	$0	$617	$285	$235	$206	$182	$164	156	591	905	1,198	1,527	1,890	$96,518	$168,270	$212,204	$246,478	$277,961	$309,443
MILFORD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	1	4	5	5	6	6	$0	$0	$0	$0	$0	$0
MILLIGAN WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	3	10	12	13	13	14	$0	$0	$0	$0	$0	$0
MINERAL WELLS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	10	19	25	27	29	32	$0	$0	$0	$0	$0	$0
MOUNTAIN PEAK SUD	$0	$0	$0	$0	$0	$0	$495	$285	$228	$203	$180	$160	37	73	96	125	170	231	$18,492	$20,719	$21,958	$25,306	$30,545	$36,906
MT ZION WSC	$0	$0	$0	$0	$0	$0	$0	$274	$212	$184	$163	$146	3	18	23	27	30	34	$0	$4,906	$4,906	$4,906	$4,906	$4,906
MUENSTER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$252	$221	$197	3	9	13	23	27	32	$0	$0	$0	$5,722	$5,994	$6,267
MURPHY	$0	$0	$0	$0	$0	$0	$0	$185	$150	$129	$114	$102	42	367	452	524	595	667	$0	$67,750	$67,750	$67,750	$67,750	$67,750
MUSTANG SUD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	16	64	101	202	315	434	$0	$0	$0	$0	$0	$0
NAVARRO MILLS WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	5	18	27	33	41	49	$0	$0	$0	$0	$0	$0
NEVADA	$0	$0	$0	$0	$0	$0	$0	$208	$165	$138	$119	$100	2	21	31	73	139	392	$0	$4,361	$5,178	$10,078	$16,611	$39,167
NEW FAIRVIEW	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	13	20	26	32	40	$0	$0	$0	$0	$0	$0
NEW HOPE	$0	$0	$0	$0	$0	$0	$0	$226	$173	$147	$128	$113	2	16	33	57	98	244	$0	$3,544	$5,722	$8,444	$12,528	$27,500
NEWARK	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	9	15	22	32	47	$0	$0	$0	$0	$0	$0
NORTH COLLIN WSC	$0	$0	$0	$0	$0	$0	$0	$268	$226	$204	$183	$165	12	67	95	123	157	196	$0	$17,999	$21,533	$25,153	$28,737	$32,195
NORTH HUNT WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	1	2	3	3	4	4	$0	$0	$0	$0	$0	$0
NORTH RICHLAND HILLS	$0	$54,029	$0	$0	$0	$0	$46	$197	$133	$117	$106	$97	103	744	1,131	1,315	1,485	1,652	$4,710	$146,589	$150,048	$154,108	$157,439	$159,689
NORTHLAKE	$0	$0	$0	$0	$0	$0	$0	$0	$279	$239	$204	$181	3	29	57	125	207	276	$0	$0	$15,939	$29,971	$42,349	$50,096
OAK GROVE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	6	9	12	15	19	$0	$0	$0	$0	$0	$0
OAK LEAF	$0	$0	$0	$0	$0	$0	$445	$252	$201	$177	$159	$144	10	20	29	37	47	58	$4,367	$5,107	$5,837	$6,582	$7,415	$8,336
OAK POINT	$0	$5,000	$0	$0	$0	$0	$50	$338	$270	$235	$210	$189	9	77	140	177	219	267	$436	$26,079	$37,700	$41,550	$45,864	$50,421
OVILLA	$0	$0	$0	$0	$0	$0	$389	$216	$176	$154	$136	$122	28	78	130	187	219	260	$10,758	$16,802	$22,845	$28,685	$29,950	$31,807
PALMER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	11	16	18	20	23	$0	$0	$0	$0	$0	$0
PANTEGO	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	13	18	21	23	25	$0	$0	$0	$0	$0	$0
PARADISE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	4	6	7	10	12	$0	$0	$0	$0	$0	$0
PARKER	$0	$0	$0	$0	$0	$0	$0	$183	$142	$115	$88	$71	12	162	292	555	929	1,433	$0	$29,600	$41,500	$64,000	$82,000	$102,000
PAYNE SPRINGS	$0	$0	$0	$0	$0	$0	$477	$274	$218	$193	$174	$157	5	9	11	14	16	20	$2,190	$2,343	$2,493	$2,646	$2,835	$3,065
PECAN HILL	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	1	5	7	9	11	13	$0	$0	$0	$0	$0	$0
PELICAN BAY	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	3	10	14	17	20	24	$0	$0	$0	$0	$0	$0
PILOT POINT	$0	$0	$0	$0	$0	$0	$0	$339	$263	$0	$0	$0	9	58	122	90	103	117	$0	$19,516	$32,167	$0	$0	$0
PLANO	$0	$0	$0	$0	$0	$0	$0	$105	$80	$69	$60	$54	506	2,954	3,892	4,578	5,246	5,916	$0	$309,250	$312,500	$314,167	$315,833	$316,667
PONDER	$0	$0	$0	$0	$0	$0	$0	$297	$248	$205	$181	$163	3	47	111	202	262	297	$0	$13,889	$27,500	$41,500	$47,333	$48,500
POST OAK BEND CITY	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	6	12	20	35	61	$0	$0	$0	$0	$0	$0
POTTSBORO	$0	$5,000	$0	$0	$0	$0	$70	$346	$278	$242	$216	$194	6	45	77	112	151	181	$436	$15,575	$21,519	$27,028	$32,583	$35,167
PRINCETON	$0	$0	$0	$0	$0	$0	$0	$276	$215	$170	$129	$96	12	119	215	413	777	1,300	$0	$32,997	$46,167	$70,000	$100,000	$125,000
PROSPER	$0	$0	$0	$0	$0	$0	$0	$211	$151	$118	$89	$78	22	241	514	848	1,344	1,609	$0	$50,833	$77,500	$100,000	$120,000	$125,000
R-C-H WSC	$0	$0	$0	$0	$0	$0	$0	$318	$257	$229	$206	$187	7	46	58	67	74	82	$0	$14,651	$14,978	$15,250	$15,250	$15,250
RED OAK	$0	$0	$0	$0	$0	$0	$0	$280	$222	$189	$165	$145	27	190	288	354	424	503	$0	$53,167	$64,000	$67,000	$70,000	$73,000
RENO	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	13	17	19	21	22	$0	$0	$0	$0	$0	$0
RHOME	$0	$0	$0	$0	$0	$0	$279	$174	$141	$121	$107	$96	17	43	85	137	199	270	$4,691	$7,464	$11,983	$16,611	$21,239	$25,867
RICE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$222	$192	$169	2	7	10	20	26	34	$0	$0	$0	$4,334	$4,955	$5,717
RICE WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	13	48	74	95	119	150	$0	$0	$0	$0	$0	$0
RICHARDSON	$0	$10,000	$0	$0	$0	$0	$4	$140	$105	$91	$80	$71	196	1,400	1,861	2,151	2,433	2,728	$872	$195,872	$195,872	$195,000	$195,000	$195,000
RICHLAND HILLS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	11	39	56	65	73	79	$0	$0	$0	$0	$0	$0
RIVER OAKS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	10	34	45	49	52	55	$0	$0	$0	$0	$0	$0
ROANOKE	$0	$0	$0	$0	$0	$0	$0	$249	$191	$161	$138	$119	16	111	182	261	396	538	$0	$27,687	$34,873	$42,060	$54,602	$64,296
ROCKETT SUD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	64	235	371	466	533	569	$0	$0	$0	$0	$0	$0
ROCKWALL	$0	$0	$0	$0	$0	$0	$0	$155	$115	$93	$81	$73	88	739	1,135	1,537	1,793	2,008	$0	$114,647	$130,000	$143,595	$146,067	$146,067
ROWLETT	$0	$0	$0	$0	$0	$0	$0	$182	$136	$116	$102	$91	115	664	956	1,189	1,410	1,641	$0	$120,856	$130,178	$137,714	$143,811	$148,747
ROYSE CITY	$0	$0	$0	$0	$0	$0	$0	$247	$190	$152	$128	$107	31	215	357	532	733	979	$0	$53,167	$67,669	$80,776	$93,469	$105,000
RUNAWAY BAY	$0	$0	$0	$0	$0	$0	$0	$311	$242	$210	$187	$167	3	16	25	32	41	50	$0	$4,960	$5,986	$6,811	$7,628	$8,444
SACHSE	$0	$19,826	$0	$0	$0	$0	$36	$222	$153	$138	$125	$115	48	275	429	476	524	572	$1,728	$61,195	$65,500	$65,500	$65,500	$65,500
SAGINAW	$0	$0	$0	$0	$0	$0	$0	$301	$235	$201	$178	$160	35	191	271	331	388	443	$0	$57,374	$63,567	$66,744	$69,060	$70,749
SAINT PAUL	$0	$0	$0	$0	$0	$0	$0	$292	$238	$209	$187	$169	2	24	58	106	140	163	$0	$7,083	$13,889	$22,056	$26,139	$27,500
SANCTUARY	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	10	16	20	25	29	$0	$0	$0	$0	$0	$0
SANGER	$0	$0	$0	$0	$0	$0	$517	$279	$224	$197	$178	$162	41	122	206	274	339	386	$21,375	$33,917	$46,043	$54,100	$60,162	$62,500
SANSOM PARK VILLAGE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	6	22	30	33	35	38	$0	$0	$0	$0	$0	$0
SARDIS-LONE ELM WSC	$0	$0	$0	$0	$0	$0	$419	$241	$192	$171	$154	$140	77	173	265	298	330	363	$32,251	$41,584	$50,917	$50,917	$50,917	$50,917
SAVOY	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	1	4	5	6	6	7	$0	$0	$0	$0	$0	$0
SCURRY	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	4	6	8	9	11	$0	$0	$0	$0	$0	$0
SEAGOVILLE	$0	$0	$0	$0	$0	$0	$566	$0	$0	$0	$0	$0	61	73	112	144	174	201	$34,540	$0	$0	$0	$0	$0
SEVEN POINTS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	8	12	15	18	23	$0	$0	$0	$0	$0	$0
SHADY SHORES	$0	$0	$0	$0	$0	$0	$0	$328	$0	$0	$0	$0	5	28	27	29	31	33	$0	$9,065	$0	$0	$0	$0
SHERMAN	$0	$0	$0	$33,049	$0	$0	$43	$13	$0	$273	$190	$165	67	217	333	880	1,411	1,850	$2,881	$2,881	$0	$240,553	$267,507	$305,185
SOUTH GRAYSON WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	6	22	31	39	48	60	$0	$0	$0	$0	$0	$0
SOUTHLAKE	$0	$0	$0	$0	$0	$0	$265	$160	$126	$107	$93	$82	253	434	556	679	821	963	$67,029	$69,454	$70,161	$72,886	$76,282	$79,000
SOUTHMAYD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	8	13	21	33	43	$0	$0	$0	$0	$0	$0
SOUTHWEST FANNIN COUNTY SUD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	15	44	62	72	82	93	$0	$0	$0	$0	$0	$0
SPRINGTOWN	$19,443	$0	$0	$0	$0	$0	$554	$288	$221	$196	$181	$167	20	48	71	93	117	144	$10,890	$13,862	$15,575	$18,111	$21,083	$24,056

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Water User Group Name	Capital Costs						Total Annual Cost per Acre-Foot						Value of Total Supply from Basic Conservation (Acre-Feet)						Total Annual Cost					
	2010	2020	2030	2040	2050	2060	2010	2020	2030	2040	2050	2060	2010	2020	2030	2040	2050	2060	2010	2020	2030	2040	2050	2060
SUNNYVALE	$0	$0	$0	$0	$0	$0	$0	$200	$157	$133	$114	$101	14	97	157	224	303	348	$0	$19,333	$24,778	$29,833	$34,500	$35,200
TALTY	$0	$0	$0	$0	$0	$0	$0	$177	$140	$118	$102	$88	5	60	104	160	238	345	$0	$10,709	$14,586	$18,881	$24,201	$30,326
TEAGUE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	6	22	32	38	45	52	$0	$0	$0	$0	$0	$0
TERRELL	$0	$21,683	$0	$0	$0	$0	$66	$176	$112	$91	$78	$69	28	535	1,024	1,490	1,875	2,332	$1,890	$94,398	$115,000	$135,000	$147,000	$160,000
THE COLONY	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	77	299	416	462	505	540	$0	$0	$0	$0	$0	$0
TIOGA	$0	$18,528	$0	$0	$0	$0	$760	$353	$232	$203	$186	$172	2	26	48	60	72	81	$1,615	$9,324	$11,116	$12,167	$13,356	$13,950
TOM BEAN	$5,000	$0	$0	$0	$0	$0	$1,216	$417	$356	$311	$278	$259	22	67	81	93	108	117	$27,075	$27,889	$28,702	$29,079	$29,893	$30,299
TOOL	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	15	21	26	31	38	$0	$0	$0	$0	$0	$0
TRENTON	$0	$0	$0	$0	$0	$0	$0	$1,246	$462	$326	$249	$207	2	22	69	115	181	255	$0	$27,891	$31,708	$37,433	$45,066	$52,699
TRINIDAD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	6	8	9	10	11	$0	$0	$0	$0	$0	$0
TROPHY CLUB	$0	$0	$0	$0	$0	$0	$0	$208	$161	$136	$118	$104	20	123	174	219	270	325	$0	$25,614	$27,992	$29,822	$31,796	$33,770
TWO WAY SUD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	9	34	51	65	80	96	$0	$0	$0	$0	$0	$0
UNIVERSITY PARK	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	45	131	184	213	241	270	$0	$0	$0	$0	$0	$0
VALLEY VIEW	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	3	16	31	46	83	110	$0	$0	$0	$0	$0	$0
VAN ALSTYNE	$0	$0	$0	$0	$0	$0	$0	$296	$234	$201	$178	$161	5	70	152	218	265	305	$0	$20,694	$35,667	$43,833	$47,333	$48,967
VENUS	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0
VIRGINIA HILL WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	14	20	21	22	24	$0	$0	$0	$0	$0	$0
WALNUT CREEK SUD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	40	159	307	406	454	498	$0	$0	$0	$0	$0	$0
WATAUGA	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	36	122	165	178	189	200	$0	$0	$0	$0	$0	$0
WAXAHACHIE	$0	$0	$0	$0	$0	$0	$0	$414	$267	$225	$192	$166	56	433	769	1,090	1,528	2,134	$0	$179,256	$205,274	$245,254	$293,409	$355,052
WEATHERFORD	$5,000	$0	$0	$0	$0	$0	$418	$225	$176	$151	$133	$115	173	370	527	670	832	1,027	$72,471	$83,186	$92,575	$100,931	$110,353	$118,499
WEST CEDAR CREEK MUD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	25	113	179	232	298	383	$0	$0	$0	$0	$0	$0
WEST WISE RURAL SUD	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	5	18	27	32	38	45	$0	$0	$0	$0	$0	$0
WESTON	$0	$0	$0	$0	$0	$0	$0	$289	$210	$170	$133	$99	5	39	92	299	584	1,108	$0	$11,167	$19,333	$50,833	$77,500	$110,000
WESTOVER HILLS	$0	$18,461	$0	$0	$0	$0	$1,035	$314	$151	$111	$100	$91	2	12	17	19	21	24	$1,609	$3,748	$2,574	$2,139	$2,139	$2,139
WESTWORTH VILLAGE	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	6	17	23	27	30	35	$0	$0	$0	$0	$0	$0
WHITE SETTLEMENT	$27,254	$0	$0	$0	$0	$0	$268	$34	$4	$0	$0	$0	349	70	99	115	134	154	$93,459	$2,376	$436	$0	$0	$0
WHITESBORO	$0	$5,000	$0	$0	$0	$0	$61	$374	$289	$251	$225	$204	7	42	61	78	100	147	$436	$15,575	$17,655	$19,597	$22,569	$30,000
WHITEWRIGHT	$0	$0	$0	$0	$0	$0	$0	$303	$242	$213	$191	$172	3	30	52	72	95	121	$0	$9,065	$12,615	$15,345	$18,076	$20,806
WILLOW PARK	$0	$0	$0	$0	$0	$0	$0	$320	$0	$0	$0	$0	8	51	56	74	88	100	$0	$16,260	$0	$0	$0	$0
WILMER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	5	19	29	44	88	147	$0	$0	$0	$0	$0	$0
WOODBINE WSC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	8	28	39	46	52	59	$0	$0	$0	$0	$0	$0
WORTHAM	$0	$0	$0	$0	$0	$0	$1,934	$731	$593	$511	$452	$401	14	38	49	58	68	78	$26,937	$27,891	$28,845	$29,799	$30,563	$31,326
WYLIE	$0	$5,000	$0	$0	$0	$0	$5	$419	$253	$222	$207	$193	89	567	1,075	1,391	1,496	1,601	$436	$237,469	$272,100	$309,443	$309,443	$309,443
COLLIN COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	11	36	42	41	39	37	$0	$0	$0	$0	$0	$0
COOKE COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	13	47	65	70	74	78	$0	$0	$0	$0	$0	$0
DALLAS COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	1	5	5	5	4	3	$0	$0	$0	$0	$0	$0
DENTON COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	113	378	543	661	788	929	$0	$0	$0	$0	$0	$0
ELLIS COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	17	54	73	81	87	94	$0	$0	$0	$0	$0	$0
FANNIN COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	16	53	70	74	75	76	$0	$0	$0	$0	$0	$0
FREESTONE COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	14	47	64	69	73	77	$0	$0	$0	$0	$0	$0
GRAYSON COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	37	123	165	168	164	155	$0	$0	$0	$0	$0	$0
HENDERSON COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	7	9	10	11	12	$0	$0	$0	$0	$0	$0
JACK COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	7	23	33	39	44	50	$0	$0	$0	$0	$0	$0
KAUFMAN COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	25	68	91	99	105	112	$0	$0	$0	$0	$0	$0
NAVARRO COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	2	8	11	12	13	14	$0	$0	$0	$0	$0	$0
PARKER COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	44	166	233	254	253	251	$0	$0	$0	$0	$0	$0
ROCKWALL COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	4	9	13	14	15	17	$0	$0	$0	$0	$0	$0
TARRANT COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	53	173	183	194	204	215	$0	$0	$0	$0	$0	$0
WISE COUNTY-OTHER	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	49	166	216	232	245	259	$0	$0	$0	$0	$0	$0
Total	$354,084	$65,955,994	$30,961	$88,537	$5,000	$0	$30,110	$35,007	$25,664	$24,163	$21,169	$19,051	34,315	103,636	151,194	192,269	237,329	289,644	$8,411,506	$20,095,145	$21,981,467	$18,461,967	$20,393,786	$22,378,537

Appendix Z, Table Z.2, Page Z.5

Note: Table Z.2 was previously amended in Errata #1 and #2 to the 2011 Region C Plan.

Table Z.2[1,6] Revised

Summary of Recommended Strategies
Region C WUGs and WWPs

Recommended Strategy	Capital Cost	First Decade of Water Strategy	First Decade Water Supply Volume (acre-feet/year)	First Decade Estimated Annual Average Unit Cost ($/acre-foot/year)	Year 2060 Water Supply Volume (acre-feet/year)	Year 2060 Estimated Annual Average Unit Cost ($/acre-foot/year)
ADDITIONAL DRY YEAR SUPPLY	$1,750,000.00	2010	25,000	$0.00	0	$0.00
ADDITIONAL PIPELINE FROM LAKE TAWAKONI (MORE LAKE FORK SUPPLY)	$496,243,000.00	2020	77,994	$557.77	69,128	$107.79
COLLIN-GRAYSON MUNICIPAL ALLIANCE SYSTEM	$77,366,000.00	2020	3,255	$3,044.55	27,412	$982.38
COOKE COUNTY PROJECT	$50,280,000.00	2020	2,240	$1,658.04	4,480	$394.42
DIRECT REUSE	$264,783,000.00	2010	1,552	$691.37	46,250	$138.57
DIRECT REUSE - FRISCO	$31,448,606.00	2020	2,240	$1,358.93	5,650	$134.34
Dallas Reuse Projects[2]	$225,487,000.00		52,070		61,487	
DWU REUSE	*$82,920,000.00*	*2020*	*34,902*	*$232.78*	*50,382*	*$41.69*
MAIN STEM TRINITY PUMP STATION (LAKE RAY HUBBARD INDIRECT REUSE - DWU)	*$142,567,000.00*	*2020*	*17,168*	*$730.08*	*11,105*	*$196.04*
ENNIS REUSE	$31,779,000.00	2040	333	$14,738.74	3,696	$1,327.92
FACILITY IMPROVEMENTS	$2,314,558,600.00	2010	0	$0.00	0	$0.00
FACILITY IMPROVEMENTS- REUSE SOURCES	$590,686,000.00	2010	0	$0.00	0	$0.00
FANNIN COUNTY PROJECT	$38,471,000.00	2020	1,254	$3,838.12	5,113	$394.68
FASTRILL REPLACEMENT (REGION C COMPONENT)	$1,980,278,000.00	2060	112,100	$1,724.36	112,100	$1,724.36
GOLF COURSE CONSERVATION	$0.00	2010	56	$278.52	3,121	$277.84
GRAYSON COUNTY PROJECT	$136,016,000.00	2010	200	$0.00	24,640	$140.85
INDIRECT REUSE	$0.00	2020	4,368	$0.00	4,368	$0.00
INDIRECT REUSE - JACKSBORO FOR JACK CO MINING	$200,000.00	2010	385	$0.00	385	$0.00
LAKE PALESTINE CONNECTION (INTEGRATED PIPELINE WITH TRWD)	$887,954,000.00	2020	111,776	$772.91	107,347	$203.86
LAKE RALPH HALL	$286,401,000.00	2020	34,050	$616.09	34,050	$75.27
LAKE RALPH HALL INDIRECT REUSE [(7)]	$0.00	2020	6,129	$0.00	18,387	$0.00
LAKE TEXOMA - AUTHORIZED (BLEND)	$336,356,000.00	2030	69,200	$495.56	113,000	$87.23
LAKE TEXOMA - INTERIM PURCHASE FROM GTUA	$0.00	2020	21,900	$0.00	0	$0.00
LOWER BOIS D ARC CREEK RESERVOIR	$615,498,000.00	2020	54,796	$971.79	108,487	$78.67
MAIN STEM PS (ADDITIONAL EAST FORK) NTMWD	$0.00	2020	34,900	$0.00	0	$0.00
MANUFACTURING CONSERVATION	$0.00	2010	1	$0.00	2,618	$211.38

Table Z.2[1,6] Revised

Summary of Recommended Strategies
Region C WUGs and WWPs

Recommended Strategy	Capital Cost	First Decade of Water Strategy	First Decade Water Supply Volume (acre-feet/year)	First Decade Estimated Annual Average Unit Cost ($/acre-foot/year)	Year 2060 Water Supply Volume (acre-feet/year)	Year 2060 Estimated Annual Average Unit Cost ($/acre-foot/year)
MARVIN NICHOLS RESERVOIR[3]	$3,345,052,000.00	2030	227,400	$364.26	472,300	$83.04
MUNICIPAL CONSERVATION-BASIC	$66,434,483.00	2010	41,967	$200.40	293,774	$76.18
MUNICIPAL CONSERVATION-EXPANDED	$480,774.00	2010	4,756	$168.50	20,541	$395.75
NEW WELLS - CARRIZO WILCOX AQUIFER	$1,853,000.00	2010	154	$344.81	467	$446.30
NEW WELLS - TRINITY AQUIFER	$7,778,150.00	2010	1,882	$410.00	2,306	$228.85
NEW WELLS - WOODBINE AQUIFER	$14,543,000.00	2010	763	$662.88	1,932	$339.28
OKLAHOMA WATER TO IRVING	$194,825,000.00	2030	25,000	$810.28	25,000	$244.12
OKLAHOMA WATER TO NTMWD, TRWD, UTRWD	$756,044,500.00	2060	115,000	$290.44	115,000	$290.44
OVERDRAFT TRINITY AQUIFER - EXISTING WELLS	$0.00	2010	2,168	$105.25	0	$0.00
OVERDRAFT TRINITY AQUIFER - NEW WELLS	$269,000.00	2010	75	$493.33	0	$0.00
PURCHASE FROM WATER PROVIDER (1)	$0.00	2010	46	$0.00	0	$0.00
REDISTRIBUTION OF SUPPLIES	$0.00	2010	530	$0.00	58,031	$0.00
SUBORDINATION AGREEMENT- FUTURE-ONLY SOURCES	$8,217,000.00	2020	280	$2,560.71	215	$558.14
SUPPLEMENTAL WELLS	$495,381,934.00	2010	0	$0.00	0	$0.00
TOLEDO BEND PROJECT (500,000)[4]	$2,406,236,000.00	2010	363	$0.00	400,217	$1,072.45
TRA 10-MILE CREEK REUSE PROJECT	$14,895,000.00	2030	6,760	$259.17	6,760	$99.11
TRA DENTON CREEK WWTP REUSE	$9,506,000.00	2020	3,750	$0.00	3,750	$229.07
TRA ELLIS COUNTY REUSE	$10,384,000.00	2060	2,200	$505.00	2,200	$505.00
TRA FREESTONE COUNTY REUSE	$17,266,000.00	2050	6,760	$323.49	6,760	$323.49
TRA KAUFMAN COUNTY REUSE	$9,761,000.00	2020	1,000	$901.00	1,000	$192.00
TRA LAS COLINAS REUSE	$14,530,000.00	2020	7,000	$284.49	7,000	$133.69
TRA TARRANT COUNTY PROJECT	$59,008,000.00	2010	0	$0.00	0	$0.00
TRWD THIRD PIPELINE AND REUSE	$914,424,000.00	2020	105,500	$1,015.87	105,500	$324.48
WATER TREATMENT PLANT - EXPANSION	$19,970,000.00	2020	1,260	$0.00	2,268	$1,090.39
WATER TREATMENT PLANT - NEW	$308,309,400.00	2010	0	$0.00	807	$19,346.39
WRIGHT PATMAN - REALLOCATION OF FLOOD POOL (112K)	$896,478,000.00	2040	112,100	$761.95	112,100	$761.95
CONVEYANCE PROJECT (1)[5]	$413,884,000.00	2010	194	$11,560.82	25,178	$679.25
CONVEYANCE PROJECT (2)[5]	$69,299,100.00	2020	1,672	$0.00	1,237	$3,153.97
CONVEYANCE PROJECT (3)[5]	$6,465,400.00	2020	213	$6,530.52	2,016	$1,026.79
GRAYSON COUNTY PROJECT[5]	$146,071,000.00	2020	5,600	$3,693.13	19,600	$513.75

Table Z.2[1,6] Revised

Summary of Recommended Strategies
Region C WUGs and WWPs

Recommended Strategy	Capital Cost	First Decade of Water Strategy	First Decade Water Supply Volume (acre-feet/year)	First Decade Estimated Annual Average Unit Cost ($/acre-foot/year)	Year 2060 Water Supply Volume (acre-feet/year)	Year 2060 Estimated Annual Average Unit Cost ($/acre-foot/year)
PURCHASE FROM WATER PROVIDER (1)[5]	$164,114,900.00	2010	402	$0.00	30,103	$1,067.12
PURCHASE FROM WATER PROVIDER (2)[5]	$3,538,000.00	2020	52	$5,950.00	86	$609.30
PURCHASE FROM WATER PROVIDER (3)[5]	$65,481,250.00	2020	4,004	$2,384.37	6,417	$1,706.16
WATER TREATMENT PLANT - EXPANSION[5]	$2,708,430,000.00	2010	0	$0.00	2,618	$106,248.98
WATER TREATMENT PLANT-EXPANSION- REUSE SOURCES[5]	$32,750,000.00	2010	0	$0.00	0	$0.00

[1]Information in this table matches the TWDB Database (DB12).

[2]Dallas has two future reuse projects. In DB12, these two projects share the same source. The sum of these two projects' supply in the database is equal to the sum of the two projects' supply shown in Table 4E.1 of the Plan, however the distribution of the supply between the two projects in the database differs somewhat from the distribution in Table 4E.1. Consider the databased to be consistent with the Plan.

[3]Cost shown here is for both Phase I & II for NTMWD & TRWD, but only Phase I for UTRWD. UTRWD will not need Phase II of the project until after 2060.

[4]This is the cost from the TWDB Database (DB12), which includes Sabine River Authority's portion of the the cost. Total costs in the Region C Plan (Table ES.2) only includes costs for WWPs located in Region C and does not include SRA's portion of Toledo Bend costs.

[5]Strategy supply volumes may already be listed in other strategies.

[6]A number of costs from the Region C Plan could not be entered into DB12. WUGs with no demand are not in DB12, however, historical use from some of the WUGs indicate there is a demand. The Region C Plan outlines strategies (and associated costs) for these WUGs.

[7]Capital cost of the Lake Ralph Hall Indirect Reuse project is included in the capital cost of Lake Ralph Hall. Unit costs shown for Lake Ralph Hall take into account the supply from the Lake Ralph Hall Indirect Reuse Project.

Note: Table Z.2 was previously amended in Errata #1 and #2 to the 2011 Region C Plan.

5.0 Required regional water planning database (DB12) updates

DB12 Modifications for Fort Worth for Minor Amendment to 2011 Region C Water Plan

WUG MODULE – Adjust Conservation Supply volumes, add Capital Cost, and adjust 2020 and 2030 annual costs of Fort Worth's "Municipal Conservation-Basic" WMS.

WUG Name: Fort Worth
WUG ID: 030213000
WUG Region: C
Basin Name: TRINITY
County: Multiple

WUG Name:	WUG ID:	WUG Region:	County Name:	Basin Name:
1. FORT WORTH	030213000	C	TARRANT	TRINITY
2. FORT WORTH	030213000	C	DENTON	TRINITY
3. FORT WORTH	030213000	C	PARKER	TRINITY
4. FORT WORTH	030213000	C	WISE	TRINITY

TARRANT County Changes to DB12

Selected Strategies		
1. WMS Sponsor Region:	WMS Project ID:	WMS Project Name:
C	C01CONSBAS	MUNICIPAL CONSERVATION-BASIC

Source Region:	Source Name:	County Name:	Basin Name:
C	CONSERVATION	TARRANT	TRINITY

	2010:	2020:	2030:	2040:	2050:	2060:
Total Strategy Supply Volume for this WMS WUG:	4726	9009	13425	18742	25551	34832

Supply volumes should be changed to:

2010	2020	2030	2040	2050	2060
4,726	20,686	27,332	35,617	45,974	59,892

Current costing data for this strategy is shown below:

Note: Costing data is based on WUG ID.						
	2010	2020	2030	2040	2050	2060
WUG WMS Annual Cost:	$720,305.00	$839,366.00	$1,009,371.00	$1,236,870.00	$1,504,335.00	$1,845,854.00

WUG Capital Cost:	$0.00
Term of Debt Service:	0

Values should be changed to:

WUG WMS Annual Cost:

2010	2020	2030	2040	2050	2060
720,305.00	$5,865,089.00	$5,871,079.00	$1,236,870.00	$1,504,335.00	$1,845,854.00

WUG Capital Cost: $57,644,651

Term of Debt Service: 20 (years)

DENTON County Changes to DB12

Selected Strategies		
1. WMS Sponsor Region:	WMS Project ID:	WMS Project Name:
C	C01CONSBAS	MUNICIPAL CONSERVATION-BASIC

Source Region:	Source Name:	County Name:	Basin Name:
C	CONSERVATION	DENTON	TRINITY

	2010:	2020:	2030:	2040:	2050:	2060:
Total Strategy Supply Volume for this WMS WUG:	38	389	742	1226	1937	2758

Supply volumes should be changed to:

2010	2020	2030	2040	2050	2060
38	893	1,511	2,330	3,485	4,742

Current costing data for this strategy is shown below:

Note: Costing data is based on WUG ID.	2010	2020	2030	2040	2050	2060
WUG WMS Annual Cost:	$5,866.00	$36,268.00	$55,784.00	$80,890.00	$114,032.00	$146,148.00

WUG Capital Cost:	$0.00
Term of Debt Service:	0

Values should be changed to:

WUG WMS Annual Cost:

2010	2020	2030	2040	2050	2060
$5,866.00	$253,423.00	$324,472.00	$80,890.00	$114,032.00	$146,148.00

WUG Capital Cost: $2,490,752

Term of Debt Service: 20 (years)

PARKER County Changes to DB12

Selected Strategies		
1. WMS Sponsor Region:	WMS Project ID:	WMS Project Name:
C	C01CONSBAS	MUNICIPAL CONSERVATION-BASIC

Source Region:	Source Name:	County Name:	Basin Name:
C	CONSERVATION	PARKER	TRINITY

	2010:	2020:	2030:	2040:	2050:	2060:
Total Strategy Supply Volume for this WMS WUG:	92	675	1319	1735	2141	2537

Supply volumes should be changed to:

2010	2020	2030	2040	2050	2060
92	1,550	2,685	3,297	3,852	4,362

Current costing data for this strategy is shown below:

Note: Costing data is based on WUG ID.						
	2010	2020	2030	2040	2050	2060
WUG WMS Annual Cost:	$14,079.00	$62,864.00	$99,172.00	$114,490.00	$126,035.00	$134,456.00

WUG Capital Cost:	$0.00
Term of Debt Service:	0

Values should be changed to:

WUG WMS Annual Cost:

2010	2020	2030	2040	2050	2060
14,079.00	$439,264.00	$576,841.00	$114,490.00	$126,035.00	$134,456.00

WUG Capital Cost: $4,317,278

Term of Debt Service: 20 (years)

WISE County Changes to DB12

Selected Strategies		
1. WMS Sponsor Region:	WMS Project ID:	WMS Project Name:
C	C01CONSBAS	MUNICIPAL CONSERVATION-BASIC

Source Region:	Source Name:	County Name:	Basin Name:
C	CONSERVATION	WISE	TRINITY

	2010:	2020:	2030:	2040:	2050:	2060:
Total Strategy Supply Volume for this WMS WUG:	15	130	231	339	489	662

Supply volumes should be changed to:

2010	2020	2030	2040	2050	2060
15	299	470	644	880	1,138

Current costing data for this strategy is shown below:

Note: Costing data is based on WUG ID.						
	2010	2020	2030	2040	2050	2060
WUG WMS Annual Cost:	$2,347.00	$12,089.00	$17,356.00	$22,400.00	$28,808.00	$35,075.00

WUG Capital Cost:	$0.00
Term of Debt Service:	0

Values should be changed to:

WUG WMS Annual Cost:

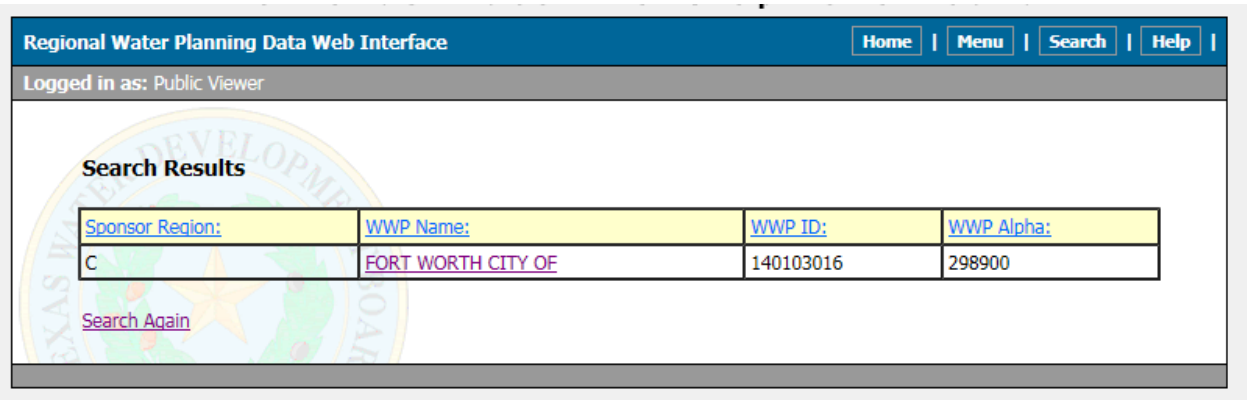
2010	2020	2030	2040	2050	2060
$2,347.00	$84,472.00	$100,952.00	$22,400.00	$28,808.00	$35,075.00

WUG Capital Cost: $830,227

Term of Debt Service: 20 (years)

WWP MODULE – Adjust Supply volumes for "WHOLESALE WATER PROVIDER CUSTOMERS CONSERVATION" WMSs. Note: these volumes are for Basic and Enhanced Conservation combined.

WWP Name: Fort Worth
WWP ID: 140103016
WWP Alpha: 298900
WWP Sponsor Region: C



Customers:

14.

Region	Recipient Name:	Recipient Alpha:	WUG Name:	County Name:	Basin Name:
C	FORT WORTH		FORT WORTH	DENTON	TRINITY

	2000:	2010:	2020:	2030:	2040:	2050:	2060:
Current Demand:		1386	8409	12810	18394	25802	33069

View Customer

15.

Region	Recipient Name:	Recipient Alpha:	WUG Name:	County Name:	Basin Name:
C	FORT WORTH		FORT WORTH	PARKER	TRINITY

	2000:	2010:	2020:	2030:	2040:	2050:	2060:
Current Demand:		3328	14576	22773	26034	28518	30423

View Customer

16.

Region	Recipient Name:	Recipient Alpha:	WUG Name:	County Name:	Basin Name:
C	FORT WORTH		FORT WORTH	WISE	TRINITY

	2000:	2010:	2020:	2030:	2040:	2050:	2060:
Current Demand:		555	2803	3985	5094	6518	7936

View Customer

17.

Region	Recipient Name:	Recipient Alpha:	WUG Name:	County Name:	Basin Name:
C	FORT WORTH		FORT WORTH	TARRANT	TRINITY

	2000:	2010:	2020:	2030:	2040:	2050:	2060:
Current Demand:		170244	194624	231781	281251	340384	417660

View Customer

Fort Worth, Tarrant County

Customer

Region:	Recipient Name:	Recipient Alpha:
C	FORT WORTH	

WUG Name:	WUG ID:	City ID:	Data Category:
FORT WORTH	030213000	0213	MUN

WUG Region:	C
County Name:	TARRANT
County ID:	220
Basin Name:	TRINITY
Basin ID:	08

Regional Comments:	

	2000:	2010:	2020:	2030:	2040:	2050:	2060:
Current Demand:		170244	194624	231781	281251	340384	417660

Edit Strategy Supply Volume:

8.

WMS Sponsor Region:	WMS Project ID:	WMS Project Name:
C	C01CONWWP	WHOLESALE WATER PROVIDER CUSTOMER CONSERVATION

Source Region:	Source Name:	County Name:	Basin Name:
C	CONSERVATION	TARRANT	TRINITY

	2010:	2020:	2030:	2040:	2050:	2060:
Total Strategy Supply Volume for this WMS WWP Customer:	4726	9497	14524	20341	27489	37189

Strategy Supply Volume should be changed to:

2010	2020	2030	2040	2050	2060
4,726	21,174	28,432	37,215	47,912	62,249

Fort Worth, Denton County

Customer		
Region:	Recipient Name:	Recipient Alpha:
C	FORT WORTH	

WUG Name:	WUG ID:	City ID:	Data Category:
FORT WORTH	030213000	0213	MUN

WUG Region:	C	Regional Comments:	
County Name:	DENTON		
County ID:	061		
Basin Name:	TRINITY		
Basin ID:	08		

	2000:	2010:	2020:	2030:	2040:	2050:	2060:
Current Demand:		1386	8409	12810	18394	25802	33069

Edit Strategy Supply Volume:

7.

WMS Sponsor Region:	WMS Project ID:	WMS Project Name:
C	C01CONWWP	WHOLESALE WATER PROVIDER CUSTOMER CONSERVATION

Source Region:	Source Name:	County Name:	Basin Name:
C	CONSERVATION	TARRANT	TRINITY

	2010:	2020:	2030:	2040:	2050:	2060:
Total Strategy Supply Volume for this WMS WWP Customer:	38	410	803	1331	2084	2945

Strategy Supply Volume should be changed to:

2010	2020	2030	2040	2050	2060
38	914	1,572	2,435	3,632	4,929

Fort Worth, Parker County

Customer		
Region:	Recipient Name:	Recipient Alpha:
C	FORT WORTH	

WUG Name:	WUG ID:	City ID:	Data Category:
FORT WORTH	030213000	0213	MUN

WUG Region:	C	Regional Comments:	
County Name:	PARKER		
County ID:	184		
Basin Name:	TRINITY		
Basin ID:	08		

	2000:	2010:	2020:	2030:	2040:	2050:	2060:
Current Demand:		3328	14576	22773	26034	28518	30423

Edit Strategy Supply Volume:

7.

WMS Sponsor Region:	WMS Project ID:	WMS Project Name:
C	C01CONWWP	WHOLESALE WATER PROVIDER CUSTOMER CONSERVATION

Source Region:	Source Name:	County Name:	Basin Name:
C	CONSERVATION	TARRANT	TRINITY

	2010:	2020:	2030:	2040:	2050:	2060:
Total Strategy Supply Volume for this WMS WWP Customer:	92	712	1427	1883	2303	2709

Strategy Supply Volume should be changed to:

2010	2020	2030	2040	2050	2060
92	1,587	2,793	3,445	4,014	4,534

Fort Worth, Wise County

Customer		
Region:	Recipient Name:	Recipient Alpha:
C	FORT WORTH	

WUG Name:	WUG ID:	City ID:	Data Category:
FORT WORTH	030213000	0213	MUN

WUG Region:	C	Regional Comments:	
County Name:	WISE		
County ID:	249		
Basin Name:	TRINITY		
Basin ID:	08		

	2000:	2010:	2020:	2030:	2040:	2050:	2060:
Current Demand:		555	2803	3985	5094	6518	7936

Edit Strategy Supply Volume:

8.

WMS Sponsor Region:	WMS Project ID:	WMS Project Name:
C	C01CONWWP	WHOLESALE WATER PROVIDER CUSTOMER CONSERVATION

Source Region:	Source Name:	County Name:	Basin Name:
C	CONSERVATION	TARRANT	TRINITY

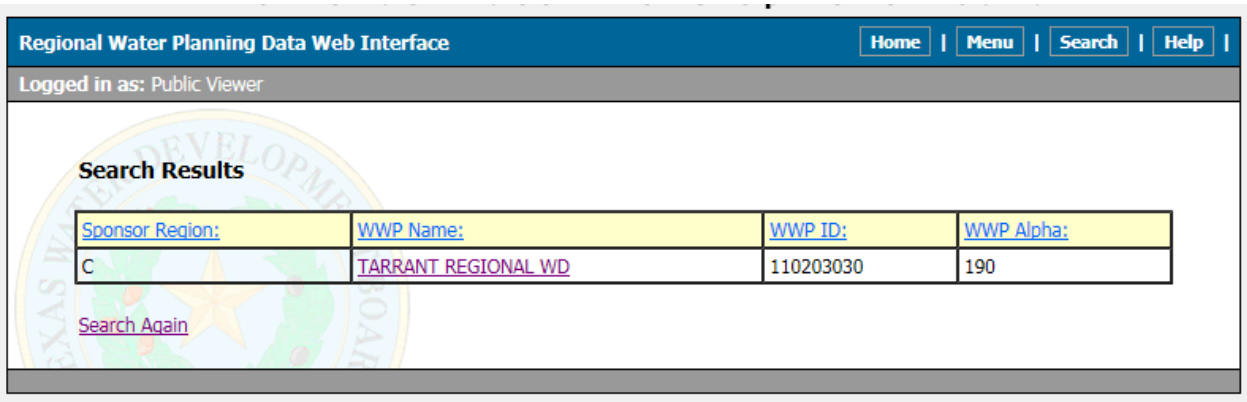
	2010:	2020:	2030:	2040:	2050:	2060:
Total Strategy Supply Volume for this WMS WWP Customer:	15	137	250	368	526	707

Strategy Supply Volume should be changed to:

2010	2020	2030	2040	2050	2060
15	306	489	673	917	1,183

WWP MODULE – Adjust Supply volumes for "WHOLESALE WATER PROVIDER CUSTOMERS CONSERVATION" WMSs. Note: these volumes are for Basic and Enhanced Conservation combined.

WWP Name: Tarrant Regional WD
WWP ID: 110203030
WWP Alpha: 190
WWP Sponsor Region: C



Customers:

41.

Region	Recipient Name:	Recipient Alpha:	WUG Name:	County Name:	Basin Name:
C	FORT WORTH		FORT WORTH	TARRANT	TRINITY

	2000:	2010:	2020:	2030:	2040:	2050:	2060:
Current Demand:		167843	190248	221555	266569	325735	402919

View Customer

42.

Region	Recipient Name:	Recipient Alpha:	WUG Name:	County Name:	Basin Name:
C	FORT WORTH		FORT WORTH	DENTON	TRINITY

	2000:	2010:	2020:	2030:	2040:	2050:	2060:
Current Demand:		1373	8046	12049	17497	24765	31979

View Customer

43.

Region	Recipient Name:	Recipient Alpha:	WUG Name:	County Name:	Basin Name:
C	FORT WORTH		FORT WORTH	PARKER	TRINITY

	2000:	2010:	2020:	2030:	2040:	2050:	2060:
Current Demand:		3298	13949	21419	24766	27371	29420

View Customer

44.

Region	Recipient Name:	Recipient Alpha:	WUG Name:	County Name:	Basin Name:
C	FORT WORTH		FORT WORTH	WISE	TRINITY

	2000:	2010:	2020:	2030:	2040:	2050:	2060:
Current Demand:		550	2683	3749	4845	6255	7674

View Customer

Fort Worth, Tarrant County

Customer

Region:	Recipient Name:	Recipient Alpha:
C	FORT WORTH	

WUG Name:	WUG ID:	City ID:	Data Category:
FORT WORTH	030213000	0213	MUN

WUG Region:	C
County Name:	TARRANT
County ID:	220
Basin Name:	TRINITY
Basin ID:	08

Regional Comments:	

	2000:	2010:	2020:	2030:	2040:	2050:	2060:
Current Demand:		167843	190248	221555	266569	325735	402919

Edit Strategy Supply Volume:

5.

WMS Sponsor Region:	WMS Project ID:	WMS Project Name:
C	C01CONWWP	WHOLESALE WATER PROVIDER CUSTOMER CONSERVATION

Source Region:	Source Name:	County Name:	Basin Name:
C	CONSERVATION	TARRANT	TRINITY

	2010:	2020:	2030:	2040:	2050:	2060:
Total Strategy Supply Volume for this WMS WWP Customer:	4726	9497	14525	20340	27490	37189

Strategy Supply Volume should be changed to:

2010	2020	2030	2040	2050	2060
4,726	21,174	28,432	37,215	47,912	62,249

Fort Worth, Denton County

Customer		
Region:	Recipient Name:	Recipient Alpha:
C	FORT WORTH	

WUG Name:	WUG ID:	City ID:	Data Category:
FORT WORTH	030213000	0213	MUN

WUG Region:	C	Regional Comments:	
County Name:	DENTON		
County ID:	061		
Basin Name:	TRINITY		
Basin ID:	08		

	2000:	2010:	2020:	2030:	2040:	2050:	2060:
Current Demand:		1373	8046	12049	17497	24765	31979

Edit Strategy Supply Volume:

5.

WMS Sponsor Region:	WMS Project ID:	WMS Project Name:
C	C01CONWWP	WHOLESALE WATER PROVIDER CUSTOMER CONSERVATION

Source Region:	Source Name:	County Name:	Basin Name:
C	CONSERVATION	TARRANT	TRINITY

	2010:	2020:	2030:	2040:	2050:	2060:
Total Strategy Supply Volume for this WMS WWP Customer:	38	410	803	1331	2084	2945

Strategy Supply Volume should be changed to:

2010	2020	2030	2040	2050	2060
38	914	1,572	2,435	3,632	4,929

Fort Worth, Parker County

Customer		
Region:	Recipient Name:	Recipient Alpha:
C	FORT WORTH	

WUG Name:	WUG ID:	City ID:	Data Category:
FORT WORTH	030213000	0213	MUN

WUG Region:	C
County Name:	PARKER
County ID:	184
Basin Name:	TRINITY
Basin ID:	08

Regional Comments:	

	2000:	2010:	2020:	2030:	2040:	2050:	2060:
Current Demand:		3298	13949	21419	24766	27371	29420

Edit Strategy Supply Volume:

5.

WMS Sponsor Region:	WMS Project ID:	WMS Project Name:
C	C01CONWWP	WHOLESALE WATER PROVIDER CUSTOMER CONSERVATION

Source Region:	Source Name:	County Name:	Basin Name:
C	CONSERVATION	TARRANT	TRINITY

	2010:	2020:	2030:	2040:	2050:	2060:
Total Strategy Supply Volume for this WMS WWP Customer:	92	712	1427	1883	2303	2709

Strategy Supply Volume should be changed to:

2010	2020	2030	2040	2050	2060
92	1,587	2,793	3,445	4,014	4,534

Fort Worth, Wise County

Customer		
Region:	Recipient Name:	Recipient Alpha:
C	FORT WORTH	

WUG Name:	WUG ID:	City ID:	Data Category:
FORT WORTH	030213000	0213	MUN

WUG Region:	C	Regional Comments:	
County Name:	WISE		
County ID:	249		
Basin Name:	TRINITY		
Basin ID:	08		

	2000:	2010:	2020:	2030:	2040:	2050:	2060:
Current Demand:		550	2683	3749	4845	6255	7674

Edit Strategy Supply Volume:

5.

WMS Sponsor Region:	WMS Project ID:	WMS Project Name:
C	C01CONWWP	WHOLESALE WATER PROVIDER CUSTOMER CONSERVATION

Source Region:	Source Name:	County Name:	Basin Name:
C	CONSERVATION	TARRANT	TRINITY

	2010:	2020:	2030:	2040:	2050:	2060:
Total Strategy Supply Volume for this WMS WWP Customer:	15	137	250	368	526	707

Strategy Supply Volume should be changed to:

2010	2020	2030	2040	2050	2060
15	306	489	673	917	1,183

6.0 Adoption and Public Participation Process

This section documents the Adoption Process and the Public Participation Process for this Minor Amendment.

Adoption Timeline

March 2, 2015 – City of Fort Worth representative made a presentation to Region C Water Planning Group (RCWPG) at public meeting. The RCWPG voted to support Fort Worth's efforts to pursue a minor amendment; and RCWPG authorized submittal of a Request for Minor Amendment Determination to TWDB Executive Administrator (EA).

March 11, 2015 – Region C Consultants submitted the proposed Fort Worth Minor Amendment packet to TWDB for Minor Amendment Determination. This request letter can be found in Section 2.0 of this document.

March 27, 2015 – TWDB sent notice to RCWPG that Fort Worth's proposed amendment constituted a minor amendment under 31 TAC 357.51(c) and was therefore subject to the rules related to a Minor Amendment. TWDB's response letter can be found on pages 53 and 54 of this document.

April 6, 2015 – Region C political subdivision (Trinity River Authority) posted notice of the April 20, 2015 meeting at which the Fort Worth Minor Amendment would be considered for adoption by the RCWPG. This notice fulfilled the 14-day notice requirement and contained links to the website where the amendment document was posted as well as information regarding opportunity for public comment. The public comment period was prior to and 14 days following the April 20, 2015 meeting. A copy of this public notice can be found on pages 55 through 58 of this document.

April 20, 2015 – The RCWPG voted at a public meeting to adopt Fort Worth's Minor Amendment as part of the *2011 Region C Water Plan*. An opportunity for public comment was provided at the meeting and no comments were made. It was also announced that written comments would be accepted by TRA during the next 14 days.

May 5, 2015 – Public comment period is closed. No public comments were received.

May 5, 2015 – Final, Adopted Minor Amendment document was transmitted to TWDB.

Public Comments

No public comments were received related to Fort Worth's Minor Amendment.

Texas Water Development Board

P.O. Box 13231, 1700 N. Congress Ave.
Austin, TX 78711-3231, www.twdb.texas.gov
Phone (512) 463-7847, Fax (512) 475-2053

March 27, 2015

Ms. Jody Puckett
Region C Chair
City of Dallas Water Utility
1500 Marilla Street, Rm 4AN
Dallas, Texas 75201

Re: Region C's written request, received March 11, 2015, for a determination regarding whether or not amending the 2011 Region C Regional Water Plan to include capital costs and project detail updates for the infrastructure water loss savings component of the City of Fort Worth's recommended Municipal Conservation – Basic water management strategy would be a minor amendment under 31 TAC Ch. 357.51(c).

Dear Ms. Puckett:

I have reviewed Region C's request, and based on the planning group's request and revised supporting materials received March 21, 2015, have determined that revising the City of Fort Worth's recommended Municipal Conservation – Basic water management strategy constitutes a minor amendment under 31 TAC §357.51(c).

If Region C adopts the proposed minor amendment, the planning group will need to:

1. Provide the Texas Water Development Board (TWDB) with documentation of the Region C's action adopting this water management strategy as a minor amendment;
2. Issue and distribute an addendum to the 2011 Region C Regional Water Plan updating the plan accordingly; and,
3. Provide TWDB with corrected DB12 data to reflect all the associated changes to the 2011 Region C Regional Water Plan and the 2012 State Water Plan.

If Region C makes any substantive changes to the project components or configuration during the minor amendment process, TWDB will need to review the modified proposed amendment to ensure that the modified project still meets all of the criteria under 31 TAC §357.51(c).

If you have any questions concerning this approval or its associated requirements, please contact Connie Townsend, the Board's designated regional water planning project manager for this region.

Sincerely,

Kevin Patteson
Executive Administrator

c: J. Kevin Ward, General Manager, Trinity River Authority
Connie Townsend, TWDB

REGION C WATER PLANNING GROUP

OPEN PUBLIC MEETING

MONDAY, APRIL 20, 2015 AT 1:00 P.M.

THE MEETING WILL BE HELD AT
TRINITY RIVER AUTHORITY
CENTRAL WASTEWATER TREATMENT PLANT[1,2]
6500 W. SINGLETON BOULEVARD
GRAND PRAIRIE, TEXAS 75212

AGENDA

I. ROLL CALL

II. APPROVAL OF MINUTES – JANUARY 26, 2015 and MARCH 2, 2015

III. 5th Cycle (2017-2021) Regional Planning Pre-Planning Meeting

A. Overview of Scope

B. Receive Oral Comments from the Public

C. Receive Written Comments from the Public

IV. ACTION ITEMS FOR CONSIDERATION

A. Consider Approval/Adoption of Region C Initially Prepared Plan (IPP) and Authorization for TRA to Submit IPP to TWDB by May 1 Deadline.

B. Consider Approval/Adoption of Confidential Information Related to Emergency Interconnects and Authorization for TRA to Submit Information to TWDB by May 1 Deadline.

C. Consider Approving Date for IPP Public Hearing and Authorizing TRA to Post 30-day Public Notice.

[1] Persons with disabilities who plan to attend the Region C Water Planning Group meeting – and who may need auxiliary aids or services such as mobility assistance, interpreters for persons who are deaf or hearing-impaired, readers, large print, or Braille – are requested to contact Lee Shaffer in the TRA Central Wastewater Treatment Plant at (972) 263-2251 at least five work days prior to the meeting so that appropriate arrangements can be made.

[2] The TRA Central Regional Wastewater Plant is a secured facility. Members of the public interested in attending this meeting must provide government-issued identification prior to entering the plant site. Please be sure extra time is allotted for this security check. No person will be allowed to enter the facility without proper identification. Thank you in advance for your cooperation and understanding.

D. Consider Approval of Request to TWDB to perform the Socioeconomic Analysis of Unmet Water Needs in Region C

E. Consider Approval and Adoption of Minor Amendment to the *2011 Region C Plan,* Related to Changes to Conservation Water Management Strategies for Bedford and Consider Authorizing TRA to submit Adopted Amendment to TWDB for approval consideration by TWDB Board

F. Consider Approval and Adoption of Minor Amendment to the *2011 Region C Plan,* Related to Changes to Conservation Water Management Strategies for Fort Worth and Consider Authorizing TRA to submit Adopted Amendment to TWDB for approval consideration by TWDB Board

G. Ratify Amendment Number 7 of Contract Between TWDB and TRA that was fully executed on February 23, 2015 Related to the 2016 Region C Water Plan

H. Consider Authorizing TRA to Amend Contract with FNI (Amendment Number 7)

I. Consider Appointment of a Region C Sub-Committee on SWIFT Prioritization

J. Consider Approval of May 2015 Newsletter

V. DISCUSSION ITEMS

A. Schedule Update
B. TCEQ Notification that a Watermaster is Being Considered in the Red River Basin

VI. OTHER DISCUSSION

A. Updates from the Chair
B. Report from Regional Liaisons
C. Report from Texas Water Development Board
D. Report from Texas Department of Agriculture
E. Report from Texas Parks and Wildlife Department
F. Other Reports
G. Confirm Date and Location of Public Hearing for IPP– Possible dates include: June 24, 2015, 7 pm, Bob Duncan Center, 2800 South Center Street, Arlington, Texas 76014.
H. Confirm Date and Location of Next Meeting – Possible dates include: September 28, 2015, 1pm, TRA Central Wastewater Treatment Plant, 6500 W. Singleton Blvd, Grand Prairie, Texas 75212
I. Public Comments

VII. ADJOURNMENT

Written comments concerning Item III, above, may also be submitted to the Trinity River Authority and TWDB. Comments can be submitted to the Trinity River Authority and the TWDB as follows:

J. Kevin Ward
Administrative Agent for Region C
Trinity River Authority of Texas
P. O. Box 60
Arlington, Texas 76004

Kevin Patteson
Executive Administrator
Texas Water Development Board
P. O. Box 13231
Austin, Texas 78711-3231

The minor amendments contemplated by Items IV – E and IV – F, above, are available for review and comment at the following Web addresses:

Item IV – E:

http://www.regioncwater.org/Documents/Misc/BedfordMinorAmendment-FullDocumentation.pdf

Item IV – F:

http://www.regioncwater.org/Documents/Misc/FortWorthMinorAmendment-FullDocumentation.pdf

The Region C Water Planning Group will accept written and oral comments on Items IV – E and IV – F at the above-identified meeting. Written comments may also be submitted before or within 14 days following the foregoing meeting to the Trinity River Authority at the following address:

J. Kevin Ward, Administrative Officer
Region C Water Planning Group
c/o Trinity River Authority
P.O. Box 60
Arlington, TX 76004
(817) 467-4343

Other questions concerning the foregoing meeting and agenda may be directed to the same address.

RCWPG AGENDA for APRIL 20, 2015
April 6, 2015
PAGE 4

SUBMITTED BY: _____
J. Kevin Ward, Administrative Officer

DATE: April 6, 2015

POSTED BY: _____
DATE: _____
TIME: _____
LOCATION: _____