



June 8, 2021

To: Lake County
Bill Ponko, Contracting Officer
315 West Main Street, Suite 441
Tavares, FL 32778

Subject: Statement of Interest
RFP No.: **21-0925**
**HYDROGEOLOGY, HYDROLOGY & GEOTECHNICAL CONSULTING
SERVICES**

Submitted By: **ANDREYEV ENGINEERING, INC.**

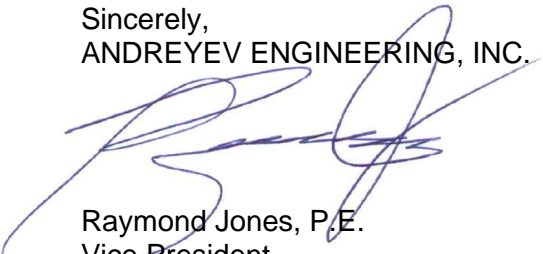
Dear Mr. Ponko:

Andreyev Engineering, Inc. (AEI) is pleased to submit our qualifications for consideration by Lake County to provide Hydrogeology, Hydrology and Geotechnical Consulting Services. AEI expresses great interest in providing these types of services to meet the needs of Lake County and are very enthusiastic to render our professional expertise with an extremely high level of service.

As you will see from the qualification materials presented, AEI is uniquely qualified to provide the services outlined in Exhibit A under this RFP and can provide most of these services in-house. However, additional support will be provided to the AEI Team by the addition of BESH-HALFF, SMW GeoSciences, and Ray and Associates to ensure that each and every item listed in Exhibit A, and then some, can be supported by the AEI Team. This team has a long history and a wealth of experience in Lake County. Presented herein is a summary of our qualifications, qualifications of the team, and the requested documentation outlined in the Request for Proposal No. 21-0925.

AEI is committed to providing timely responses and cost-effective solutions on every assignment that we are engaged on during the course of the contract. To this end, AEI will apply the necessary resources and support to Lake County in order to fulfill the needs of each project. We look forward to working with Lake County under this contract and sincerely appreciate your consideration.

Sincerely,
ANDREYEV ENGINEERING, INC.



Raymond Jones, P.E.
Vice President
407-330-7763



BUSINESS/FIRM HISTORY AND INFORMATION

Andreyev Engineering, Inc. (AEI) was founded in 1993, by Nicolas E. Andreyev, P.E. and is a professional consulting engineering firm offering a wide range of Geotechnical, Hydrogeological, Environmental and Materials Testing services. Our capability in this highly specialized field of practice results from extensive hands-on local experience. With offices in Sanford, St. Petersburg, Clermont and The Villages, we specialize in providing practical solutions to complex technical issues involving soil and groundwater. AEI has more than 25 years of proven experience in providing these types of services.

The firm's president and founder, Mr. Nicolas E. Andreyev, P.E., is a recognized expert in the specialized field of engineering hydrogeology. Mr. Andreyev has authorized many publications in this field and has also developed computer software that is utilized by many in the civil engineering industry. AEI currently has a total staff of thirty (35) professional and technical personnel. Collectively, AEI has eleven registered professionals (eight professional engineers and three professional geologists) who have over 150 years of combined professional engineering and geological experience throughout Florida. Hundreds of successfully completed projects throughout Florida, Southeast USA and overseas attest to our skills and abilities and we have provided these unique services to a wide range of clients.

With respect to insurance and certification, AEI maintains a professional liability insurance policy with coverage for two million dollars, coverage for workers compensation and a four million dollar umbrella policy.

AEI is currently under contract with several local government entities providing geotechnical, hydrogeologic, environmental and construction materials testing/inspection services. Further, AEI is prequalified by the Florida Department of Transportation (FDOT) in Work Groups 9.1, 9.2, 9.3, 9.4, and 10.3. Our professional staff has provided services for numerous governmental and private projects throughout the State of Florida.

AEI has a full-service soils and materials laboratory and in-house drilling capability, with equipment suitable for any project terrain.

AEI was founded on the basic principal of providing superior services for each project, with an emphasis on quality, schedule and budget. We have established a proven track record of providing cost effective solutions to difficult projects. We can effectively complete small projects (\$500 to \$5,000), as well as large regional projects (\$100,000 to \$1,000,000). We have the personnel, the capability and the necessary experience.

SPECIALIZED SERVICE CAPABILITIES

GEOTECHNICAL ENGINEERING

- ◆ Geotechnical Drilling
- ◆ Groundwater Level Determination
- ◆ Studies for Land Development
- ◆ Laboratory Analysis (moisture content, grain size, permeability, consolidation, etc.)
- ◆ Muck Surveys
- ◆ Sinkhole Investigations
- ◆ Bearing Capacity Determination
- ◆ Foundation Design

ENVIRONMENTAL CONSULTING

- ◆ Contamination Assessments
- ◆ Building Condition Surveys
- ◆ Phase I & Phase II Environmental Site Assessments
- ◆ Remedial Action Plans
- ◆ Groundwater Sampling & Testing
- ◆ RCRA Part B Permitting
- ◆ Asbestos Sampling & Testing

MATERIALS TESTING & INSPECTION SERVICES

- ◆ Density Testing/Compaction
- ◆ Proctor Density Testing
- ◆ Gradation
- ◆ LBR/CBR
- ◆ Concrete Testing
- ◆ Soil Cement Testing
- ◆ Asphalt Mixtures

GROUNDWATER SERVICES

- ◆ Installation of Wells & Testing
- ◆ Aquifer Characterization
- ◆ Groundwater Flow Modeling
- ◆ Water Supply Assessment & Design
- ◆ Dewatering System Modeling & Design
- ◆ Groundwater Monitoring Plans

WATER RESOURCES

- ◆ Watershed Planning
- ◆ Water Quality Modeling
- ◆ Assimilative Capacity Assessments
- ◆ Stream/Lake Monitoring
- ◆ Sampling Programs

WASTEWATER SERVICES

- ◆ Aquifer Characterization & Testing
- ◆ Effluent Disposal Modeling & Design
- ◆ Water Reuse System Design & Permitting
- ◆ Industrial Wastewater Disposal Design & Permitting

TRANSPORTATION SERVICES

- ◆ Roadway Soil Surveys
- ◆ Bridge Foundation Geotechnical Engineering
- ◆ Pile Driving Inspection
- ◆ Drilled Shaft Installation Inspection

STORMWATER SERVICES

- ◆ Soil Borings & Permeability Tests
- ◆ Infiltration/Recovery Modeling
- ◆ Underground Storage & Recovery
- ◆ Environmental Resource Permits

List no more than five projects which best illustrates qualifications relevant to the Solicitation. References must be less than five years old. LIST no more than two LAKE COUNTY GOVERNMENT PROJECTS (past, current, prime, and subcontractor) FIRST.

ANDREYEV ENGINEERING, INC.

PROJECT NAME: Semi-Annual Groundwater Monitoring of Four Lake County Landfills PO #20130518

Agency: Lake County SWA Solid Waste Division

Address: 13130 County Landfill Rd, PO Box 7800

City, State, Zip code: Tavares, FL 32778

Contact Person: David Salinas

Title: Operations Compliance Coordinator

Email: [Click or tap here to enter text.](#)

Telephone: 352-343-9839

Project Cost: 45,000 +/-

Contract Start and End Dates: July 2016

SCOPE of Project (list tasks, outlines or descriptions of items): Semi-Annual Groundwater Monitoring of Four Lake County Landfills, preparation of Semi-Annual reports in accordance with FDEP Permit requirements.

PROJECT NAME: Former City of Winter Garden Utility Plant

Agency: City of Winter Garden Engineering

Address: 300 West Plant Street

City, State, Zip code: Winter Garden, FL 34787

Contact Person: Arthur Miller

Title: City Engineer

Email: amiller@cwgn.com

Telephone: 407-656-4111

Project Cost: \$150,000.00

Contract Start and End Dates: December 2017

SCOPE of Project (list tasks, outlines or descriptions of items): Project started with a Phase II ESA at the site of the City's historic utility plant on Boyd Street. Results of the Phase II indicated that elevated concentrations of polyaromatic hydrocarbons existed in both the soil and groundwater at this site, likely associated with former fuel storage tanks and combustion of heavy fuels. In June of 2018 AEI prepared a Site Assessment Report (SAR) for the former utility plant property which identified plumes of both petroleum impacted soil and groundwater. Following the submittal of the SAR AEI completed Initial Remedial Action which consisted of excavation of approximately 807 tons of impacted soil. This site ultimately received a Site Rehabilitation Completion Order from the FDEP.

PROJECT NAME: Scotty's Auto

Agency: Florida Department of Environmental Protection

Address: 2600 Blair Stone Road

City, State, Zip code: Tallahassee, FL 32399

Contact Person: Tim Foster

Title: Contract Manager

Email: tim.foster@dep.state.fl.us

Telephone: 850-245-8874

Project Cost: \$195,000.00

Contract Start and End Dates: On-Going

SCOPE of Project (list tasks, outlines or descriptions of items): AEI was assigned the assessment and cleanup of this former gas station facility by the FDEP in 2014 through the pre-approval program. AEI completed groundwater and soil sampling to delineate the extent of petroleum in the groundwater and soils over this site. AEI submitted a Site Assessment Report (SAR) to the FDEP followed by a Remedial Action Plan (RAP) which identified Air Sparging (AS) and Vapor Extraction (VE) as the most appropriate remedial strategy. AEI constructed and implemented the AS/VE technology which was successful in reducing the petroleum contaminants to levels below the FDEPs Groundwater Cleanup Target Levels (GCTLs). AEI is currently monitoring groundwater as part of a Post Active Remediation Monitoring program.

PROJECT NAME: Fehrman Heating and AC, Umatilla

Agency: Florida Department of Environmental Protection

Address: 2600 Blair Stone Road

City, State, Zip code: Tallahassee, FL 32399

Contact Person: Tim Foster

Title: Contract Manager

Email: tim.foster@dep.state.fl.us

Telephone: 850-245-8874

Project Cost: \$275k

Contract Start and End Dates: On-Going

SCOPE of Project (list tasks, outlines or descriptions of items): AEI was assigned the assessment of the former petroleum storage tank system at this facility by the FDEP in 2018 through the pre-approval program. AEI completed groundwater and soil sampling to delineate the extent of petroleum in the groundwater and soils over this site and prepared a Template Site Assessment Report in August of 2019. AEI is currently conducting supplemental site assessment activities in preparation of remedial system design.

PROJECT NAME: Northwest Lake County, Northeast Sumter County and SouthEast Marion County

Agency: The Villages of Lake-Sumter, Inc.

Address: 1020 Lake Sumter Landing

City, State, Zip code: The Villages, FL 32162

Contact Person: Trey Arnett

Title: President

Email: [Click or tap here to enter text.](#)

Telephone: 352-753-6219

Project Cost: 2,400,000.00

Contract Start and End Dates: On-Going

SCOPE of Project (list tasks, outlines or descriptions of items): AEI has completed an extensive study of the geology and hydrogeology of The Villages area. This report included aquifer characterization and the generation of geologic profiles across the service territory, generated from well construction logs and reports. AEI designed and executed aquifer performance tests to determine aquifer characteristics. To date, 14 aquifer performance tests have been completed under AEI supervision on production wells, including two full scale APTs of the upper and lower Floridan aquifer.



CONTRACT MANAGER

Andreyev Engineering, Inc., (AEI) will be coordinating our services for this contract from our corporate headquarters located in Sanford as well as our local branch office in Clermont, Florida and will provide all the necessary support to meet all the technical and scheduling requirements for this contract.

Mr. Raymond W. Jones, P.E. will serve as the Contract Manager under this contract and thus will be the main point of contact for all service requests. During his 24 years with AEI, Mr. Jones ran the Tavares branch office of AEI for 10 years until it was closed in 2007, and has since continued to support the Lake County community and the local consulting firms since that time. The contact information for Mr. Jones is provided below.

Mr. Raymond Jones, P.E.

Andreyev Engineering, Inc.

Contract Manager

4055 St. Johns Parkway

Sanford, Florida 32771

Tel.: (407) 330-7763

Email: rjones@andreyevengineering.com

AEI TEAM SUPPORTING PROFESSIONALS

In addition to Mr. Jones, the AEI team will also be supported by the following key professionals:

AEI - Mr. Nicolas Andreyev, P.E.

AEI - Dr. Shawkat Ali, P.E. PhD

AEI - Rob Cornelius, P.E.

AEI - Mr. Jeff Eller, P.E.

AEI - Ms. Vivian Bielski, P.G.

AEI - Mr. Shawn Carswell, P.G.

SMW - Ms. Sarah Whitaker, P.G.

BESH - Mr. Duane Booth, P.E.

BESH - Mr. Brett Tobias, P.E.

Resumes for each of the above individuals have been provided in this RFP for your further review and evaluation of our qualifications and experience.



CURRICULUM VITAE



RAYMOND JONES, P.E., VICE PRESIDENT
Senior Geotechnical Engineer

BUSINESS RESIDENCE: 4055 St. Johns Parkway Sanford, Florida

EDUCATION: Bachelor of Science, Civil Engineering
Florida State University, 1996

REGISTRATIONS: Professional Engineer, Florida Registration #58079

SOCIETIES: American Society of Civil Engineers-Member

YEARS OF EXPERIENCE: 24

SUMMARY OF CAPABILITIES

Shallow Foundation Engineering	Hydrogeological Studies
Deep Foundation Engineering	Groundwater Modeling
Soil Mechanics	Consumptive Use Permitting
Roadway and Bridge Studies	Quality Control-Quality Assurance Program Implementation
Sinkhole Investigations	Pavement Design
Slope Stability Analysis	Well Construction

Mr. Jones is currently a Vice President of Andreyev Engineering Inc., where his duties include overall office, project, and staff management, client development, client relations and all aspects of project engineering. Mr. Jones has successfully managed numerous geotechnical and hydrogeologic studies throughout the state of Florida in the areas of groundwater analysis, water supply planning and design, consumptive use permitting, materials testing and geotechnical engineering.

Typical hydrogeologic projects include water balance analyses for spring flows, wetland water levels, lake and river levels, groundwater flow modeling of regional water supply systems, lake-wetland interaction systems, stormwater capture and reuse, horizontal wells, and numerous other surface water and groundwater interaction systems.

Typical geotechnical projects include a wide variety of residential, commercial, industrial, roadway, landfill and mining projects in both the public and private sectors. Ray has worked on low to high rise structures involving a variety of foundation types, wastewater and water treatment plants, large tower and tank structures, bridges, large-scale developments, pipelines, multi-lane roads using various pavement section materials, landfills, and lined and un-lined ponds.

Typical sinkhole projects include evaluation of residential, commercial, and municipal sinkhole claims in accordance with State requirements, using conventional and geophysical tools including GPR, ERI, and Seismic methods to evaluate subsurface conditions, evaluation of structural collapses associated with sinkhole activity and providing recommendations for repairs of structures affected by sinkhole activity.


Engineering work includes field tech supervision, coordination, analysis, and report preparation of over 500 geotechnical and hydrogeologic projects. The following is a list of typical projects completed by Mr. Jones:

- **South Lake Trail Phase 3, Clermont:** Geotechnical Investigations for planning, design and permitting of the 7-mile Phase 3 section of the trail including bridge design studies for modification of the C.R. 561 Minneola Bridge and a long pedestrian trail bridge thru a wetland area of the proposed trail alignment.
- **North Hancock Road Extension, Clermont (FDOT Lap), 2014 -** Geotechnical Investigations for planning, design and permitting of the proposed Lake County roadway. Project geotechnical design assistance provided for approximately 7,200 feet of new roadway, stormwater management systems, traffic signal structures, and retaining wall design and milling and resurfacing.
- **Okeechobee Utility Authority, Expansion of Effluent Disposal System:** OUA retained AEI to provide hydrogeologic services to expand the disposal capacity of the Cemetery Road WWTF where Mr. Jones has been the engineer of record. After performing extensive Geotechnical and Hydrogeologic Investigations and Groundwater Modeling of the site it was determined that disposal of the required capacity (4 MGD) would not be possible via the surficial aquifer. AEI was then tasked with performing a feasibility study for use deep well injection for disposal of treated effluent. Following the successful completion of the feasibility study, AEI was authorized to begin design and permitting of the Injection Well System. Permitting of the project thru SFWMD and FDEP UIC was completed for a Class V Group 9 exploratory well, consisting of a 24-inch diameter well to 3200 feet, and an associated dual zone monitoring well with monitoring intervals of 1650 and 1900 feet below grade. AEI provided full-time QA/QC construction oversight and FDEP TAC reporting of the project. AEI also permitted the test well for operational testing and later obtained an operations permit from FDEP for the operation of the injection well system.
- **City of Cocoa, Jerry Sellers WRF Aquifer Storage and Recovery Well:** Preparation of well construction specifications for the Cocoa Reclaimed Water ASR Exploratory Well that was drilled in cooperation with the SJRWMD. Managed well construction oversight, cycle testing of the exploratory ASR well and preparation of summary reports to FDEP.
- **Volusia County, Florida:** Provided hydrogeologic groundwater modeling services in support of AEI's CUP application preparation for the county. Constructed hydrogeologic cross sections for groundwater model calibration, collected all available groundwater monitoring well data from SJRWMD and USGS, and modeled specific impacts to Surficial, Lower and Upper Floridan Aquifer groundwater associated with well pumping scenarios for county WTP wells.
- **City of Eustis, Consumptive Use Permit Renewal –** This project included consultation with City Staff to act on the City's behalf to coordinate, prepare, and provide all necessary


information required by SJRWMD for permitting of the future water supply needs of the City, evaluation of historic usage, preparation of water demand projections and evaluation of impacts associated with projected groundwater withdrawal from the City Wellfields.

- **Cities of Deland and Edgewater, Florida:** Hydrogeologic and geologic services provided included regional groundwater modeling services in support of CUP application preparation.
- **The Cities of Sanford and Lake Mary, Florida:** Provided hydrogeologic groundwater modeling services in support of the preparation of CUP applications by these two cities. Constructed four (4) hydrogeologic cross sections for groundwater model calibration, collected all available groundwater monitoring well data, and modeled specific impacts to Surficial, Lower and Upper Floridan aquifer groundwater associated with well pumping scenarios for both cities.
- **City of Leesburg, Highland Lakes and Royal Highlands WTP Facilities:** Provided hydrogeologic and geologic services that included technical well specification preparation, well construction oversight, and geophysical logging for two (2) Lower Floridan Aquifer supply wells. Services planned in 2004 will include supply well pumping performance testing.
- **City of Leesburg, Sleepy Hollow Recreation Complex:** Provided hydrogeologic and geologic services for three (3) city irrigation wells that included CUP permit application preparation, associated well construction specification preparation, well construction oversight, geophysical well logging and specific capacity testing, and well abandonment services.
- **City of Eustis, Consumptive Use Permit Renewal** – This project includes on-going consultation with City Staff to act on the City’s behalf to coordinate, prepare, and provide all necessary information required by SJRWMD for permitting of the future water supply needs of the City, evaluation of historic usage, preparation of water demand projections and evaluation of impacts associated with projected groundwater withdrawal from the City Wellfields.
- **Spruce Creek South WWTF, Sumter County, FL:** This project consisted of a hydrogeologic study to evaluate the rapid infiltration basins (RIBs) of the domestic wastewater treatment facility (WWTF) conducting a load test to determine the infiltration and treatment capacity of the RIBs for expansion of the WWTF.
- **Wekiva Spring Shed Assessment for City of Eustis ORC** - This assessment was conducted to analyze the impacts of development in Eustis area to support the City’s Comprehensive Plan Amendment and respond to DCA comments. Site-specific hydrogeologic investigations, investigation and evaluation of surface water flow systems, detailed particle tracking modeling using the SJRWMD’s East Central Florida (ECF) regional groundwater model and the USGS MODPATH model were conducted to calculate the location of spring flow recharge areas and the time of travel from the point of recharge (surficial aquifer) to the point of discharge (springs). The model results were used to address aquifer recharge issues.
- **Groundwater Sampling for Marion County Utilities** - Conducted continuing groundwater monitoring activities required by FDEP permits for waste-water treatment facilities within Marion County, recently purchased from Florida Water Services.

- **Bellechase Subdivision, C.R. 475 in Ocala** - Geotechnical and Hydrogeologic Investigations for design of alternative stormwater retention systems due to thick layers of clay, and design of roadway under-drains to intercept groundwater seepage.
- **Codding Class 3 Landfill, C.R. 46, Lake County** - This project included a geotechnical investigation and a hydrogeologic study at an existing borrow pit to characterize the shallow aquifer and the Floridan aquifer for evaluation, design, and permitting of a Class 3 landfill. A series of SPT borings were drilled into the limestone (70 to 230 feet deep) to investigate foundation support for the landfill, identify confining layers and define the depth of rock. Over 15 piezometers were installed to measure groundwater levels and potentiometric levels for groundwater contour mapping. Designed a liner system and a monitoring plan for permitting of the landfill.
- **City of Tavares, Woodley Road Wastewater Treatment Plant & RIBs** - This project included geotechnical investigations for storage tanks and wastewater treatment plant structures to evaluate foundation support and estimate settlements. In addition, a hydrogeologic investigation and groundwater flow modeling was completed for expansion of rapid infiltration basins (RIBs) to estimate the effluent disposal capacity and to develop a groundwater monitoring plan.
- **S.W. 17th Street Former Landfill for City of Ocala Engineering Dept** - A hydrogeologic investigation was conducted to delineate the horizontal and vertical extent of buried debris and define groundwater conditions within the former landfill and provide recommendations for future land use.



Ron DeSantis, Governor



STATE OF FLORIDA

BOARD OF PROFESSIONAL ENGINEERS

THE PROFESSIONAL ENGINEER HEREIN IS LICENSED UNDER THE
PROVISIONS OF CHAPTER 471, FLORIDA STATUTES


JONES, RAYMOND WILLIAM

7210 LAKE DRIVE
SANFORD FL 32771-9284

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EXPIRATION DATE: FEBRUARY 28, 2023

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CURRICULUM VITAE

Shawkat Ali, Ph. D., P.E.
Geotechnical Engineer

BUSINESS RESIDENCE: 4055 St. John's Parkway
Sanford, Florida 34711

EDUCATION: Ph. D. (Civil Engineering)
University of Illinois at Urbana-Champaign; 1992

Master of Engineering (Soil Engineering),
Asian Institute of Technology (AIT), Bangkok: 1975

B. Sc. Engineering (Civil),
Bangladesh University of Engineering & Technology, Dhaka; 1970

REGISTRATION: Professional Engineer, Florida License No. 52568

SOCIETIES: American Society of Civil Engineers-Member
American Society for Testing and Materials-Member

YEARS OF EXPERIENCE: 37

SUMMARY OF CAPABILITIES:

Sinkhole Investigations
Geotechnical Site Characterization
Laboratory Testing of Soil, Rock, Aggregate and Geosynthetic Liners
Shallow and Deep Foundation Design
Soil and Rock Mechanics
Geotechnical Instrumentation
Soil and Rock Slope Stability Analyses
Hydrogeologic Evaluation and Groundwater Monitoring

Dr. Ali has 30 years of experience providing geotechnical engineering, materials testing and consulting services. These services include planning/coordinating subsurface exploration and laboratory testing programs, geotechnical instrumentation, geotechnical engineering analyses and providing recommendations relating to the design and construction of roadways, structures and earthwork projects. In addition to his experience in geotechnical engineering projects in New Jersey and Florida he has overseas experience in Singapore and Saudi Arabia. As Senior Project Engineer for AEI's Sanford office, Dr. Ali is responsible for providing senior geotechnical engineering

and materials testing services, hydrogeologic evaluation and infiltration analyses of aquifers, groundwater monitoring of landfill sites, mentoring staff professionals and business development.

Dr. Ali has extensive experience in the analyses and evaluation of field and laboratory test data, performing in-situ soil testing, shallow and deep foundation studies, and groundwater hydrology. He has evaluated bearing capacity and settlement of various types of shallow and deep foundation systems. He has worked extensively on stability evaluation of gypsum stacks including field and laboratory testing of gypsum, seepage and slope stability analyses. He has provided consultation services in connection with large scale soft ground improvement projects including soil improvement using preloading, sand drains and dynamic compaction. He has installed extensive series of geotechnical instruments (piezometers, inclinometers and settlement gauges) for municipal landfills, gypsum stacks and soil improvement projects.

Dr. Ali has provided geotechnical engineering services in connection with the identification and remediation of sinkhole related damages to many residential structures. He has provided geotechnical engineering consulting services for various government entities including U.S. Army Corps of Engineers, Orange County Public Works, Orange County Public Schools, Osceola County Public Schools and the Florida Department of Transportation. He worked on various projects of Port Canaveral Port Authority and managed the geotechnical study of Southeast Landfill in Hillsborough County.

The following is a description of some of the projects for which Dr. Ali has provided geotechnical engineering services for:

Sinkhole Investigations in Florida:

Carried out geotechnical engineering studies on numerous sinkhole claim projects to determine whether or not sinkhole activity were the cause of the damages. The work involved the inspection of the structures and properties for damages, conducting floor elevation surveys, coordinating ground penetrating radar (GPR) surveys, reviewing published information, planning and supervising subsurface explorations, evaluation of the results of the investigations and preparation of report. Prepared recommendations for foundation stabilization and remediation for properties with confirmed sinkhole activity. Supervised the monitoring of foundation stabilization and remediation activities by the contractors.

Geotechnical Projects:

Tunnels for Super Conducting Super Collider, Waxahachie, TX- The project involved the construction of 25-mile long tunnel for the super collider experiments for subatomic particles. Carried out extensive testing program for evaluation of the strength and swelling characteristics of Taylor Marl and Eagle Ford Shale for the tunnel construction.

Tihama Roadway Project, Saudi Arabia - The project involved construction of roads connecting the coastal cities of Red Sea with towns located on top of 7000 feet high Tihama mountains. Performed laboratory tests and rock mass classification.

Analyzed the stability of rock slopes, designed rockbolts for slope stabilization and designed tunnel linings.

Desalination Project, Jeddah, Saudi Arabia - Performed geotechnical investigation for site characterization using extensive field exploration and laboratory testing. Supervised improvement of loose coastal soils using dynamic compaction and designed shallow and deep foundations for the various structures.

Prai Power Station, Malaysia - Project involved the construction of power house structures over 100 feet thick deposit of soft marine clay. Performed site investigation and designed prestressed concrete precast pile foundation for the heavy structural loads. Interpreted pile load test results.

Changi International Airport, Singapore - Project involved the reclamation of 5 square miles area from the sea for the construction of the new airport, by placing 30 feet of hydraulic fill over 100 feet thick deposit of marine clay. Performed extensive in situ and laboratory testing of the soft clay. Designed soil improvement programs using surcharge loading, sand drains and geodrains. Installed pneumatic and vibrating wire piezometers, inclinometers and settlement probes and monitored the progress of the soil improvement over a period of 3 years.

Pan Island Expressway, Singapore - Planned and supervised the site investigation for the bridges and flyovers for the 20- mile long expressway. Designed steel H pile and steel pipe pile foundation for the structures. Analyzed the settlement and stability of road embankment over very soft clay deposits. Tested aggregate materials and designed pavement cross sections for the expressway.

Landfill Projects:

Seminole Electric Palatka Generating Station – Performed geotechnical site characterization including analyses of strength and consolidation test results for the fly ash landfill expansion project. Performed settlement analyses at individual boring locations and plotted settlement contours for the entire landfill expansion site. Analyzed stability of the proposed fly ash landfill slopes to be built over underlying soft clay layers.

ACMS Landfill, Sumter County – Interpreted the results of the extensive series of SPT borings and CPTU borings. Performed settlement and slope stability analyses of the landfill slopes built over very soft limesilt layers.

CR 33 Class 3 Landfill and CR 466A C&D Landfill, Lake County – Performed geotechnical and hydrogeological analyses for the sites for permit renewals. Preparing quarterly, semi-annual and biennial ground water monitoring reports for the landfill sites as required under FDEP permit conditions.

Southeast Landfill, Hillsborough County -- The project involved the evaluation of the performance of 15 to 20 feet thick very soft phosphatic clay as bottom liner for the

municipal solid waste landfill. The strength and compressibility of the very soft clay was tested by vane shear and piezocone tests in the field and triaxial and consolidation tests in the laboratory. Determined pore pressure dissipation under the refuse load at different depths in the clay using piezoprobe measurements over a period of 4 years and recommended the schedule of refuse lift placement.

Gypsum Stacks, Bartow -- Performed laboratory testing for strength, permeability and secondary compression (creep) characteristics of phosphogypsum from various 100 to 200 feet high stacks. Analyzed the stability of the stacks using Slope/W and UTEXAS4 computer programs. Supervised extensive series of permeability testing of clay liners including geosynthetic clay liners for the bottom of the stacks and conformance and destructive testing of synthetic liners for top covers.

Fresh Kills Landfill, Staten Island, NY - Prepared site characterization report for the 2500-acre landfill built over 20 to 30 feet thick soft marine clay using field and laboratory tests. Analyzed the stability of the slopes and installed extensive series of piezometers, inclinometers and settlement gauges to monitor the stability of the landfill as it was being filled to a height of 350 feet.

Hydrogeological Projects:

Okeechobee Utilities Deep Injection Well – Performed hydrogeological evaluation and analyses of the site for FDEP permitting of the deep injection well for secondary treated waste water at a depth of 3500 feet.

Cocoa Aquifer Recharge Project – Performed hydrogeological evaluation including analyses of pumping test results for the FDEP permitting of aquifer storage and recharge wells for Cocoa water supply authority.

Publications:

Mesri, G. and Ali, S. (1999) "Undrained shear strength of a glacial clay overconsolidated by desiccation", *Geotechnique*, Vol. 49, No. 2, 181-198.

Mesri, G., Feng, T. W., S. Ali and Hayat, T. M. (1994) "Permeability characteristics of soft clays" *Proc. 13th International Conf. on Soil Mechanics and Foundation Engineering*, New Delhi, Vol. 1, 187-192.

Mesri, G. and Ali, S. (1988) Discussion of "Hydraulic fracturing in embankment dams" by J. L. Sherard, *Journal of Geotechnical Engineering*, ASCE, Vol. 114, No.6, 742-746.

Ali, S., Kazi, A. and Alquhtani, M. B. (1985) "Geotechnical aspects of a recent lagoonal Sabkha deposit in Jeddah", *8th Southeast Asian Geotechnical Conference*, Kuala Lumpur, Vol. 1, 1-8.

Client References:

Cypress Property and Casualty Insurance Company

Citizens Property Insurance Corporation



Ron DeSantis, Governor



STATE OF FLORIDA

BOARD OF PROFESSIONAL ENGINEERS

THE PROFESSIONAL ENGINEER HEREIN IS LICENSED UNDER THE
PROVISIONS OF CHAPTER 471, FLORIDA STATUTES

ALI, SHAWKAT

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SANFORD FL 32771

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Robert B. Cornelius, P.E.
Andreyev Engineering, Inc.
Geotechnical Engineer

BUSINESS RESIDENCE: 1170 W. Minneola Avenue
Clermont, Florida 34711

EDUCATION: Bachelor of Science, Civil Engineering
University of Central Florida, Orlando, Florida; 2004

REGISTRATIONS: Professional Engineer, Florida Registration #69864

YEARS OF EXPERIENCE: 20

SUMMARY OF CAPABILITIES:

Sinkhole Investigations
Deep Foundation Engineering
Soil Mechanics
Shallow Foundation Engineering

Quality Control-Quality Assurance
Engineered Materials Testing and Inspection
Geotechnical Instrumentation

Mr. Cornelius has more than 19 years of experience providing environmental engineering, geotechnical engineering, materials testing and consulting services. These services include planning/ coordinating subsurface exploration and laboratory testing programs, geotechnical engineering analyses and providing recommendations relating to the design and construction of roadways, structures and earthwork projects.



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CURRICULUM VITAE

Jeffery E. Eller, P.E.
Senior Geotechnical Engineer

BUSINESS RESIDENCE: 3740 54th Avenue North
St. Petersburg, Florida 33714

EDUCATION: Bachelor of Science, Environmental Engineering
University of Florida, Gainesville, Florida; 1996

REGISTRATIONS: Professional Engineer, Florida Registration #57434

SOCIETIES: American Society of Civil Engineers-Member

YEARS OF EXPERIENCE: 23

SUMMARY OF CAPABILITIES:

Geotechnical and Hydrogeologic Studies
Phase I/Phase II Environmental Assessments
Groundwater/Environmental Monitoring Plans
Consumptive Use Permitting
Drainage and Infiltration Studies
Well Installation and Permitting

Building Inspections for Asbestos Containing Materials
Geotechnical Investigations for Building Foundations, Roadways and Pipeline
Quality Control Inspections and Testing of Construction Materials on All Types of Construction Projects

Mr. Eller has over 21 years of experience and has successfully managed numerous geotechnical and environmental projects throughout the state of Florida. Currently his duties include overall manager and engineer of AEI's St. Petersburg, Florida office.

Andreyev Engineering, Tampa Branch Manager (1998 to Present)

Responsibilities include: Direction and management of the St. Petersburg branch office for AEI, including: coordination of all projects and execution of engineering work for environmental, geotechnical and construction materials testing projects. Mr. Eller is also responsible for all client interaction and execution of projects, marketing and development.

Mevers and Associates, Project Manager (1996 to 1998)

Engineer work included field tech supervision, coordination and report preparation of over 120 geotechnical projects and 170 environmental projects.

The following is a description of projects for which Mr. Eller has provided engineering services for:

Sinkhole Investigations in Florida

Served as project manager on numerous sinkhole claim assignments in Central, North and South Florida. Responsible for inspecting structures and properties for damages and surface features, conducting floor elevation surveys, coordinating geophysical studies, reviewing published data, planning and carrying out subsurface exploration programs, interviewing homeowners, data evaluation/analysis, and report preparation. Prepared recommendations for land and foundation stabilization for properties with confirmed sinkhole activity. Responsible for monitoring stabilization processes conducted by the contractor.

The Villages of Marion, Lake and Sumter Counties

Development and execution of environmental monitoring plans for water use permits and development orders, continuous simulation modeling of lakes and groundwater elements throughout the project area, water balance modeling of proposed lined stormwater ponds and withdrawal wells for irrigation, coordination and reporting of various geotechnical, hydrogeologic and karst investigations throughout The Villages development. Performed for The Villages of Lake Sumter.

Wetlands at Districts 9 and 10, Villages of Sumter, Lady Lake

Completed computer simulations in order to determine hydrologic responses of numerous wetland areas in the post development condition. Project also consisted of the creation of a roughly 450 acre mitigation area at the site of a former dairy farm and sod farm. In order to assist in the design a 10 year simulation was run to establish expected high and low groundwater levels. Performed for The Villages of Lake Sumter.

Sunrise Development, Hernando County, Florida

Performed a site specific karst investigation over the 1,400 acre property for inclusion in the DRI application. Investigations included exploratory borings, preparation of a photolineament studies and groundwater monitoring plan and development of recommendations for suitability and development. Performed for Professional Land Development.

Proposed Goodwill Development, Spring Hill, Hernando County, Florida

Performed a Geotechnical and Sinkhole Investigation for the commercial retail development. Investigation included exploratory borings, ground penetrating radar and preparation of engineering recommendations. Performed for the Sembler Company.

Sunset Sand Mine Landfill, Pasco County

Completed a hydrogeologic study for the proposed landfill as well as developing a groundwater monitoring plan in accordance with FDEP rules. Performed for S2LII.

Land O'Lakes Wastewater Treatment Plant and Pasco Interconnect Reuse Pipeline, Pasco County

Completed geotechnical investigations on both the treatment plant and the pipeline corridor which included foundation design of storage tanks, treatment basins and pipe bedding recommendations. Prepared for King Engineering.

Cannon Ranch, Pasco County

Completed various geotechnical and hydrogeological investigations related to the design of the proposed active adult community. Prepared for Del Webb Corporation.

Publix, Shoppes at Englewood

This project included preparation of a Phase I environmental assessment and also a full geotechnical study. Prepared for Monroe's Prestige Group

Ocala Springs Development, Marion County, Florida

Performed site specific Karst Investigations for the DRI submittals which included 9,000 acres. Investigations included exploratory borings, preparation of a Photolineament Studies and development of recommendations for suitability and development. Performed for DECCA.

Client References:

St. Johns Insurance
Citizens Property Insurance Corporation



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CURRICULUM VITAE

Vivian J. Bielski, P.G.

Senior Geologist

BUSINESS RESIDENCE: 3740 54th Avenue North
St. Petersburg, Florida 33714

EDUCATION: Bachelor of Science, Environmental Science
Ohio University; 1981
Master of Science, Geological Science
Ohio University, 1985

REGISTRATIONS: Professional Geologist, Florida Registration #PG1912

YEARS OF EXPERIENCE: 33

SUMMARY OF CAPABILITIES:

Ms. Bielski has over 30 years of experience and has successfully managed numerous geotechnical and environmental projects throughout the State of Florida. Currently her duties include overall development of Water Use Permits and Consumptive Use Permits, tracking of those permits, design of well testing and well refurbishment projects, and design of aquifer performance and water quality testing programs at AEI's St. Petersburg, Florida office.

The following is a description of projects for which Mrs. Bielski has provided engineering services for:

The Villages of Marion, Lake and Sumter Counties

Development of water use permits, groundwater withdrawal simulation modeling review and water level data analyses, coordination on various geotechnical and hydrogeologic investigations and water supply investigations throughout The Villages development.

Marion County Utilities Consumptive Use Permitting and Water Use Permitting

Development and finalizing the permit applications with the St. Johns River Water Management District staff and the Southwest Florida Water Management District staff.

Cemex Mining Company Water Use Permit application review and coordination

Coordinated with this company and other consultants to finalize the permit applications with the Southwest Florida Water Management District staff, completing geotechnical investigations of water handling procedures, water level analyses, and water use impact analyses.

Dixie Lime and Stone Company Mine Water Use Permit application review and coordination

Coordinated with this company and other consultants to finalize the permit applications with the Southwest Florida Water Management District staff, completing geotechnical investigations of water handling procedures and water level analyses.

City of Groveland Consumptive Use Permit application

Finalizing the permit applications with the St. Johns River Water Management District staff.

Stone Creek development Water Use Permit applications

Development of applications for the golf course irrigation and common area landscape irrigation water use. Development of a groundwater flow model for the golf course for prediction of potential impacts.

Aqua Utilities, Ocala Springs Consumptive Use Permit and Water Use Permit applications

Finalizing the permit applications with the St. Johns River Water Management District staff and the Southwest Florida Water Management District staff. Coordination on the Aquifer Performance Testing and development of a report of the results of the testing. Developed a design for a replacement well based upon water quality testing results.

Hampton Hills A Florida General Partnership Impact Analysis Report

Developed a groundwater flow model for prediction of potential impacts as a result of the withdrawals to be submitted in support of the application for modification of the Water Use Permit.

Center Hill LLC and Shady Brook LLC Water Use Permit modification applications

Development of the applications to modify the two existing Water Use Permits. Development of a groundwater flow model for prediction of potential impacts as a result of the withdrawals.

Ocala Springs Consumptive Use Permit coordination

Development and finalizing the permit applications with the Southwest Florida Water Management District staff.

Dupont de Nemours Consumptive Use Permits coordination

Development and finalizing the permit application with the St. Johns River Water Management District staff.



Ron DeSantis, Governor

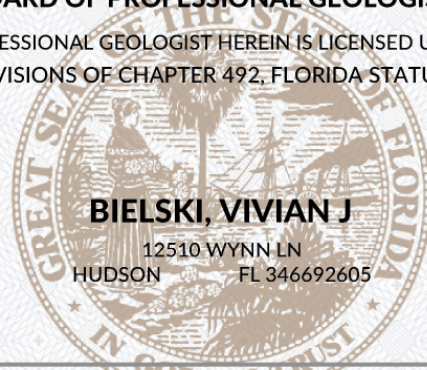
Julie I. Brown, Secretary



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CURRICULUM VITAE

Shawn E. Carswell, P.G.

Geologist/Engineering Technician

BUSINESS RESIDENCE: 4055 St. John's Parkway
Sanford, Florida 34711

EDUCATION: Bachelors of Science in Geology
University of South Florida, 2010

REGISTRATIONS: Professional Geologist, Florida Registration #PG2963
10 hour OSHA certified
40 hour OSHA HAZWOPER certified

YEARS OF EXPERIENCE: 9

SUMMARY OF CAPABILITIES:

Soil and Groundwater Sampling
Geotechnical Field Investigation Activities
Drilling Monitoring for Sinkhole Investigations
Grout Monitoring for Sinkhole Remediation

Mr. Carswell has been trained in providing drilling and grout monitoring services in Pasco, Hernando, and Hillsborough Counties. For drill monitoring, his duties include monitoring all drilling activities conducted by the drilling company, completing well classification logs for each boring, and insuring that the site is left in good condition upon completion of drilling activities. For grouting activities, his activities include daily monitoring all of the grouting activities conducted by the grouting contractor, including recording applicable readings of grouting pressure and grout quantities.



Ron DeSantis, Governor

Halsey Beshears, Secretary



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Ms. Whitaker is president of SMW GeoSciences, Inc., a firm specializing in developing and protecting water resources. Ms. Whitaker is a Florida licensed Professional Geologist and Water Well Contractor with 38 years of groundwater and resource development experience. During the last 33 years she has specialized in regulatory and environmental issues directly relating to use of the Floridan aquifer. In addition to reviewing Consumptive Use Permits (CUPs) when employed by the SJRWMD, Ms. Whitaker has been the agent of record on over seventy CUPs issued by the SJRWMD.

Ms. Whitaker has extensive field and regulatory experience. Ms. Whitaker was the Lead Hydrogeologist, overseeing all water use permitting in Central Florida, for the SJRWMD's Orlando office. She represented the SJRWMD on the Horizon's West Task Force. Sarah was also Groundwater Program, Underground Injection Control Manager for the FDEP, where she was responsible for the review of all domestic and industrial waste discharges to groundwater and permitting of ASR and geothermal wells.

Ms. Whitaker has provided expert testimony on Central Florida hydrogeology, groundwater flow modeling (including the SJRWMD East Central Florida groundwater model), well design installation and construction (Upper and Lower Floridan aquifer wells), aquifer performance testing, water quality monitoring and environmental assessments. For several years she instructed the Florida Section of American Water Works Association's 8-hour class on Florida Geology, Hydrogeology, Well Drilling Methodologies, Pumps and Well Maintenance at Orange County Utilities.

Experience Relevant to this Solicitation

SJRWMD CUP Wetlands Monitoring

Ms. Whitaker has been involved with the establishment and monitoring of wetland sites throughout Lake County since 2006. The map below shows the locations of several of these sites. Surficial aquifer monitoring wells with data logger have been installed to meet the CUP compliance requirements for the following clients:



- City of Leesburg
- City of Eustis
- City of Mount Dora
- City of Minneola
- City of Groveland
- City of Mascotte
- Town of Howey-in-the-Hills
- Niagara Bottling.

Water levels in the wells are recorded daily and semi-annual and annual wetlands monitoring reports are submitted to the SJRWMD.

Profile

EDUCATION:

M.Sc. Geology, Acadia University, Canada, 1987
Colorado School of Mines, Seismic Geophysics, 1980
B.Sc. Geology with Chemistry minor, University of Miami, 1980

FLORIDA REGISTRATIONS:

Licensed Professional Geologist, Florida No. 929
Licensed Water Well Contractor, Florida No. 7330

EMPLOYMENT HISTORY:

2002-Present
SMW GeoSciences, Inc.
President

1999-2002
Andreyev Engineering, Sanford, FL
Senior Hydrogeologist

1998
Dutch Onshore Offshore Recruitment
The Netherlands
Onboard Geophysicist North Sea

1995-1998
St. Johns River Water Management District, Orlando, FL
Lead Supervising Hydrogeologist

1991-1995
Florida Department of Environmental Protection, Orlando, FL
Groundwater/Underground Injection Control Program Manager

1988-1989 & 1990-1991
Jammal & Associates /PSI,
Winter Park, FL
Project Geologist/Senior Hydrogeologist

1989-1990
HSA, Inc., Orlando, Florida
Project Hydrogeologist

1982-1987
McGregor GeoSciences/Geomarine & Associates, Inc.,
Halifax, Nova Scotia,
Seismic Geophysicist /Geophysical Data Interpretation Manager

1980
Western Geophysical, Denver, Colorado
Seismic Profile Analyst

Central Florida Hydrogeological and Well Construction Projects

Ms. Whitaker has permitted, designed and/or provided well construction oversight on more than 75 Floridan aquifer supply wells. A partial list is provided below. All of the Floridan aquifer well projects listed below were associated with CUPs issued by a water management district and required hydrogeologic interpretations to support of issuance of CUP and well construction permits. These projects included the collection of geophysical and video logging data, aquifer performance testing, determination of formation depths and thicknesses, and aquifer parameters for comparison and improvement of regional groundwater models.

- City of Minneola – 1 Upper Floridan and 2 Lower Floridan
- City of Mount Dora – 1 Upper Floridan
- City of Mascotte – 1 Upper Floridan
- Zellwood Water Users – 1 Upper Floridan
- UCF Academic Village II – 2 Upper Floridan
- The Villages - 2 Upper Floridan and 1 Lower Floridan
- City of Leesburg – 4 Upper Floridan and 2 Lower Floridan
- Town of Howey-in-the-Hills – 1 Upper Floridan
- City of Tavares – 2 Upper Floridan
- City of Fruitland Park – 1 Upper Floridan
- City of Groveland – 3 Upper Floridan
- Niagara Bottling – 1 Upper Floridan and 1 Lower Floridan
- City of Ocoee – 1 Lower Floridan
- City of Apopka – 1 Upper Floridan and 2 Lower Floridan
- City of Lake Mary – 3 Upper Floridan
- Palisades County Club – 5 Upper Floridan
- Colina Bay Utilities – 1 Upper Floridan
- The Ryland Group – 2 Upper Floridan
- Gainesville Renewable Energy Center – 3 Upper Floridan
- Polk County Utilities – 1 Upper Floridan
- Kings Ridge, Clermont – 2 Upper Floridan
- Stonecrest – 1 Upper Floridan
- Florida Water Services, Spruce Creek – 3 Upper Floridan
- UCF Academic Village II – 2 Upper Floridan
- Pinellas County - Public Safety Facilities – 4 Upper Floridan
- Pinellas County - Administration Building – 2 Upper Floridan
- Pinellas County - Palm Harbor University High School – 2 Upper Floridan

GROUND WATER MODEL PROFICIENCY & EXPERTISE:

U.S.G.S. MODFLOW model FORTRAN code for development of individual groundwater flow models

SJRWMD's East Central Florida (ECF) Groundwater Flow Model – SJRWMD model covering CFWI

COMMITTEE WORK (current and past):

Florida State Map Committee, USGS and Florida Geological Survey, Instrumental in mapping of Central Florida in 2015

Underground Injection Control Technical Advisory Committee
representative for both the FDEP and SJRWMD

Orange County's Horizons West Recharge Task Force
representative for SJRWMD

Geneva Lens Task Force
representative for FDEP

Wekiva Basin Task Force
advocated on behalf of Lake County, Eustis and Mount Dora

Orange County Soil & Water Conservation District
Associate Supervisor

Volusia Water Authority –
representative for Florida Water Services on Groundwater Modeling Issues and Impacts to Blue Spring

MEMBERSHIPS & AFFILIATIONS:

- American Water Works Association
- Florida Groundwater Association
- Florida Association of Professional Geologists
- National Groundwater Association
- Southeastern Geological Society



DUANE BOOTH, PE
**PROJECT MANAGER/
 HYDROLOGY**



EDUCATION
 BS, Civil Engineering

REGISTRATIONS
 Professional Engineer:
 FL #44631
 FDEP Stormwater Inspector: #7947



BRETT TOBIAS, PE
**PROJECT ENGINEER/
 HYDROLOGY**



EDUCATION
 BS, Civil Engineering

REGISTRATIONS
 Professional Engineer:
 FL #69071

Duane Booth has more than 30 years of experience in drainage, stormwater, roadway engineering, and project management for public and private land development, including utilities, site layout, grading and permitting. He has extensive knowledge of permitting through various agencies including FDEP, SJRWMD and FDOT. His engineering skillset includes: commercial/industrial site planning and design municipal facilities, street and highway design, parks and recreation design, municipal water and wastewater infrastructure master planning and design, urban/rural subdivision planning and design, stormwater design, flood studies, FEMA map revisions, borrow pit and mining design.

REPRESENTATIVE PROJECT EXPERIENCE

Streetscape Phases I-III, Clermont, FL - Halff provided watershed and hydrology modeling services to account for all stormwater within the downtown street scape watershed. This process included data acquisition, basin sizing and hydrologic classification. This information was necessary to determine proper sizing for stormwater improvements that were then designed to accommodate all stormwater within the watershed and connection to the master stormwater system.

Summer Lakes Grace Groves, Mount Dora, FL - The project was to convert an existing sand mine site to accommodate a stormwater master plan within the Innovation District. Halff worked in conjunction with Andreyev Engineering on groundwater modeling to determine year-long water budgeting as well as stormwater attenuation for all government mandated design storms. Halff further provided all permitting services for these changes with the water management district and local government agencies.

Brett Tobias has 15 years of experience in stormwater, roadway, regional parks, flood studies, commercial and residential site design. He has extensive project management experience encompassing preliminary and final design, value engineering, cost estimating, specification writing, bidding and construction management for public and private land development. He is highly experienced in the permitting process through various agencies including FDEP, SJRWMD and FDOT. His engineering skillset includes commercial and industrial sites, large-scale residential and multifamily projects, roadway design, community and regional parks, water and wastewater infrastructure.

REPRESENTATIVE PROJECT EXPERIENCE

Floodplain Hydraulic Model for Talichet with a FEMA LOMR, Howey-in-the-Hills, FL - Talichet is a single-family home development on the outskirts of Howey-in-the-Hills. Halff established 100-year flood elevations and amended flood zone elevations with FEMA. Project included the analysis of 9 individual watersheds, and their interconnections to each other, as well as to Lake Illinois and Lake Harris totaling roughly 700 acres of floodplain analysis.



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