



Region C
Water Planning Group

Freese and Nichols, Inc.
Alan Plummer Associates, Inc.
CP&Y, Inc.
Cooksey Communications, Inc.

MEMORANDUM

To: Ms. Carolyn Brittin
From: Thomas C. Gooch, Freese and Nichols, Inc.
Re: Errata in the *2011 Region C Water Plan*
Date: December 8, 2010

Several errata in the *2011 Region C Water Plan* (Plan) have come to our attention, specifically:

- Lake Fastrill Replacement Water Management Strategy was associated with a number of alternate sources of supply and lacked a specific source of supply.
- Tables Z.2 (Summary of Recommended Strategies) and Z.3 (Summary of Alternate Strategies) were based on information from the TWDB database (DB12) at the time of the printing of the Plan. Subsequent adjustments were made to DB12 and new Tables Z.2 and Z.3 are presented in this memorandum.
- A number of capital costs were in error or omitted from Tables in Sections 4E and 4F. These corrections will affect the total cost of the plan in the Executive Summary text and Table ES.2.

Table 1 is a summary of the changes to the plan. The errata are described in more detail below.

Table 1 – Summary of Changes to 2011 Region C Water Plan

Pages	Location	Description
4E.8	End of “Lake Fastrill Replacement” section	Add paragraph to specify use of planning costs and water supply associated with Neches Run-of-River as basis for Lake Fastrill Replacement strategy, while reserving the option of substituting other alternate sources in the future.
4E.9-4E.11	Table 4E.1	Specify Neches Run-of-River as basis for Lake Fastrill Replacement strategy.
4E.12	Table 4E.2	Specify Neches Run-of-River as basis for Lake Fastrill Replacement strategy. Add estimated costs of Neches Run-of-the-River strategy.
Appendix Z	Tables Z.2 and Z.3	Tables have been updated to reflect adjustments made to DB12.
Multiple	Tables in Section 4E. & 4F; Table ES.2.	Capital costs in Tables in Sections 4E and 4F should be corrected based on the Table 2 of this memorandum. Executive summary table (ES.2) will change as shown in this memo.

Lake Fastrill

To clarify the Lake Fastrill Replacement strategy and satisfy TWDB requirements for Water Management Strategies, the following paragraph should be inserted at the end of the “Lake Fastrill Replacement” section on page 4E.8. Tables 4E.1 and 4E.2 should be updated as shown below.

For the purpose of this Regional Plan, Dallas has elected to use the planning costs and water supply associated with the Neches River Run-of-the-River strategy as a basis for the “Lake Fastrill Replacement” strategy. At any time in the future, through action by the Region C Water Planning Group, any of the other alternate strategies may be substituted into the Plan to represent the “Fastrill Reservoir Replacement”.

Table 4E.1 - UPDATED
Summary of Recommended Water Management Strategies for DWU

Planned Supplies (Ac-Ft per Yr)	2010	2020	2030	2040	2050	2060
Projected Demands	606,630	688,693	732,512	786,911	863,119	994,168
Existing						
Elm Fork System	184,801	183,733	182,665	181,597	180,529	179,459
Grapevine Lake	7,583	7,367	7,150	6,933	6,717	6,500
Lake Ray Hubbard	57,427	56,113	54,800	53,487	52,173	50,860
Lake Ray Hubbard Temporary	49,800	0	0	0	0	0
Lake Tawakoni	183,619	182,251	180,882	179,515	178,146	176,777
Lake Fork	40,581	41,949	43,318	44,685	46,054	47,423
Direct Reuse (Golf courses)	561	561	561	561	561	561
White Rock Lake (Irrigation Only)	3,500	3,200	2,900	2,600	2,300	2,000
Return Flow*	29,961	42,046	53,147	60,646	69,861	85,000
Total Available Supplies	557,833	517,220	525,423	530,024	536,341	548,580
Need (Demand-Supply)	48,797	171,473	207,089	256,887	326,778	445,588
Water Management Strategies						
Conservation (DWU Retail)	18,432	26,522	28,154	34,134	41,528	52,987
Conservation (Wholesale Customers)	7,211	16,032	25,739	31,242	36,956	44,627
Additional Dry Year Supply	25,000	0	0	0	0	0
Lake Ray Hubbard Operational Efficiency Supply**	0	153,187	154,500	155,813	157,127	158,440
Main Stem Trinity Pump Station (Lake Ray Hubbard Indirect Reuse)	0	31,612	35,872	39,459	40,244	41,029
Additional Direct Reuse	0	20,458	20,458	20,458	20,458	20,458
Additional Pipeline from Lake Tawakoni (More Lk. Fork Supply)		77,994	75,777	73,563	71,346	69,128

Table 4E.1-UPDATED, Continued

Planned Supplies (Ac-Ft per Yr)	2010	2020	2030	2040	2050	2060
Connect Lake Palestine (Integrated Pipeline with TRWD)		111,776	110,670	109,563	108,455	107,347
Wright Patman Lake				112,100	112,100	112,100
Fastrill Replacement Strategy ***						112,100
Southwest Treated Water Pipe		0	0	0	0	0
WTP Expansions			0	0	0	0
Total Supplies from Strategies	50,643	284,394	296,670	420,519	431,087	559,776
Total Supplies	608,476	801,614	822,093	950,543	967,428	1,108,356
Reserve or (Shortage)	1,846	112,921	89,581	163,632	104,309	114,188

Notes:

* Includes return flows from Flower Mound, Lewisville, Denton, NTMWD and UTRWD.

** Lake Ray Hubbard Operational Efficiency Supply is not considered to be a firm yield supply and is not included in the totals.

***Estimated planning costs and water supply associated with this strategy are based on the Neches River Run-of-River strategy. This project, however is only one of several water management strategies being considered to meet these 2060 needs, and through action by the Region C Water Planning Group, any of those other strategies may be substituted into the plan to represent the 'Fastrill Reservoir Replacement' strategy. Those other strategies include: additional water conservation, Lake Texoma, Toledo Bend Reservoir, Lake O' the Pines, Lake Livingston, Ogallala groundwater in Roberts County (Region A), Marvin Nichols Reservoir, Lake Columbia, George Parkhouse Reservoir (North), George Parkhouse Reservoir (South), and Oklahoma Water.

Table 4E.2 - UPDATED
Summary of Costs for DWU Recommended Strategies

Strategy	Date to Be Developed	Quantity for DWU (Ac-Ft/Yr)	DWU Share of Capital Costs	Unit Cost (\$/1000 gal)		Table for Details
				With Debt Service	After Debt Service	
Conservation (retail)	2010-2060	52,987	\$0***	\$0.40	\$0.40	Q-10 & Q-11
Conservation (wholesale)	2010-2060	44,677	Included under County Summaries in Section 4F.			
Additional Ray Hubbard	2010	158,440**	\$1,750,000	N/A	N/A	None

Table 4E.2 - UPDATED, Continued

Strategy	Date to Be Developed	Quantity for DWU (Ac-Ft/Yr)	DWU Share of Capital Costs	Unit Cost (\$/1000 gal)		Table for Details
				With Debt Service	After Debt Service	
Additional Dry Year Supply	2010	25,000	\$0	N/A	N/A	None
100 mgd WTP Expansion	2012	56,050*	\$146,318,000	\$1.28	\$0.70	Q-67
Main Stem Trinity PS	2013	41,029	\$142,567,000	\$0.94	\$0.16	Q-37
Additional Direct Reuse	2015	20,458	\$82,920,000	\$1.22	\$0.32	Q-65
Additional Pipeline from Tawakoni	2015	69,128	\$496,243,000	\$1.71	\$0.29	Q-36
Southwest Treated Water Pipeline	2016	N/A	\$260,000,000	N/A	N/A	None
Connect Lake Palestine	2018	107,347	\$887,954,000	\$2.37	\$0.60	Q-41
New WTP (100 mgd)	2018	56,050*	\$190,125,000	\$1.46	\$0.70	Q-67
100 mgd WTP Expansion	2025	56,050*	\$146,318,000	\$1.28	\$0.70	Q-67
Wright Patman Lake	2035	112,100	\$896,478,000	\$2.34	\$0.56	Q-24
100 mgd WTP Expansion	2035	56,050*	\$146,318,000	\$1.28	\$0.70	Q-67
100 mgd WTP Expansion	2045	56,050*	\$146,318,000	\$1.28	\$0.70	Q-67
100 mgd WTP Expansion	2052	56,050*	\$146,318,000	\$1.28	\$0.70	Q-67
Fastrill Replacement Strategy ****	2055	112,100	\$1,980,278,000	\$4.41	\$1.13	Q-51
100 mgd WTP Expansion	2058	56,050*	\$146,318,000	\$1.28	\$0.70	Q-67
Total DWU Capital Costs			\$5,816,223,000			

* Water treatment plant expansions are needed to use the supplies developed by other strategies, but they do not develop additional supplies.

** Lake Ray Hubbard Operational Efficiency Supply is not considered to be a firm yield supply.

***DWU has already made significant capital investment to implement its conservation programs. In the future, all costs will be annual operating costs which are estimated to range from \$3.5 million in 2010 to \$7.0 million in 2060.

****Estimated planning costs and water supply associated with this strategy are based on the Neches River Run-of-River strategy. This project, however is only one of several water management strategies being considered to meet these 2060 needs, and through action by the Region C Water Planning Group, any of those other strategies may be substituted into the plan to represent the 'Fastrill Reservoir Replacement' strategy. Those other strategies include: additional water conservation, Lake Texoma, Toledo Bend Reservoir, Lake O' the Pines, Lake Livingston, Ogallala groundwater in Roberts County (Region A), Marvin Nichols Reservoir, Lake Columbia, George Parkhouse Reservoir (North), George Parkhouse Reservoir (South), and Oklahoma Water.

Appendix Z Tables

The Appendix Z tables that appeared in the final 2011 Region C Water Plan have been updated. The updated tables are shown on the following pages.

Table Z.2^{1,6}-UPDATED
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	
<i>DWU REUSE</i>	<i>\$82,920,000.00</i>	<i>2020</i>	<i>34,902</i>	<i>\$232.78</i>	<i>50,382</i>	<i>\$41.69</i>
<i>MAIN STEM TRINITY PUMP STATION (LAKE RAY HUBBARD INDIRECT REUSE - DWU)</i>	<i>\$142,567,000.00</i>	<i>2020</i>	<i>17,168</i>	<i>\$730.08</i>	<i>11,105</i>	<i>\$196.04</i>
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	\$726.99	34,050	\$115.92
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

Table Z.2-UPDATED, Continued

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)
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
MARVIN NICHOLS RESERVOIR ³	\$3,345,052,000.00	2030	227,400	\$364.26	472,300	\$83.04
MUNICIPAL CONSERVATION-BASIC	\$1,151,575.00	2010	41,967	\$200.40	264,429	\$84.63
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-UPDATED, Continued

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

NOTES:

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

²Dallas 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 database to be consistent with the Plan.

³Cost 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.

⁴This 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.

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

⁶A 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.

Table Z.3¹ - UPDATED
Summary of Alternative Strategies
Region C WUGs and WWPs

ALTERNATIVE 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)
BRAZOS GROUNDWATER PROJECT TO DWU	\$801,451,000.00	2040	100,000	\$1,221.52	100,000	\$1,221.52
BRAZOS GROUNDWATER PROJECT TO NTMWD	\$913,344,000.00	2030	100,000	\$1,415.83	100,000	\$752.30
COOKE COUNTY PROJECT	\$3,254,000.00	2020	200	\$2,110.00	200	\$930.00
INDIRECT REUSE	\$195,183,000.00	2010	0	\$0.00	26,000	\$380.45
LAKE COLUMBIA TO DWU	\$179,945,000.00	2040	35,800	\$536.08	35,800	\$536.08
LAKE GEORGE PARKHOUSE NORTH FOR DWU	\$521,281,000.00	2040	112,100	\$4,650.14	112,100	\$4,650.14
LAKE GEORGE PARKHOUSE NORTH FOR NTMWD	\$1,029,185,000.00	2030	203,960	\$580.17	203,960	\$156.23
LAKE GEORGE PARKHOUSE SOUTH FOR DWU	\$692,921,000.00	2040	115,260	\$567.72	115,260	\$567.72
LAKE GEORGE PARKHOUSE SOUTH FOR NTMWD	\$1,282,503,000.00	2030	193,480	\$758.17	193,480	\$177.26
LAKE LIVINGSTON TO DWU	\$1,855,538,000.00	2040	200,000	\$981.95	200,000	\$981.95
LAKE LIVINGSTON TO NTMWD	\$2,115,111,000.00	2020	200,000	\$1,102.51	200,000	\$334.21
LAKE LIVINGSTON TO TRWD	\$2,084,210,000.00	2030	200,000	\$1,119.88	200,000	\$362.80
LAKE O THE PINES TO DWU	\$541,534,000.00	2040	89,600	\$705.13	89,600	\$705.13
LAKE O THE PINES TO NTMWD	\$402,431,000.00	2030	87,900	\$576.46	87,900	\$243.86
LAKE RALPH HALL	\$143,201,000.00	2030	29,219	\$847.19	29,219	\$135.08
LAKE TEHUACANA	\$746,345,000.00	2030	56,800	\$1,117.80	56,800	\$163.20
LAKE TEXOMA - AUTHORIZED (DESALINATE)	\$796,532,000.00	2020	105,000	\$994.32	105,000	\$442.86
LAKE TEXOMA - NOT AUTHORIZED (BLEND)	\$673,749,300.00	2020	8,400	\$463.45	146,400	\$111.86
LAKE TEXOMA - NOT AUTHORIZED (DESALINATE)	\$925,918,000.00	2030	105,000	\$1,099.15	105,000	\$458.51
LAKE TEXOMA TO DWU (BLEND)	\$56,334,000.00	2020	20,000	\$305.64	20,000	\$101.01
MARVIN NICHOLS RESERVOIR WITH DWU	\$322,326,000.00	2030	50,000	\$455.04	50,000	\$127.20
NEW WELLS - OTHER AQUIFER	\$7,000,000.00	2020	4,480	\$219.02	4,480	\$105.54
NTMWD INTERIM PURCHASE FROM DWU (ALTERNATIVE STRATEGIES)	\$1,777,000.00	2020	11,200	\$463.75	0	\$0.00
OKLAHOMA WATER TO DWU	\$343,934,000.00	2060	50,000	\$702.04	50,000	\$702.04
PURCHASE WATER FROM LOCAL PROVIDER (ALTERNATIVE 1)	\$20,133,000.00	2030	6,726	\$1,083.71	6,726	\$866.19
ROBERTS COUNTY PROJECT TO DWU	\$2,435,534,000.00	2040	200,000	\$1,108.72	200,000	\$1,108.72
ROBERTS COUNTY PROJECT TO NTMWD	\$2,434,529,000.00	2020	200,000	\$1,127.16	200,000	\$242.83
TOLEDO BEND PROJECT (700,000)	\$1,433,774,000.00	2050	200,000	\$813.02	200,000	\$813.02
WATER TREATMENT PLANT - EXPANSION	\$14,548,000.00	2010	0	\$0.00	0	\$0.00
WATER TREATMENT PLANT - NEW	\$17,000,000.00	2020	8,960	\$259.32	8,960	\$121.38

Table Z.3-UPDATED, Continued

ALTERNATIVE Strategy	Capital Cost	First Decade of Water Strategy	First Decade Water Supply Volume (acre-foot/year)	First Decade Estimated Annual Average Unit Cost (\$/acre-foot/year)	Year 2060 Water Supply Volume (acre-foot/year)	Year 2060 Estimated Annual Average Unit Cost (\$/acre-foot/year)
WATER TREATMENT PLANT - NEW (ALTERNATIVE STRATEGIES)	\$48,972,000.00	2030	6,726	\$1,204.28	6,726	\$675.29
WRIGHT PATMAN - REALLOCATION OF FLOOD POOL NTMWD (180K)	\$1,433,524,000.00	2030	230,000	\$796.54	230,000	\$227.22
WRIGHT PATMAN - REALLOCATION OF FLOOD POOL TRWD (180K)	\$1,694,140,000.00	2030	180,000	\$954.23	180,000	\$270.47
WRIGHT PATMAN - TEXARKANA SALE TO NTMWD	\$1,192,489,000.00	2030	150,000	\$1,090.11	150,000	\$390.48
WRIGHT PATMAN - TEXARKANA SALE TO TRWD	\$1,081,475,000.00	2030	100,000	\$1,167.40	100,000	\$381.72
WRIGHT PATMAN SYSTEM OPERATION	\$2,954,940,000.00	2030	298,000	\$1,057.10	298,000	\$336.72
MARVIN NICHOLS RESERVOIR WITH DWU ²	\$634,154,000.00	2030	95,931	\$661.11	95,931	\$180.86
WRIGHT PATMAN SYSTEM OPERATION ²	\$403,387,000.00	2030	50,000	\$2,023.38	50,000	\$581.54

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

²Strategy supply volumes may already be listed in other strategies.

Capital Costs

A number of capital costs were in error or omitted from Tables in Sections 4E and 4F.

Table 2 outlines the corrections to those tables.

Table 2 - Corrections to Cost Tables in 2011 Region C Water Plan

WUG or WWP Name	Amount Shown in Plan	Correct Amount	Difference	Table in Plan	Strategy
Aledo	\$0	\$12,306,000	\$12,306,000	4F.288	Fort Worth (TRWD)
Alvord	\$0	\$2,581,000	\$2,581,000	4F.364	West Wise Rural SUD (TRWD)
Annetta	\$0	\$1,522,100	\$1,522,100	4F.288	Weatherford (TRWD)
Annetta South	\$0	\$1,713,900	\$1,713,900	4F.288	Weatherford (TRWD)
Aurora	\$0	\$1,439,000	\$1,439,000	4F.364	Rhome (TRWD through Walnut Creek SUD)
Bethesda	\$16,341,000	\$17,349,000	\$1,008,000	4F.344	Additional Pipeline from Fort Worth (TRWD)
Blooming Grove	\$167,000	\$1,495,400	\$1,328,400	4F.269	Groundwater
Bridgeport	\$0	\$11,576,000	\$11,576,000	4F.364	Additional TRWD
Carrollton	\$0	\$13,894,400	\$13,894,400	4F.116	Additional DWU supplies
Chico	\$0	\$3,005,000	\$3,005,000	4F.364	Additional West Wise Rural SUD
Dallas	\$0	\$1,980,278,000	\$1,980,278,000	4E.2	Lake Fasttrill Replacement
Decatur	\$0	\$13,391,000	\$13,391,000	4F.364	Additional Wise County WSD
Denton Co Other	\$1,957,000	\$1,639,000	-\$318,000	4F.116	Additional groundwater
Ellis SEP	\$11,512,000	\$14,326,000	\$2,814,000	4F.141	Waxahachie
Flower Mound	\$42,000	\$52,000	\$10,000	4F.116	Conservation
Irving	\$302,717,000	\$194,825,000	-\$107,892,000	4F.77	Oklahoma (Lake Hugo)
Lewisville	\$0	\$53,666,000	\$53,666,000	4F.116	WTP Expansion
Lewisville	\$0	\$13,614,000	\$13,614,000	4F.116	Additional DWU supplies
Mansfield	\$29,504,000	\$41,080,000	\$11,576,000	4E.56	15 MGD NEW WTP and TRWD Supply
New Fairview	\$0	\$2,518,400	\$2,518,400	4F.364	Rhome (TRWD through Walnut Creek SUD)
Newark	\$0	\$2,376,000	\$2,376,000	4F.364	Rhome (TRWD through Walnut Creek SUD)
North Richland Hills	\$0	\$502,000	\$502,000	4E.62	Supplemental wells
Northlake	\$0	\$3,774,000	\$3,774,000	4F.116	UTRWD supplies
Ovilla	\$0	\$6,169,000	\$6,169,000	4F.141	Additional DWU supplies
Parker Co Steam Electric	\$0	\$2,099,000	\$2,099,000	4F.288	Additional Weatherford
Red Oak	\$0	\$8,012,000	\$8,012,000	4F.141	Additional DWU supplies
Roanoke	\$0	\$1,258,000	\$1,258,000	4F.116	Additional Fort Worth
Sardis Lone Elm	\$0	\$9,467,000	\$9,467,000	4F.141	Rockett SUD
Sherman	\$33,822,000	\$33,882,000	\$60,000	4E.72	Supplemental wells

Table 2, Continued

WUG or WWP Name	Amount Shown in Plan	Correct Amount	Difference	Table in Plan	Strategy
Springtown	\$0	\$2,072,000	\$2,072,000	4F.288	Additional TRWD
Southwest Fannin Co SUD	\$0	\$3,963,000	\$3,963,000	4F.197	Supplemental wells (Grayson County)
Dallas Co. Irrigation	\$14,530,000	\$0	-\$14,530,000	4F.77	Las Colinas Expansion ¹
Dallas Co. Steam Electric	\$14,895,000	\$0	-\$14,895,000	4F.77	TRA Reuse ¹
The Colony	\$0	\$15,699,000	\$15,699,000	4F.116	Additional DWU supplies
Trophy Club	\$0	\$1,258,000	\$1,258,000	4F.116	Additional Fort Worth (TRWD)
West Wise Rural	\$21,810,000	\$4,094,000	-\$17,716,000	4F.364	Water Treatment Plant Expansion
West Wise Rural	\$0	\$4,871,000	\$4,871,000	4F.364	Additional TRWD
Willow Park	\$0	\$3,558,100	\$3,558,100	4F.288	Weatherford (TRWD)
Wise SEP	\$0	\$4,028,000	\$4,028,000	4F.364	Additional TRWD
Wortham	\$6,228,000	\$6,488,000	\$260,000	4F.172	Corsicana supplies
Total			\$2,042,316,300		

¹Cost was already shown under TRA in Table 4E.14 and does not need to be shown for this WUG.

Table ES.2 - UPDATED
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	626,185	1,134,518	18.2%	\$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	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	2,207,790^(b)	3,982,299^(b)	23.3%^(b)	\$21,125

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.