

Water for Texas 2007: Addendum #1:

The following changes have been made to the 2007 State Water Plan as a result of water management strategy substitutions, minor amendments, and major amendments.

This Addendum was approved by the Texas Water Development Board on November 25, 2008

## SUMMARY OF CHANGES:

|         | Changes to Appendix 2.1 of the 2007 State Water Plan: Recommended Water Management Strate<br>Costs Estimates |                 |   |                         |   | strateg | ies and  |              |              |           |         |  |
|---------|--|-----------------|---|-------------------------|---|---------|----------|--------------|--------------|-----------|---------|--|
|         |  |                 |   |                         |   |         | Water Su | ipply Volume | e (acre-feet | per year) |         |  |
| Change  | Region   | ID              | Recommended Water Management Strategy                                       | Total Capital<br>Costs  | First Decade<br>Estimated<br>Annual Average<br>Unit Cost<br>(\$/acre-<br>foot/year) | 2010    | 2020     | 2030         | 2040         | 2050      | 2060    | Year 2060<br>Estimated<br>Annual<br>Average Unit<br>Cost (\$/acre-<br>foot/year) |
| ADDED   | G  | g.40            | PHASE I LAKE WHITNEY WATER SUPPLY PROJECT                                   | \$42,221,700            | \$2,554   | 2,128   | 2,128    | 2,128        | 2,128        | 2,128     | 2,128   | \$2,554  |
| ADDED   | G  | g.41            | CITY OF CLEBURNE NEW WEST LOOP REUSE LINE                                   | \$7,384,900             | \$508   | 1,680   | 1,680    | 1,680        | 1,680        | 1,680     | 1,680   | \$508  |
| REMOVED | G  | <del>g.27</del> | LAKE PALO PINTO OFF CHANNEL RESERVOIR                                       | <del>\$19,314,000</del> | <del>\$521</del>  |         |          |              | 3,110        |           |         | <del>\$521</del>   |
| ADDED   | G  | g.27a           | TURKEY PEAK RESERVOIR   | \$46,150,000            | \$393   | -       | 8,648    | 8,648        | 8,648        | 8,648     | 8,648   | \$393  |
| ADDED   | G  | g.36a           | SOMERVELL COUNTY WATER SUPPLY PROJECT (SOURCE WATER FROM g.36)              | \$35,159,900            | \$1,727   | 1,800   | 1,800    | 1,800        | 1,800        | 1,800     | 1,800   | na   |
| ADDED   | G  | g.42            | SOMERVELL COUNTY STEAM ELECTRIC SUPPLY FROM BRA (SOURCE<br>WATER FROM g.23) | \$103,915,000           | \$154   | -       | 103,717  | 103,717      | 103,717      | 103,717   | 103,717 | \$154  |
| ADDED   | I  | i.20            | ADDITIONAL GROUNDWATER WELLS CITYOF DIBOLL                                  | \$1,413,133             | \$223   | 1,612   | 1,612    | 1,612        | 1,612        | 1,612     | 1,612   | \$223  |

|           | WATER SUPPLY CHAN |  |       |              |              |               |              |         |
|-----------|-------------------|--|-------|--------------|--------------|---------------|--------------|---------|
|           |                   |  | Updat | ed Estimated | d Water Supp | oly Volume (a | acre-feet pe | r year) |
| Change    | Region            |  | 2010  | 2020         | 2030         | 2040          | 2050         | 2060    |
| INCREASED | Т                 | Increased annual groundwater availability for the Yegua-Jackson Aquifer from 4,860 to 6,472 af | 6,472 | 6,472        | 6,472        | 6,472         | 6,472        | 6,472   |

|           |        | WATER DEMAND PROJECTION CHANGE                                      |   |        |        |        |        |        |  |  |  |
|-----------|--------|---|---|--------|--------|--------|--------|--------|--|--|--|
|           |        |   | Projected Water Demand (acre-feet per year) |        |        |        |        |        |  |  |  |
| Change    | Region |   | 2010  | 2020   | 2030   | 2040   | 2050   | 2060   |  |  |  |
| INCREASED | G      | Increased Steam-Electric Water Demand Projections for Somervell Co. | 23,200                                      | 84,817 | 84,817 | 84,817 | 84,817 | 84,817 |  |  |  |

## CHANGES TO VOLUME I: Water for Texas 2007: Highlights of the 2007 State Water Plan

| Figu  | res: |     |  |  |                       |                |                 |                 |                          |      |           |
|-------|------|-----|--|--|-----------------------|----------------|-----------------|-----------------|--------------------------|------|-----------|
|       |      |     |  |  | UNITS                 |                |                 | DEC             | ADE                      |      |           |
|       |      |     |  |  | 01113                 | 2010           | 2020            | 2030            | 2040                     | 2050 | 2060      |
| Vol I | Page | 4 : | Figure 3 : Projected water demand: State         | Update to the following:   | millions of acre-feet | nc             | 19.1            | nc              | 20.2                     | nc   | 21.7      |
| Vol I | Page | 5 : | Figure 5 : Projected needs: State                | Update to the following:   | millions of acre-feet | nc             | nc              | 6.0             | 7.0                      | nc   | 8.9       |
| Text  | :    |     |  |  |                       |                | · · · · ·       |                 |                          |      |           |
| Vol I | Page | 2:  | Paragraph 2 : change first sentence to:          | The demand for water in Texas is expected to increase by 27 percent, from almost 17 million acre-feet of water in 2000 tc21.7 million acre-feet in 2060.   |                       |                |                 |                 |                          |      |           |
| Vol I | Page | 2 : | Paragraph 6 : change first sentence to:          | The planning groups also estimated that the capital costs to design, construct, or implement the 4,500 water management strategies and<br>projects would cost about <u>\$30.9</u> billion.   |                       |                |                 |                 |                          |      | egies and |
| Vol I | Page | 5 : | Last paragraph : change last sentence to:        | If Texas does not implement new water supply projects or management strategies, then homes, busi-nesses, and agricultural enterprises throughout the state are expected to need an additional 3.7 million acre-feet of water in 2010 and an additional 8.9 million acre-feet in 2060 (Figure 5). |                       |                |                 |                 |                          |      |           |
| Vol I | Page | 7:  | Paragraph 2 : change second sentence to:         | Total capital costs, which primarily consist of up-front money needed to design, construct, or implement strategies, are about \$30.9 billion.   |                       |                |                 |                 |                          |      |           |
| Vol I | Page | 8:  | Paragraph 4 : change first sentence to:          | Capital costs for recommended  | water man-agement str | ategies in the | 2007 State Wate | er Plan are abo | ut <u>\$30.9</u> billion |      |           |
| Vol I | Page | 8:  | Paragraph 4 : change second to last sentence to: | These surveys indicate nearly 91 percent of the <u>\$30.9</u> billion in total cost for implementing the 2007 State Water Plan is anticipated to be provided by local project sponsors through traditional financing mechanisms.   |                       |                |                 |                 |                          |      |           |

## CHANGES TO VOLUME II: Water for Texas 2007

| Tables and Figures: |       |  |                          |           |         |            |            |            |            |            |  |  |
|---------------------|-------|--|--------------------------|-----------|---------|------------|------------|------------|------------|------------|--|--|
|                     |       |  |                          | UNITS     | DECADE  |            |            |            |            |            |  |  |
|                     |       |  |                          | 01113     | 2010    | 2020       | 2030       | 2040       | 2050       | 2060       |  |  |
| Vol II Page         | 50 :  | Table G.1 : Projected water demand: Steam-electric                 | Update to the following: | acre-feet | 209,351 | na         | na         | na         | na         | 303,961    |  |  |
| Vol II Page         | 50 :  | Table G.1 : Projected water demand: Total                          | Update to the following: | acre-feet | 897,308 | na         | na         | na         | na         | 1,212,590  |  |  |
| Vol II Page         | 51:   | Figure G.4 : Projected water needs: Region G: Steam-electric       | Update to the following: | acre-feet | nc      | 64,317     | 69,175     | 83,097     | 107,145    | 126,034    |  |  |
| Vol II Page         | 53 :  | Table G.3 : Projected water needs: Total: Somervell Co.            | Update to the following: | acre-feet | nc      | na         | na         | na         | na         | 36,460     |  |  |
| Vol II Page         | 53 :  | Table G.3 : Projected water needs: Total: Region G                 | Update to the following: | acre-feet | nc      | na         | na         | na         | na         | 383,911    |  |  |
| Vol II Page         | 53 :  | Table G.3 : Projected water needs: Steam-electric: Somervell Co.   | Update to the following: | acre-feet | nc      | na         | na         | na         | na         | 36,107     |  |  |
| Vol II Page         | 53 :  | Table G.3 : Projected water needs: Steam-electric: Region G        | Update to the following: | acre-feet | nc      | na         | na         | na         | na         | 126,034    |  |  |
| Vol II Page         | 64 :  | Table I.2 : Existing water supplies: Region I: 'Other groundwater' | Update to the following: | acre-feet | 18,840  | na         | na         | na         | na         | 18,840     |  |  |
| Vol II Page         | 122 : | Table 4.2 : Projected water demand: State: Steam-electric          | Update to the following: | acre-feet | nc      | 948,197    | 1,091,829  | 1,235,787  | 1,401,350  | 1,595,173  |  |  |
| Vol II Page         | 122 : | Table 4.2 : Projected water demand: State: State Total             | Update to the following: | acre-feet | nc      | 19,072,493 | 19,628,665 | 20,166,209 | 20,820,219 | 21,678,891 |  |  |
| Vol II Page         | 123 : | Table 4.3 : Projected water demand: State: Region G                | Update to the following: | acre-feet | nc      | 957,561    | 1,015,307  | 1,068,545  | 1,138,695  | 1,212,590  |  |  |
| Vol II Page         | 123 : | Table 4.3 : Projected water demand: State: State Total             | Update to the following: | acre-feet | nc      | 19,072,493 | 19,628,665 | 20,166,209 | 20,820,219 | 21,678,891 |  |  |

| Vol II           | Page 236 :               | Figure 7.26 : Groundwater Availability: Yegua-Jackson  | Update to the following:                             | acre-feet                                  | 26,332    | 26,332    | 26,332    | 26,332    | 26,332    | 26,332                  |
|------------------|--------------------------|--|--|--|-----------|-----------|-----------|-----------|-----------|-------------------------|
| Vol II           | Page 247 :               | Table 9.1 : Water user groups with needs: Region G   | Update to the following:                             | count                                      | 102       | 20,332    | 116       | 125       | 128       | 132                     |
| Vol II           | Page 247 :               | Table 9.1 : Water user groups with needs: State Total  | Update to the following:                             | count                                      |           |           |           |           |           |                         |
| Vol II           | °                        |  |  | acre-feet                                  | 873       | 1,026     | 1,098     | 1,135     | 1,176     | 1,199                   |
| -                | Page 248 :               | Figure 9.1 : Water supply needs: State: Steam-electric   | Update to the following:                             |  | nc        | 195,094   | 271,909   | 399,289   | 519,401   | 675,191                 |
| Vol II           | Page 248 :               | Figure 9.1: Water supply needs: State: Total   | Update to the following:                             | acre-feet                                  | nc        | 4,912,306 | 5,959,811 | 6,936,936 | 7,794,714 | 8,868,687               |
| Vol II           | Page 249 :               | Table 9.3 : Water supply needs: State: Region G  | Update to the following:                             | acre-feet                                  | nc        | 189,620   | 220,715   | 262,400   | 321,525   | 383,911                 |
| Vol II           | Page 249 :               | Table 9.3 : Water supply needs: State: Total   | Update to the following:                             | acre-feet                                  | nc        | 4,912,306 | 5,959,811 | 6,936,936 | 7,794,714 | 8,868,687               |
| Vol II           | Page 260 :               | Figure 10.2: Total new supply volumes generated by WMSs: Major rese  | rvUpdate to the following:                           | acre-feet                                  | nc        | 315,311   | 655,641   | 687,036   | 1,056,666 | 1,077,666               |
| Vol II           | Page 260 :               | Figure 10.2 : Total new supply volumes generated by WMSs: Groundwater  | e Update to the following:                           | acre-feet                                  | 426,041   | 564,693   | 623,993   | 693,283   | 738,221   | 800,821                 |
| Vol II           | Page 260 :               | Figure 10.2 : Total new supply volumes generated by WMSs: Reuse  | Update to the following:                             | acre-feet                                  | 444,710   | 789,903   | 967,273   | 1,043,113 | 1,184,121 | 1,263,259               |
| Vol II           | Page 260 :               | Figure 10.2 : Total new supply volumes generated by WMSs: Desalination   | on Update to the following:                          | acre-feet                                  | 86,423    | 103,650   | 132,292   | 162,050   | 202,994   | 315,015                 |
| Vol II           | Page 260 :               | Figure 10.2 : Total new supply volumes generated by WMSs: Total  | Update to the following:                             | acre-feet                                  | 3,596,694 | 5,265,107 | 6,229,810 | 6,792,444 | 8,174,175 | 9,045,169               |
| Vol II           | Page 265 :               | Table 10.3 New supplies from all recommended WMSs: Region G  | Update to the following:                             | acre-feet                                  |           |           |           |           |           | 745,378                 |
| Vol II           | Page 265 :               | Table 10.3 New supplies from all recommended WMSs: Region I  | Update to the following:                             | acre-feet                                  |           |           |           |           |           | 326,368                 |
| Vol II           | Page 265 :               | Table 10.3 New supplies from all recommended WMSs: Total   | Update to the following:                             | acre-feet                                  |           |           |           |           |           | 9,045,169               |
| Vol II           | Page 265 :               | Table 10.3 New supplies from surface water: Major Reservoirs: Regio  | n Update to the following:                           | acre-feet                                  |           |           |           |           |           | 42,058                  |
| Vol II           | Page 265 :               | Table 10.3 New supplies from surface water WMSs: Total   | Update to the following:                             | acre-feet                                  |           |           |           |           |           | 1,077,666               |
| Vol II           | Page 265 :               | Table 10.3 Estimated capital cost: new major reservoirs: Region G  | Update to the following:                             | millions of dollars                        |           |           |           |           |           | \$115.90                |
| Vol II           | Page 266 :               | Table 10.3 Estimated capital cost: new major reservoirs: Total   | Update to the following:                             | millions of dollars                        |           |           |           |           |           | \$4,930.89              |
| Vol II           | Page 270 :               | Table 10.4 New supplies from all recommended WMSs: Region G  | Update to the following:                             | acre-feet                                  | 745,37    |           |           |           |           |                         |
| Vol II           | Page 270 :               | Table 10.4 New supplies from all recommended WMSs: Region I  | Update to the following:                             | acre-feet                                  | 326,36    |           |           |           |           |                         |
| Vol II           | Page 270 :               | Table 10.4 New supplies from all recommended WMSs: Total   | Update to the following:                             | acre-feet                                  |           |           |           |           |           | 9,045,169               |
| Vol II           | Page 270 :               | Table 10.4 New supplies from groundwater WMSs: Region I  | Update to the following:                             | acre-feet                                  |           |           |           |           |           | 23,201                  |
| Vol II           | Page 270 :               | Table 10.4 New supplies from groundwater WMSs: Total   | Update to the following:                             | acre-feet                                  |           |           |           |           |           | 800,821                 |
| Vol II           | Page 270 :               | Table 10.4 Estimated capital cost: new groundwater supplies: Region  | I Update to the following:                           | millions of dollars                        |           |           |           |           |           | \$33.77                 |
| Vol II           | Page 270 :               | Table 10.4 Estimated capital cost: new groundwater supplies: Total   | Update to the following:                             | millions of dollars                        |           |           |           |           |           | \$2,331.40              |
| Vol II           | Page 271 :               | Table 10.5 New supplies from all recommended WMSs: Region G  | Update to the following:                             | acre-feet                                  |           |           |           |           |           | 745,378                 |
| Vol II           | Page 271 :               | Table 10.5 New supplies from all recommended WMSs: Region I  | Update to the following:                             | acre-feet                                  |           |           |           |           |           | 326,368                 |
| Vol II           | Page 271 :               | Table 10.5 New supplies from all recommended WMSs: Total   | Update to the following:                             | acre-feet                                  |           |           |           |           |           | 9,045,169               |
| Vol II           | Page 271 :               | Table 10.5 New supplies from reuse: Region G   | Update to the following:                             | acre-feet                                  |           |           |           |           |           | 83,408                  |
| Vol II           | Page 271 :               | Table 10.5 New supplies from reuse: Total  | Update to the following:                             | acre-feet                                  |           |           |           |           |           | 1,263,259               |
| Vol II           | Page 271 :               | Table 10.5 Estimated capital cost: reuse: Region G   | Update to the following:                             | millions of dollars                        |           |           |           |           |           | \$111.06                |
| Vol II           | Page 271 :               | Table 10.5 Estimated capital cost: reuse: Total  | Update to the following:                             | millions of dollars                        |           |           |           |           |           | \$3,972.29              |
| Vol II           | Page 273 :               | Table 10.6 New supplies from all recommended WMSs: Region G  | Update to the following:                             | acre-feet                                  |           |           |           |           |           | 745,378                 |
| Vol II           | Page 273 :               | Table 10.6 New supplies from all recommended WMSs: Region I  | Update to the following:                             | acre-feet                                  |           |           |           |           |           | 326,368                 |
| Vol II           | Page 273 :               | Table 10.6 New supplies from all recommended WMSs: Total   | Update to the following:                             | acre-feet                                  |           |           |           |           |           | 9,045,169               |
| Vol II           | Page 273 :               | Table 10.6 New supplies from brackish desalination: Region G   | Update to the following:                             | acre-feet                                  |           |           |           |           |           | 2,128                   |
| Vol II           | Page 273 :               | Table 10.6 New supplies from brackish desalination: Total  | Update to the following:                             | acre-feet                                  |           |           |           |           |           | 176,901                 |
| Vol II           | Page 273 :               | Table 10.6 Estimated capital cost: brackish desalination: Region G   | Update to the following:                             | millions of dollars                        |           |           |           |           |           | \$42.22                 |
| Vol II           | Page 273 :               | Table 10.6 Estimated capital cost: brackish desalination: Total  | Update to the following:                             | millions of dollars                        |           |           |           |           |           | \$1,218.88              |
| Vol II           | Page 279 :               | Table 11.1 Capital costs for municipal WMSs: Region G  | Update to the following:                             | millions of dollars                        |           |           |           |           |           | \$1,148.64              |
| Vol II<br>Vol II | Page 279 :<br>Page 279 : | Table 11.1 Capital costs for municipal WMSs: Region I<br>Table 11.1 Capital costs for municipal WMSs: Region Total | Update to the following:<br>Update to the following: | millions of dollars<br>millions of dollars |           |           |           |           |           | \$524.56<br>\$29,392.53 |
| VULII            | raye 219:                | Table TTTT Capital Costs for municipal wiviss, Region Total  | opuate to the following:                             | minutes of dollars                         |           |           |           |           |           | \$Z7,372.33             |

| Text:            |  |   |
|------------------|--|---|
| Vol I Page 2 :   | Paragraph 3 : change first sentence to:      | The demand for water in Texas is expected to increase by 27 percent, from almost 17 million acre-feet of water in 2000 to 21.7 million acre-feet in 2060.   |
| Vol I Page 2 :   | Paragraph 7 : change first sentence to:      | The planning groups also estimated that the capital costs to design, construct, or implement the 4,500 water management strategies and projects would cost about <u>\$30.9</u> billion.   |
| Vol I Page 49 :  | Paragraph 2 : change third sentence to:      | By 2060, the total water demands for the region are projected to increase <u>35 percent</u> , from <u>897,308</u> acre-feet in 2010 to <u>1,212,590</u> acre-feet (Figure G.3).   |
| Vol I Page 49 :  | Plan Highlights : change first bullet to:    | Total capital cost <u>\$1.3</u> billion   |
| Vol I Page 49 :  | Plan Highlights : change second bullet to:   | Three new major reservoirs: Cedar Ridge, Brushy Creek, and Turkey Peak  |
| Vol I Page 50 :  | Paragraph 1 : change first full sentence to: | Manufacturing and steam-electric power generation demands are also projected to grow significantly from 2010 to 2060, by 61 percent (from 19,787 acre-feet to 31,942 acre-feet) and 45 percent (from 209,351 acre-feet to 303,961 acre-feet),   |
| Vol I Page 50 :  | Paragraph 3 : change fourth sentence to:     | By 2060, overall water needs are expected to increase to <u>383,911</u> acre-feet per year, with almost half of this need associated with municipal users.  |
| Vol I Page 52 :  | Paragraph 1 : change second sentence to:     | In all, the strategies would provide 745,378 acre-feet of additional water supply by the year 2060 (Figure G.5) at a total capital cost of \$1,291,840.534 (Appendix 2.1).  |
| Vol I Page 62 :  | Paragraph 1 : change second sentence to:     | Groundwater from the Gulf Coast, Carrizo-Wilcox, and other aquifers accounts for 224,250 acre-feet in 2010, declining to 223,820 acre-feet in 2060.   |
| Vol I Page 62 :  | Paragraph 3 : change first sentence to:      | Water management strategies recommended for the East Texas Regional Water Plan result in <u>326,368</u> acre-feet of additional water supply to meet all projected needs by the year 2060 (Fig-ure 1.5) at a total capital cost of <u>\$614,847,836</u> (Appendix 2.1).                     |
| Vol I Page 66 :  | Bullets : change third bullet to:            | Expansion of local groundwater use throughout region would provide 23,201 acre-feet per year-Implementation by: 2010; Capital Cost: \$33<br>million.  |
| Voll Page 121:   | Last paragraph : change llast sentence to:   | Although the population is projected to more than double between 2000 and 2060, water demand in Texas will increase by only 27 per-cent, from almost 17 million acre-feet of water in 2000 to a projected demand of <u>21.7</u> million acre-feet of water in 2060 (Table 4.2, Figure 4.4). |
| Vol I Page 246 : | Paragraph 2 : change second sentence to:     | By 2030, this figure rises to nearly <u>6.0</u> million acre-feet, and by 2060 it increases to <u>8.9</u> million acre-feet. In 2060, slightly more than 85 percent of the state's population is projected to have water needs.   |
| Vol I Page 265 : | Last paragraph : First sentence              | Planning groups recommended <u>15</u> new major reservoirs that would generate approximately 1.1 million acre-feet per year by 2060 (Table 10.3, Figure 10.3).  |