

**SEMINOLE COUNTY GOVERNMENT
AGENDA MEMORANDUM**

SUBJECT: Memorandum of Understanding Between: The St. Johns River Water Management District and Seminole County for Aquifer Storage and Recovery Construction and Testing

DEPARTMENT: Environmental Services **DIVISION:** Planning, Engineering & Inspection

AUTHORIZED BY: *Robert G. Adolphe* **CONTACT:** *Hugh P. Sipes* **EXT.** 2117
Robert G. Adolphe, P.E., Director Hugh P. Sipes, Senior Engineer

Agenda Date 7-22-03 **Regular** **Consent** **Work Session** **Briefing**
Public Hearing – 1:30 **Public Hearing – 7:00**

MOTION/RECOMMENDATION:

Approve and authorize Chairman to execute the Memorandum of Understanding between the St. Johns River Water Management District and Seminole County for aquifer storage and recovery construction and testing. District 5

BACKGROUND:

The St. Johns River Water Management District (District) is pursuing construction and testing of Aquifer Storage and Recovery (ASR) wells in Seminole County and other areas of Central Florida. The District wishes to enter into cooperative agreement with Seminole County (County) to construct an ASR well on County property for the purposes of testing and demonstrating the feasibility of the use of such wells in future water treatment and storage scenarios. Extensive testing will be accomplished to determine aquifer characteristics and suitability for construction of an ASR well. The site selected for construction and testing is the Wilson Elementary School well site easement previously accepted by the board on May 27, 2003. The District will pay the costs of construction and testing of an exploration well and the ASR well. The County will pay costs for constructing electrical power facilities to the well, and will become owner and operator of the well after construction.

Reviewed by:
Co Atty: _____
DFS: _____
Other: _____
DCM: *[Signature]*
CM: *[Signature]*

File No. CESP02

MEMORANDUM OF UNDERSTANDING BETWEEN:
THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
AND SEMINOLE COUNTY
FOR
AQUIFER STORAGE RECOVERY CONSTRUCTION AND TESTING

THIS MEMORANDUM OF UNDERSTANDING ("MOU") is made and entered into on this _____ day of _____, 2003, by and between the St. Johns River Water Management District (hereinafter "District"), whose mailing address is Post Office Box 1429, Palatka, Florida 32178-1429 and SEMINOLE COUNTY ("County"), whose mailing address is 1101 E. First Street, Sanford, Florida 32771.

WITNESSETH:

WHEREAS, the parties to this MOU desire to design, permit, and construct an Aquifer Storage Recovery system (Project); and

WHEREAS, the District and the County each have programmatic authority and established funding sources to cost-share this Project,

NOW THEREFORE, in consideration of the foregoing premises, which are made a part of this MOU, the District and the County hereby agree to the following:

I. AUTHORITY:

This MOU is entered into under the following authority:

- A. The District enters into this MOU under the authority of Section 373.083, Florida Statutes, which authorizes the Governing Board to enter into agreements with other public agencies to accomplish the directives and goals of Chapter 373.
- B. The County enters into this MOU under the authority of Sections 125.01 (1)(k)1. and 125.01(1)(p), Florida Statutes, which authorize the County to enter into agreements with other public agencies to accomplish goals for providing water service to its customers.

II. TERMS:

- A. This MOU shall commence on the date of full execution and shall remain in effect for five (5) years, in accordance with this agreement.
- B. This MOU shall be reviewed annually by the parties and may be amended upon mutual agreement of the parties. Amendments and renewals shall be in writing and approved by all parties.
- C. This MOU may be terminated by either party at any time upon thirty (30) days written notice to the other party, provided however, that such termination will not relieve either party of its obligation to pay, through the date of notice of termination, its respective cost-share amount for ongoing projects or programs for which it has advanced or committed funds. The County's obligation to pay is subject to the approval of the County's annual budget. The District's obligation to pay is subject to the approval of Florida Forever funding and the annual budget by the District's Governing Board.
- D. The District agrees to fund the Project for a total amount not to exceed the amount of \$2,188,000.
- E. The County agrees to fund the Project for a total amount not to exceed \$84,000.

- F. The District and County agree that all work shall be performed in accordance with EXHIBIT "A", STATEMENT OF WORK, entitled, "Aquifer Storage Recovery Construction and Testing Demonstration Project," attached hereto and incorporated herein.

III. PROJECT MANAGEMENT:

- A. Project Managers - Each party hereby designates the employee set forth below as its respective Project Manager. Project Managers shall assist with project coordination and shall be the party's primary contact person. Notices or reports shall be sent to the attention of the parties' Project Manager by U.S. mail, postage paid, to the parties' addresses as follows:

For the District:
 Douglas A. Munch, P.G.
 P.O. Box 1429
 Palatka, Florida 32178-1429
 Tel. (904) 329-4173

For the County:
 J. Dennis Westrick, P.E.
 500 W. Lake Mary Blvd.
 Sanford, Florida 32773
 Tel. (407) 665-2029

IN WITNESS WHEREOF, the following authorized representative of the District and the County have executed this Memorandum of Understanding on the date signed by each party:

Approved as to Form and Legality
District Office of General Counsel

**ST. JOHNS RIVER WATER MANAGEMENT
DISTRICT**

By: _____
Stanley J. Niego
Assistant General Counsel

By: _____

Printed Name: Kirby G. Green III

Title: Executive Director

Date: _____

Approved as to Form and Legality
Seminole County

SEMINOLE COUNTY

Office of the County Attorney

By: _____

By: _____

Printed Name: _____

Title: _____

Date: _____

EXHIBIT A
STATEMENT OF WORK
AQUIFER STORAGE RECOVERY
CONSTRUCTION AND TESTING DEMONSTRATION PROJECT

INTRODUCTION/BACKGROUND

Project Definition - The St. Johns River Water Management (DISTRICT) and Seminole County (COUNTY) shall jointly endeavor to design, permit, and construct an Aquifer Storage Recovery (ASR) system (Project), consisting of an exploratory well, monitoring wells, ASR test well, site work, and related pipelines and appurtenances, all defined to be part of the Project.

Project Need – Aquifer storage recovery of water, treated to primary and secondary drinking water standards, is the primary storage method planned for surface water source development projects.

Memorandum of Understanding's (MOU) Goals – Demonstrate that ASR is a feasible technology for utilities in the East-Central Florida region. The DISTRICT seeks to complete this cooperative project with the COUNTY and shall require its DISTRICT Contractor to prepare the design of the Project in accordance with the requirements of regulatory agencies, the COUNTY, and the DISTRICT and to obtain necessary permits and construct the Project in accordance with such design.

Consistency With DISTRICT's Mission And Goals – This Project is included in the Water Resource Development Work Program, dated March 5, 2002, as required by Section 373.536(6)(a) 4, Florida Statutes. The design shall be consistent with DISTRICT report entitled “Desktop Assessment of Aquifer Storage and Recovery for Seminole County, Florida”, prepared by Camp Dresser & McKee, Inc., and dated October 2002.

Location Of The Work – The Project shall be located at the Wilson Elementary School property north of the Markham Water Treatment Plant in Seminole County, Florida, or a different site if mutually agreed upon by both parties.

OBJECTIVES

Statements Of The Results To Be Achieved – The Project shall be implemented with design features approved by the DISTRICT and the COUNTY, in sequential order to provide for maximum benefit of expended funds. Sequential progress shall be based on exploration, permitting, and construction. The ASR Test Well shall be drilled in accordance with Florida Department of Environmental Protection (FDEP) Underground Injection Control (UIC) requirements, and successfully cycle-tested, to demonstrate feasibility for water storage and recovery.

SCOPE OF WORK

Outline Of Extent Of Work

Tasks 1 and 2 have been completed by the DISTRICT Contractor. Task 3 is the preparation and approval of a COUNTY Agreement. The following is an outline of the extent of work to be performed under the COUNTY Agreement:

Task 4 — Site-Specific Data Collection and Preliminary System Design

Task 5 — ASR Pilot Project Design

Task 6 — Regulatory Permitting

Task 7 — ASR Facilities Construction, Monitoring, and Testing

Task 8 — Startup and Training

Task 9 — Large Cycle Operational Monitoring and Evaluations

Task 10 — Peer Review

Brief Overview Of The Steps Of Project

The DISTRICT shall prepare a preliminary design plan for the ASR system, including an exploratory well. Based on the results of the exploratory well, final design of the ASR system shall be conducted and coordinated with FDEP UIC permitting requirements. Once the design and permit are approved, the DISTRICT shall begin construction of the ASR Test Well and related appurtenances. After completion of drilling and verification of Project requirements, cycle testing shall be performed to measure storage and recovery. If at any time the Project is deemed infeasible, the DISTRICT shall coordinate with the COUNTY the salvage of any constructed wells for monitoring purposes, or shall provide abandonment and decommissioning services as required. Upon successful demonstration of feasibility, the completed Project shall be transferred to the COUNTY for operation and ownership.

Brief Description Of The Methodology To Be Used

The DISTRICT shall utilize methodologies accepted in the professional practices of engineering and geology. Methodologies shall incorporate FDEP UIC permitting requirements and provide sufficient milestones for review, comment, and approval by the DISTRICT and the COUNTY. Construction methods shall be in accordance with the General Conditions provided for in the DISTRICT's Contractor agreement, including conformance with COUNTY local codes and requirements.

Description Of Location Of Work - The Project shall be located at the Wilson Elementary School property north of the Markham Water Treatment Plant in Seminole County, Florida. The exact Project location at the site shall be determined based on preliminary design and coordinated with the location of potable source water and discharge facilities. The ASR system shall accommodate elements of the plant's master plan, including future wellfields.

TASK IDENTIFICATION

Description Of The Work To Be Performed To Complete The Project

The following Tasks 4 through 10 are summarized from the DISTRICT Contractor agreement. These tasks shall be performed on a work-order basis as each individual task is successfully completed.

Task 4 — Site-Specific Data Collection and Preliminary System Design

This task includes site-specific data collection and preliminary system design. A data collection plan for the Project site shall be prepared based on a review of existing information and coordination with FDEP. In particular, the plan shall address the need for initial exploratory testing as the basis of development of ASR well design. The plan shall explain that exploratory testing may be conducted without having to first obtain all permits for the subsequent ASR system.

To the extent possible based on FDEP guidelines, the DISTRICT proposes to gather hydrogeologic information from the construction and testing of an initial exploratory well at the Project site, which would then be converted to an observation well for the ASR construction and testing program. The data collection plan shall be implemented, the data shall be evaluated, and a preliminary system design shall be developed. If the site is deemed to be infeasible for any reason, the DISTRICT and the COUNTY shall endeavor to locate an alternative site for the Project through mutual agreement by both parties.

Task 5 — ASR Pilot Project Design

This task includes the design of well and wellhead facilities at the selected site, including supporting infrastructure such as pipelines, electrical service, and incidental site work. The design shall also specify the proposed data collection and monitoring programs.

Task 6 — Regulatory Permitting

The DISTRICT and the COUNTY shall adhere to the necessary regulatory permitting requirements, including preparation of permit applications, and responses to requests for information from regulatory agencies. The primary permitting effort shall be through the FDEP UIC program, although other ancillary permits shall be required from local government. The DISTRICT shall provide services to support the cost of preparation of a) Well Construction permit applications, b) local government permit applications as required, c) FDEP UIC permit application, d) Consumptive Use Permit (CUP) application for testing water if necessary, e) FDEP Drinking Water System extension permit application, f) other FDEP water system permits, if required, and g) Project reports.

The DISTRICT's Agreement or contract work order with its third-party Contractor shall include site improvements required by the Project and mutually agreed upon by both parties. The COUNTY shall be responsible for processing and resolving any zoning or land use issues that may arise with regard to the Project. The COUNTY shall act as Owner of the ASR facilities for well construction, FDEP UIC, and Project related permit applications. The DISTRICT shall act as the Owner's representative in all permit related matters and pay for application fees. Upon receipt of necessary permits, the COUNTY shall provide evidence of permission to access Project site.

Task 7 — ASR Facilities Construction, Monitoring, and Testing

This task consists of construction of ASR and monitor wells, and associated pipelines, electrical service, incidental site work, and wellhead facilities. Initial hydraulic and water quality testing shall be conducted, in addition to geophysical logging, geochemical modeling, and evaluation of any additional pretreatment requirements. A series of ASR test cycles shall then be conducted to address technical and other issues pertaining to the Project site.

The DISTRICT shall provide property or easement limit field staking to define legal boundaries of construction, based on recorded easement documents furnished by COUNTY. The DISTRICT shall be responsible for construction layout, inspection, testing, and progress reporting for the Project. The COUNTY shall allow the DISTRICT full site access to inspect construction of the Project. The COUNTY shall alert the DISTRICT of any problems it knows of and the DISTRICT, when appropriate, shall require its third-party Contractor to correct any problems or non-conforming work discovered by DISTRICT inspection or COUNTY's observation.

Task 8 — Startup and Training

The DISTRICT shall provide operational training of COUNTY staff to ensure a smooth transition from the test Project into full operations.

Task 9 — Large Cycle Operational Monitoring and Evaluations

Operational monitoring and evaluation of ASR system performance shall be conducted during the first two (2) to three (3) years of operations, making any needed adjustments to improve system performance. The COUNTY shall be operating the system during this period.

Task 10 — Peer Review of DISTRICT’s Work

This task includes the review of work products produced by or for the DISTRICT by other Contractors retained by the DISTRICT for the purposes of carrying out the ASR demonstration program as considered necessary by the DISTRICT. This task is not sequential and may be authorized at any time during the Project by the DISTRICT’s Project Manager.

TIMEFRAMES AND DELIVERABLES**Timeframes for Sequential Completion Of Tasks (calendar days)**

Task 4, Site-Specific Data Collection and Preliminary System Design:	180 days
Task 5, ASR Pilot Project Design:	60 days
Task 6, Regulatory Permitting:	180 days
Task 7, ASR Facilities Construction, Monitoring, and Testing:	150 days
Task 8, Startup and Training:	75 days
Task 9, Large Cycle Operational Monitoring and Evaluations:	360 days
Task 10, Peer Review:	30 days

Timeframe For Completion Of Entire Project

Successive task completion without major disruption shall require a minimum of three (3) years, and up to five (5) years for final completion, in accordance with the MOU.

DISTRICT Deliverables

All deliverables shall be provided to the COUNTY in both hard copy and electronic versions. Deliverables shall generally include the following items, by task. Other elements of the Project may be added as mutually agreed upon by both parties.

Task 4, Site-Specific Data Collection and Preliminary System Design: As defined in the work order, to include the following.

- Data Collection Plan
- Preliminary Design Report
 - Exploratory Well Construction Plan
 - Exploratory Well Construction Specifications
 - Exploratory Well Contractor’s Safety Plan
 - Exploratory Well Construction Schedule
 - Exploratory Well Sampling and Testing Plan
- Exploratory Well Construction Permit Application
- Well Salvage for Monitoring, or Abandonment if Site is Infeasible
- Completed Exploratory Well
- Water Quality Sampling and Testing
- Exploratory Well Project Report

Task 5, ASR Pilot Project Design: As defined in the work order, to include the following.

- ASR System Construction Plans, including Telemetry Conduit Layout
- ASR System Construction Specifications
- ASR System Construction Cost Estimate
- ASR System Construction Phase Services Plan
- ASR System Contractor's Safety Plan
- ASR System Construction Schedule
- ASR System Final Project Report

Task 6, Regulatory Permitting: The DISTRICT shall pay for all permit application fees. One (1) or more of the following deliverables shall apply to the Project, as required:

- Well Construction Permit Application(s)
- Local Government Permit Application(s)
- FDEP UIC Permit Application
- CUP Application For Testing Water
- FDEP Drinking Water System Extension Permit Application
- Other FDEP Water System Permit(s)
- Permitting Condition Progress Report(s)
- Permitting Condition Sampling And Testing Report(s)

Task 7, ASR Facilities Construction, Monitoring, and Testing: As defined in the work order, to include the following.

- Payment and Performance Bond
- Construction Survey Layout and Control
- Shop Drawings
- Updated ASR System Contractor's Safety Plan
- Updated ASR System Construction Schedule
- Monthly ASR System Project Progress Reports
- Laboratory Reports
- Well Testing Discharge Plan
- Construction Inspection and Testing Records
- Completed ASR System Construction Record Drawings
- Certifications of Completion
- Releases for Final Payment
- Final Construction Report
- Startup and Training Plan

Task 8, Startup and Training: As defined in the work order, to include the following.

- Operation and Maintenance Manuals
Training Instruction
- Operating Guidelines
- Cycle Testing Plan

Task 9, Large Cycle Operational Monitoring and Evaluations: Cycle Testing Reports as defined in the work order. The DISTRICT shall provide technical oversight and assistance as required during this task.

COUNTY Deliverables

The COUNTY shall deliver the following items, according to the time they are needed as jointly determined by the COUNTY and the DISTRICT during the course of the work:

1. Timely review comments on Contractor submittals.
2. Execution of permit applications, as Project owner of the ASR facilities.
3. Relevant records pertaining to, or affecting, the Project which may consist of, but not be limited to, survey data and legal descriptions, easement documents, soils data, water facilities record drawings, site plans, right of way use requirements, and other technical information required for the planning, design, and construction of the ASR facilities at the proposed site.
4. Unique construction requirements not covered under local permits or codes, such as site lighting requirements, site access constraints, other, and any limitations on construction activities.
5. Electrical power service to the site, including offsite extensions, material purchases, new equipment, lighting, metering, and individual well service connections, in accordance with local power company requirements. The estimated capital cost to the COUNTY is \$50,000 for the furnishing of labor, equipment, and materials to install the electrical service.
6. Networked telemetry, including instrumentation and control (I&C), for well operation, if needed, except that local I&C compatible with the COUNTY's telemetry and control logic shall be provided by DISTRICT. The DISTRICT shall install COUNTY-furnished 2" PVC conduit and pull boxes from the ASR test well to the perimeter of the Markham WTP property for COUNTY's fiberoptic telemetry cable. The COUNTY shall furnish and install fiberoptic telemetry cable and panels at both ends; including conduit and cable extensions at the WTP site, any necessary building penetrations, and all connections to telemetry panels. The estimated capital cost to the COUNTY is \$10,000 for the furnishing of labor and equipment for installation of cable and panels, and the furnishing of conduit and pull box materials for the networked telemetry line.
7. Landscaping and other beautification features for the Project area, if needed, except that the DISTRICT shall restore the areas of the Project site disturbed by construction in accordance with the approved plans and specifications. The DISTRICT's restoration, as delineated in the plans and specifications shall include the following: a) grassing (seeding or sod) to the COUNTY's specification for graded restoration of the areas disturbed by construction and b) any desired or required fencing along the access road or at the wellhead.
8. Water quality sampling and testing during cycle testing phase of Project, after COUNTY assumes ownership of Project. The estimated cost to the COUNTY is \$24,000 for this water quality sampling and testing. This analytical work shall be consistent with regulatory agency permitting and monitoring requirements.
9. Information regarding features and items that are required to comply with zoning and land development codes.
10. Necessary potable water for ASR testing, permission to use COUNTY-controlled rights of way and easements for discharge purposes, and appurtenant operational requirements for the Project, including necessary coordination and related services from COUNTY's staff. In the event the COUNTY does not have an adequate allocation of water under existing CUPs for the cycle testing, then the DISTRICT shall be responsible for preparing the permit application necessary for the COUNTY to submit for DISTRICT review and approval of a separate (or additional) allocation of water sufficient for this purpose.

DISTRICT and COUNTY Responsibilities

The DISTRICT and COUNTY shall do the following in a timely manner so as not to delay the progress of the work:

1. The COUNTY is responsible to provide a Project site and associated access for the Project. If the COUNTY does not own a site suitable for the Project and elects to purchase an appropriate Project site with its own funds, the COUNTY shall coordinate the purchase with the DISTRICT. The DISTRICT shall review the COUNTY's proposed purchase agreement, if applicable, for the property needed to complete the Project, within 30 days of receipt, and either approve or recommend no purchase if the site does not meet Project requirements. The DISTRICT shall not unreasonably withhold approval of said purchase. The COUNTY shall provide evidence of ownership or easements providing access and control of facilities expected to be installed on the property. The DISTRICT shall be responsible for providing field services for surveying for property survey and stakeout, and to establish horizontal and vertical control for the Project.
2. The COUNTY shall own the Project after completion. The COUNTY agrees to assume full ownership responsibility for Project following construction and startup. The COUNTY shall participate in and accommodate operational cycle testing performed by the DISTRICT. The DISTRICT shall provide the COUNTY with data collection guidelines after cycle testing is complete.
3. The COUNTY shall be responsible for operation and maintenance of completed Project. The COUNTY agrees to assume total responsibility of ownership for continued operation, maintenance, and data collection for the system following completion of the term of this MOU, in perpetuity, but reserves the right to re-permit, modify, abandon, or decommission the Project in accordance with applicable rules and regulations should the Project cease to be functional for its intended purpose. In event of abandonment or decommissioning, the DISTRICT reserves the right to access the Project for well monitoring purposes.
4. Other elements of the Project as mutually agreed upon by both parties.

Comment And Review Time

Major milestone submittals defined in the work orders shall generally include four (4) weeks for review and comment by the DISTRICT and the COUNTY. Review and comment for lesser submittals may be reduced to three (3) weeks.

Construction-phase data that must be reviewed and approved in a shorter timeframe to facilitate Contractor's activities shall be specified in the work order or determined by the DISTRICT's Project Manager.

The DISTRICT shall compile review comments from DISTRICT staff and COUNTY Project representatives into one document for transmittal to the DISTRICT Contractor. The COUNTY shall be available for explanation, discussion, and resolution of review comments.