



City of Naples

UTILITIES

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Alternative Water Supply Narrative

On October 1, 2008, City Council adopted the Integrated Water Resources Plan (IWRP) to provide a sustainable water supply source for a 20-year planning period. The IWRP evaluated ten (10) alternatives to meet the projected 20-year water supply needs of the City. City Council adopted a modified Alternative 2 that provides strategic direction for the development of future water supply and storage facilities including aquifer storage and recovery (ASR), use of water from the Golden Gate Canal for distribution through the irrigation (reclaimed) system, and the development of brackish groundwater wells with treatment by a new reverse osmosis water treatment plant if ultimately required. City Council agreed to meet, at a minimum, annually to review the status and progress of the Integrated Water Resources Plan, to revise the long-term capital improvement program, to develop the annual budget, and to modify strategic objectives in order to accomplish the goals of the Plan.

During the May 18, 2009 Workshop, City staff summarized activities to date and provided a longer term business plan; summarized the action plan to design, test, and implement an ASR well field; summarized the action plan to obtain and deliver the alternate water supply to irrigation customers within the Five-Year Capital Improvement planning period; and presented a Five-Year CIP required to implement the Integrated Water Resources Plan. The original Five-Year Capital Improvement Program provided an estimated \$67.5 million program that would have required a utility revenue bond issue with the five-year planning period. The revised CIP for the five-year period is \$20 million. This may allow implementation of the essential elements of the Plan with the use of cash flow and fund balance without a bond issue within the five-year planning period.

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On March 15, 2010, staff updated City Council on progress related to the ASR well construction, the Golden Gate Canal Intake/Transmission main, the Class V ASR well permit and the status of the application to the South Florida Water Management District for a Water Use Permit (permit to withdraw from the Golden Gate Canal). Implementation of the plan is currently on schedule. The following is a brief update on key elements of the plan:

- Construction of ASR Well 1 began in August 2009, and was completed in March 2010. The storage zone location was approved by the Florida Department of Environmental Protection (FDEP) between 1,080 feet and 1,340 feet. Casing was installed to 1,080 feet and grouted in place. Developing of the storage zone (cycle testing) for ASR Well 1 began on June 30, 2011 with recharging until July 16, 2011 and recovery from July 17, 2011 to August 11, 2011. Cycle test 2 began on August 11, 2011 with recharging until September 12, 2011. Recovery for cycle test 2 began on September 12, 2011 and is currently ongoing.
- The FDEP Class V permit was received on August 23, 2010. A Class V permit is required to allow cycle testing of the new ASR well to confirm water storage and retrieval capabilities. This permit authorizes for well construction and cycle testing for all four (4) ASR Wells including additional monitoring wells. On January 28, 2011, the approval to proceed with cycle tests 1 and 2 for ASR Wells 1 and 2 was received from FDEP.
- Construction of ASR Well 2 began in August 2010, and was completed on January 24, 2011. Construction included the conversion of the original exploratory well to a storage zone monitoring well at 1,080 feet deep and installation of an intermediate monitoring well above the 10,000 TDS level at 780 feet deep. Monitoring wells are a requirement by FDEP to monitor water quality during the cycle testing process and operation of the ASR wells. Construction of ASR Well 3 and 4 has not been scheduled at this time pending cycle test results of wells 1 and 2.
- On September 16, 2009, City Council awarded a Professional Services Agreement to Camp, Dresser & McKee, Inc. (CDM) to begin the design of the Golden Gate Canal Intake/Transmission Main to pump water from the Golden Gate Canal to the Wastewater Treatment Plant. The construction of the Golden Gate Canal Intake/Transmission Main was awarded by City Council to Stevens and Layton, Inc. on May 18, 2011. Construction of the

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Intake Structure is schedule to be complete on March 30, 2012 and the construction of the Transmission Main is scheduled to be complete on October 30, 2012. Construction is underway and on schedule.

- On June 21, 2010, the South Florida Water Management District (SFWMD) issued the City's 20-year, Water Use Permit (WUP). The SFWMD has indicated that a 20-year permit was issued for the City's current allocation from the Lower Tamiami Aquifer because of the aggressive Integrated Water Resources Plan to provide alternative water supply for the reclaimed water irrigation system.
- On May 9, 2011, the SFWMD issued a 20-year WUP for the 10 million gallon per day allocation from the Golden Gate Canal. The Golden Gate Canal will provide the City with an additional water supply to be used to supplement the reclaimed water distribution system during the dry season and to store excess water in the ASR wells during the wet season.