

City of Key West

Professional Surveying Services

RFQ No. 18-002



402 Appelrouth Lane, Unit 2E
Key West, Florida 33040.
305 294 7770
www.aviromsurvey.com
Boca Raton · Key West · Stuart



Original

Cover Letter





AVIROM & ASSOCIATES, INC.
SURVEYING & MAPPING

March 27, 2018

City Clerk
City of Key West
1300 White Street
Key West, Florida 33040

*Re: Response to Request for Qualifications
Professional Surveying Services
RFQ No. 18-002*

Dear Sir/Madam:

Avirom & Associates, Inc. is pleased to submit our response to the City of Key West's Request for Qualifications for Professional Surveying Services.

Michael D. Avirom founded Avirom & Associates, Inc. in 1981. Our company is dedicated solely to the land surveying profession.

Our office is located at 402 Appelrouth Lane, Unit 2E, Key West, Florida 33040.

Our firm has a staff of 42 employees, including 5 registered land surveyors. We have a qualified and experienced team of professionals who have worked together with Monroe County, City of Key West, Village of Islamorada, City of Marathon, City of Coral Springs, City of Pompano Beach, Town of Lauderdale-By-The-Sea, City of Deerfield Beach along with the City of Delray Beach and may other municipalities.

Each member of the Avirom team is experienced in working on municipal projects. This experience includes boundary, platting, topographic, laser scanning and route-of-line surveys to facilitate the design of community improvements. The team is also experienced in construction layout, as-built and preparation of easements.

We are committed to working as a team with the City, offering our excellent level of client service and experience in the land surveying profession.

We thank you for the opportunity to submit our qualifications and we look forward to continuing our relationship with the City of Key West. Your consideration is greatly appreciated.

Respectfully,

A handwritten signature in blue ink that reads "Michael D. Aviom". The signature is fluid and cursive, with a long horizontal stroke at the end.

Michael D. Aviom, P.L.S.
President

/jc

Expertise and Technical Competence



Summary of Expertise and Technical Competence

Boundary/Property Surveys and Analysis, Property Line Staking, Monument Placement

Boundary/Property Surveys commence with research, by obtaining recorded deeds of the subject parcel, together with the deeds of the adjacent parcels and right-of-way maps, if available from the public records of Monroe County. The subject parcel is affected by the sequence of the recorded deeds relative to their respective junior and senior rights of conveyance, with the exception of platted lots which have simultaneous conveyances. Additionally, the full right-of way width must be allocated according to the right-of-way map, with all of the preceding being an integral part of the analysis of the boundary.

Recovery of boundary monuments and the location of existing improvements relative to the monuments are also part of the boundary analysis and only after a careful preponderance of all evidence, with consideration given to the junior and senior rights, can a determination be made as to the proper spatial position to set new monumentation.

We always suggest to our client that a title report be performed on the subject parcel, because all encumbrances that are recorded and affect the property are revealed and we can then delineate on our survey all matters of title that materially affect the lands.

If there are any anomalies discovered on the survey, for example a utility pole not covered by an easement, or a footpath used by the public, we will highlight this item on our survey to notify the client that there may be a possibility of a prescriptive right being established by its use.

All boundary surveys will be certified in accord with the Standards of Practice, Chapter 5J-17, Florida Administrative Code, pursuant to Chapter 472, Florida Statutes.

Topographic, Easement, Roadway and Right-of-Way Surveys

Topographic surveys will be done by establishing accurate horizontal and vertical control stations to the appropriate level of accuracy specific to the project. A terrain grid will be established and once redundant measurements have been made, the existing features and topographic data will be collected with our Leica and Topcon brand total stations and stored in Carlson Survey data collectors.

This data will be processed and analyzed by our CAD technicians using Carlson Survey Software. Once the maps are created, they will be verified through quality assurance and quality control by the project manager and all necessary files will be submitted, including but not limited to, the CAD file with Digital Terrain Models (DTM) and .asc files referencing the XYZ and feature codes of the data collected. The level of detail per each project may vary greatly and our team of professionals will work to meet the exact needs of our clients prior to doing any field work to ensure the best possible finished product.

We research the Monroe County Property Appraiser's database to delineate the current ownership lines within our topographic survey. We graphically delineate right-of-way lines and lot lines from information obtained from recorded plats and/ or right -of-way maps, readily available from the Public Records of Monroe County at the time of the survey. This information will be spatially placed within the digital file of the topographic survey, based on recovered monumentation to depict the lines relative to the topographic locations.



Preparation of Easement or Right-of-Way Exhibits

Whether preparing to establish new or proposed easements or retracing recorded easements, we adhere to a thorough protocol and work with all of the invested parties at the beginning of the work all the way through, from recovering any survey monumentation or existing features, including working with underground utility locating contracts to compiling any available record drawings, we will help to provide any sketches, descriptions, exhibits or staking needed to facilitate necessary easements, for not only temporary function, but perpetuity, as needed.

Construction Layout Survey and Staking

Construction layout services require not only precise attention to detail and the ability to creatively problem solve, but also the work ethic and focus to maintain the highest level of accuracy needed on a construction site. With our availability of over ten (10) field crew, with mobile office capabilities we can service the demanding schedule required for all types of construction projects and we stay ahead of all contractors providing a steady workflow of a project where all goals and deadlines can be met. We use a very strict checklist in the field, overseen by our experienced project managers, to create a chain of diligence which gives confidence to everyone designing and building a site. There isn't anywhere you can go in South Florida without seeing one of the outstanding projects we have had the pleasure of helping to create with our very specific professional service.

Review of Right-of-Way and Easement Documents for Developments

With an in-house staff of five (5) registered professional land surveyors, we have the expertise and knowledge, totaling over 190 years of surveying experience to review right-of-way and easement documents.

As the contracted surveyors for many municipalities we are often tasked with the review of surveys, legal descriptions and plats prepared by other survey firms to ensure that the survey and/or legal description accurately describes and covers the intended parcel or easement, after which we provide the municipality with an affidavit confirming as such.

Legal Descriptions

We work hard to create sketch and description documents that will easily accommodate any submittal package as needed. Upon determining the desired requirements for the sketch and descriptions, we will diligently produce the documents based upon instruments of record pertaining to dedicated lands and/or based upon the existing features on the subject property. A legal description will be created in accord with Florida Statutes accounting for any scrivener's errors or pre-existing legal calls to said property. A clear and legible sketch will accompany the legal description containing graphic depictions as well as labelling dimensions and calls to help easily follow the legal description.



Flood Plain, FEMA, Beach Surveying/Mapping

We have prepared and submitted to FEMA Letter of Map Amendment (LOMA) on several properties on behalf of clients where the Elevation Certificate we prepared contradicts the FEMA Flood Zone Map and after review by FEMA our client's property was successfully removed from a high-risk flood zone.

We are experienced and have the knowledge of the requirements needed for LOMA and LOMR applications and we are not averse to working as a consultant with companies that specialize in LOMA and LOMR applications, by preparing the materials needed for their application.

We have prepared numerous beach surveys and have submitted them to the Florida Department of Environmental Protection (FDEP) for recordation in the repository under Chapter 177, Part II. Some of the surveys we prepared were for beach re-nourishment and others were for development permitting. In all cases our surveys were submitted to the FDEP for approval and were accepted at the first submittal without any revisions required, because of our experience in performing these surveys.

The City of Key West and all of Monroe County in particular are subject to a 50-foot Setback Line from the Mean High Water Line, whereas other Counties along the eastern seaboard of Florida are subject to either the Erosion Control Line (ECL) or Coastal Construction Control Line (CCCL).

GIS/AutoCAD Map and Data Base Creation

We have prepared the Florida state mandatory Local Comprehensive Plan for the City of Lauderdale by the Sea. The comprehensive plan provides the principles, guidelines, standards, and strategies for the orderly and balanced future economic, social, physical, environmental, and fiscal development of the area that reflects community commitments to implement the plan and its elements.

Our submittal included the following maps, together with their linked database which was obtained from Broward County GIS Department, together with the meta data:

- Future Land Use
- Vacation Rentals (Current)
- Vacation Rentals (Pending)
- Vacation Rentals and Short-Term Rentals
- Town Map
- Existing Uses
- Vacant Parcels
- Flexibility Zones Map
- Land Use by Acreage
- Housing Map
- Soli Classifications
- Annexation Map
- Surrounding Land Use
- Traffic LOS



- Water Provider
- Storm Water Atlas and FEMA Flood Zones
- Sewer Provider
- Recreation Facilities
- Hurricane Evacuation Routes & Shelter Locations
- Pedestrian & Bicycle Facilities
- Alcohol Licenses

Underground/ Above Ground Utilities Identification and Mapping

Our firm engages a consultant (see next item) to provide underground utility locating services. The location services provided by our consultant is in accordance with ASCE Standard 38-02, Quality Level “A” and Level “B”.

We coordinate our field crew mobilization with our locating consultant to ensure that both of our crews are there simultaneously to prevent the marks from being lost or misinterpreted as to the utility type or direction of run. The underground marks coupled with our location of visible above ground location of utilities are combined to form a map of the buried lines and their run lengths.

Generally, Level “B” is performed prior to the design phase of the project and after the design and prior to any installation of improvements which requires ground penetration, a Level “A” will be performed by excavation of a test hole or pot holing to confirm that there are no conflicts with underground structures or utilities.

Ground Penetrating Radar

Our consultant InfraMap Corporation perform ASCE Standard 38-02, Quality Level “B” subsurface utility infrastructure mapping. One of the tools used to provide Level “B” locate is Ground Penetrating Radar (GPR) which works by sending pulses of energy into a material and recording the strength and the time required for the return of the reflected signal. Reflections are produced when the energy pulses enter into a material with different electrical properties from the material it left. The strength of the reflection is determined by the contrast in signal speed between the two materials. The total depth achieved can be as much as 8’ or more with this antenna but can vary widely depending on the conductivity of the materials. Depths provided should always be treated as estimates as their accuracy can be affected by multiple factors, such as soil composition and moisture.

Other locating tools used by our consultant are Electromagnetic Pipe Locator, Traceable Rodder and Sonde. These methods transmit either a traceable signal or sound along pipes where a transmitter is connected directly to accessible pipe, risers or tracer wire which can be detected by a receiver. The receiver is moved over the ground surface, without coming in contact with the ground, so it is not affected by the terrain and the line can be marked for location.

InfraMap Corporation has been in business since 1987 and have worked with our firm in the past on many projects requiring subsurface utility infrastructure mapping.



Cut and Fill Calculations

All of our calculations for cut and fill are computed within Carlson Survey 2015 software. After completion of the field topographic survey we utilize the elevation point data to create an existing Triangulated Irregular Network (TIN) and then create a TIN of the design surface with both TIN used for the calculations.

Within the Carlson Survey 2015 software we can perform volume calculations using three methods which are comprised of Two Grid Surface Volumes which calculates the cut and fill volumes between two surfaces modeled by grid; Calculate Sections Volume which calculates the cut and fill volumes by average end area and Two Triangulation Surface Volumes which is a volume method that compares two triangulation networks and is the most accurate choice of the two because it uses true TIN to TIN prismatic volumes.

We utilize all three methods for our calculations and compare the results to verify the calculation of the cut and fill report. If the results are substantially similar it is accepted and we submit the report to the client. If the results vary significantly, we recalculate the cut and fill volumes by creating a denser grid, which resolves the difference in calculations.

As-Built/ Record Drawing Survey and Preparation

Our firm has countless hours of experience with handling all phases of construction including record or as-built drawings. We pride ourselves in working with our engineering contractors to create clear and legible, as well as highly useful annotations to plan drawings showing the horizontal as well as vertical location of newly installed infrastructure.

We are known for having a strongly professional and efficient relationship with our clients in providing not only crews on site to measure the newly built items, but to process, overlay, analyze and create the record drawings in a clearly communicated and timely manner. We fully understand the importance of task and work flow schedules on construction projects and maintain a stellar record of helping maintain the flow, meeting all the priorities of all involved.

Aerial Photography

We will team with GPI Geospatial, Inc. (formerly American Cartographic Association) to provide aerial photogrammetric and mapping services. We have teamed with GPI in the past on other projects.

GPI Geospatial, Inc provides a wide range of surveying and mapping solutions to governmental, utility and private customers across the US. GPI understands the value of geospatial data and is committed to providing innovative solutions using the latest technologies and methods to deliver the highest quality products in the industry.

GPI utilize the latest equipment and software including digital aerial cameras, mobile and aerial LiDAR sensors, static LiDAR scanners, and the most up-to-date ground surveying solutions.

Services include: Aerial Imagery Acquisition; Aerial and Mobile LiDAR Acquisition; Planimetric Mapping; Topographic Mapping; High Accuracy Mapping (DOT); Digital Orthophoto Production; Asset Inventory; Utility Mapping (PLS-CADD); GPS Surveys; GIS Analysis; UAS/Drone Mapping and Volumetric Mapping.



Title Searches

We obtain deeds and recorded plats from the Public Records of Monroe County, and are limited to the availability of the records that are accessible on line. If a more in depth search is required which will produce all recorded encumbrances and historical deeds relative to the subject property, we request a proposal from a minimum of three (3) title companies or title attorneys that we have utilized in the past and contract with the most responsive and cost effective one.

Specific Purpose Survey

Our team of surveyors has a diversified background with decades of experience in every aspect of land survey and mapping. We are highly skilled in providing the broadest array of specific purpose surveys and handle all of them with the same high level of pride and professionalism to provide the highest quality product. We will work closely with all involved to provide the exact survey needed, no matter the scale of the scope of service.

Horizontal and Vertical Geodetic Control Stations

Horizontal control stations will be established in the desired areas in stable locations and then observed using Trimble GPS devices to provide State Plane Coordinates on the stations. To do so, static GPS surveys will be performed and referenced to First Order National Geodetic Survey Control Stations or other commonly or agreed upon control stations. Redundant measurements and observations will be collected and the data will be post-processed using Trimble Business Center Software.

Vertical control stations will be established in the desired areas in stable locations, then observed through a closed differential level loop up to a 2nd order level of accuracy referenced to and from existing benchmarks as previously determined to be appropriate for the control survey. Once the data is collected, it will be balanced and processed, then finally a map will be provided depicting accurate locations of the newly established control stations with accompanying description of how to reach the stations.

Terrestrial LiDAR Scanning

Our company is one of the companies on the forefront of using 3D scanning technology or terrestrial lidar to create the most detailed survey data models. After the precise horizontal and vertical control is established, we use either our Leica T20 scanners or Leica T30 scanner to collect millions of XYZ data points which we process into a "point cloud" using Cyclone Software. This point cloud is then used to create not only commonly used CAD files, but we have the ability to create a virtual 3D "fly through" of the site, as well as publish a 3D site for engineering subcontractors to use later on. These products are highly useful when the need arises for more information than previously thought by the client or engineer because we have the ability to virtually extract the information without all the cost and logistical coordination of re-mobilizing a crew back to the site.



Right-of-Way Survey

Based upon O & E Reports, as well as any and all instruments of record provided to us pertaining to the right-of-way in question, we will recover physical evidence in the field, including existing monumentation. That evidence will be analyzed and compared to the instruments by our technicians and Project Managers and an accurate drawing will be created depicting the right-of-way with sufficient references to the O & E Report and/or other instruments provided.

Any discrepancies observed by our team between the existing right-of-way and the recorded information will be cross-referenced on the submittal to provide a clear understanding of the right-of-way in question.

Canal and Embankments Cross Sections and Profiles

Canal and levee cross sections and profiles will be obtained at the necessary stationing per the specific project. Data will be thoroughly collected using any of the watercraft or all-terrain vehicles which we operate and then the data will be shown on to-scale maps. The maps will relate the details of the existing canals and levees relative to the adjacent existing features. All data will be referenced to the appropriate control stations. Sufficient on-site reference stations will be established to facilitate any future construction and record drawing needs.



Equipment

Leica P20 Scan Station and P30 Scan Station

Avirom & Associates, Inc. introduces the Leica Scan Stations P20 and the P30 as the company's latest technological addition to the world of surveying. The Leica P20 and P30 are known for being the industry's best performing ultra-high-speed laser scanner. Advantages of a laser scanner are the cost effectiveness of less field time, portability, endless amounts of information gathered in the field, accuracy and, above all, safety. The P20 and the P30 can safely be operated remotely by a smartphone or tablet in busy roadway conditions or restricted areas.

The Leica P20 and P30 can gather one million points of information per second. Not only does it gather a vast amount of information in one setup, it also takes an auto-adjusting high-resolution picture of the surveyed area to incorporate into the gathered information. 3D point accuracy is 0.0009 of an inch at 164 feet, with a maximum range of 394 feet.



The P20 and P30 can also be used for forensics and public safety. The scanners can gather the information needed at the scene of any accident or onsite activities, leaving the area undisturbed. Civil/survey use is another aspect of the P20 and P30. Laser scanning eliminates the need for site re-visits while gathering accurate information for topographic surveys, as-built and title surveys. Archaeological/historical sites are also ideal jobs for the P20 and P30 because the scans capture the object within a particular epoch in time and can be modeled in 3D for exact design replication.

Detailed geometry can be obtained for restoration or excavation without disturbing any site. As-built information of power plants, water treatment plants and any other structures, onshore or offshore, requiring detail with less disruption is achievable.

Travelled roadways with a high traffic density is an ideal situation for the use of the scanners because we can obtain dense 3D point data without the risk of having our personnel work within an unsafe and dangerous environment.

We have performed numerous topographic surveys within electrical switchyards of power plants from outside of the chain-link fence, eliminating the need for our client to provide the personnel of a safety escort.

Deliverable products can range from 2D plans, 3D models, fly-through videos and TIN files for elevation and volume calculations. The Leica Scan Station P20 provides a cost-effective alternative of gathering information accurately no matter what terrain or condition.



Total Station with Carlson Software

Our field crews use a total station, an electronic/optical instrument, for surveying and building construction. A total station is an electronic theodolite (transit) integrated with an electronic distance meter (EDM) to read slope distances from the instrument to a particular point. The accuracy and versatility of a Total Station can increase efficiency and accuracy simultaneously.

Avirom & Associates uses Carlson Software, as it offers the latest in technology and innovation. Utilizing this software from data collection, to design and drafting, to estimating, through stakeout, to machine control, we are able to avoid rework and data conversions, allowing our firm to provide the best product in less time.



Global Positioning System (GPS)



Survey field crew staff are trained in the utilization of Global Positioning System (GPS), electronic data collection and robotics. We employ the latest in surveying technology, including Trimble dual frequency receivers linked by cellular service to a network of base stations throughout Florida. This affords us the ability to utilize our receivers in Real Time Kinematic (RTK) mode throughout the State of Florida.

Our firm currently has twelve (12) GPS units which includes two (2) base stations, enabling each of our survey crews the technology to perform their duties in the most efficient manner.

National Society of Professional Surveyors Certified Survey Technician

Avirom & Associates uses the National Society of Professional Surveyors Certified Survey Technician (CST) Program to promote non-professional technical employees within the firm.

The CST Program is a nationally recognized comprehensive program which certifies technicians whom have demonstrated their competency to understand and perform the full spectrum of survey tasks, as well as ensuring and perpetuating the ethics of the survey profession.

The CST program has been a valuable method of determining and maintaining the highest level of trained and qualified non-professional surveyors employed at our firm.

Avirom's certified technicians made up 11% of the participants State-wide during the latest CST examination cycle.



Professional Qualifications





Michael D. Avirom

Professional Land Surveyor / LS3268 / Florida
Principal

Years with Avirom & Associates: 37

Total Years of Experience: 45

Education

1973 / Bachelor of Business Administration

1976 / Associates in Science / Land Surveying

1971 / Associate in Arts

Professional Experience

Michael D. Avirom established Avirom & Associates, Inc. in 1981. Mr. Avirom graduated with a Business Administration Degree from Florida Atlantic University in 1973. He worked for a large surveying firm for a number of years and became a Florida Registered Land Surveyor in 1979. Michael launched his own company in 1981. His surveying expertise in boundary, aerial control, topography, bathymetric and construction layout distinguishes him as a respected professional in the industry. His business acumen has created the successful firm that Avirom & Associates is today. Michael is a member of the Florida Society of Professional Land Surveyors and National Society of Professional Land Surveyors.

Professional Projects

Marathon Airport - specific purpose survey of the location of the Precision Path Indicator (PAPI) lights at both ends of the runway

Overseas Highway - boundary, topographic and tree survey; hydrographic survey

Big Pine Key Overlook (Swimming Hole) - boundary, mean high water line survey, topographic survey and wetland delineation survey

O Duval Street – topographic and bathymetric survey

Monroe County Training Facility – boundary and topographic survey to support design of new facilities

Key West International Airport – topographic surveys

Boynton Beach CRA - topographic and boundary survey

Marathon Adult Education Center – boundary survey; mean high water line survey; topographic survey

City of Delray Beach - boundary surveys; topographic surveys; sketch and legal descriptions; construction services such as layouts and staking

Rowell's Marina – boundary survey with location of Safe Upland according to Florida Department of Environmental Protection (FDEP) requirements

Historic Depot Square - boundary, topographic and tree survey; plat preparation and processing

Boca Raton Downtown Promenade - topographic and tree survey; surveying services for all phases of construction

Card Sound Road – LIDAR as-built specifications with canal depths; build right-of-way

Naval Air Station, Key West – boundary survey; topographic survey per NAVFAC survey requirements

Town of Palm Beach Underground Project – route-of-line survey

Stock Island Landfill, Key West – topographic/monitor well survey ;aerial topographic survey with color raster image; establish ground controls to support aerial mapping





Keith M. Chee-A-Tow

Professional Land Surveyor / LS5328 / Florida

Years with Avirom & Associates: 29

Total Years of Experience: 44

Education

1974 / Bachelors, University of South Florida

Professional Experience

Keith Chee-A-Tow has over 44 years of land surveying experience. Mr. Chee-A-Tow is experienced in boundary, topographic, hydrographic and GPS surveys, jurisdictional wetlands, aerial mapping and expert witness testimony.

Professional Projects

Overseas Highway - boundary, topographic and tree survey; hydrographic survey

Big Pine Key Overlook (Swimming Hole) - boundary, mean high water line survey, topographic survey and wetland delineation survey

Monroe County Animal Shelter – boundary survey; sketch and graphic depiction of metes and bounds legal description

Marathon Airport - specific purpose survey of the location of the Precision Path Indicator (PAPI) lights at both ends of the runway

Rowell's Marina, Key Largo – boundary survey with location of Safe Upland according to the Florida Department of Environmental Protection (FDEP) requirements

Rockland Key – 3D laser scanning; boundary, mean high water line, topographic and wetland survey

Mandalay, Key Largo – 3D laser scanning; boundary, topographic and mean high water line survey

Key West International Airport – topographic survey of Feraldo Circle, commercial apron, departure hall/restroom area (utilizing 3D scanner); detailed topographic survey of proposed EMAS system Runway 9; boundary survey; establish ground control on 13 ID points and 5 check points

Truman Annex – establish Riparian Rights Line; upland topographic survey and bathymetric survey

Rest Beach – boundary survey; topographic survey; DEP permit survey in accord with Rule 62B-33.0081

O Duval Street – topographic and bathymetric survey

Monroe County Training Facility – boundary and topographic survey to support design of new facilities

Card Sound Road – LIDAR as-built specifications with canal depths; build right-of-way

Naval Air Station, Key West – boundary survey; topographic survey per NAVFAC survey requirements

Stock Island Landfill, Key West – topographic/monitor well survey ;aerial topographic survey with color raster image; establish ground controls to support aerial mapping

Bahama Village, Key West – topographic route-of-line survey throughout Bahama Village from Duval Street southerly to Front Street, including the Truman Annex, to support rehabilitation and new construction of sidewalks

Islamorada, Village of Islands – performed hydrographic surveys – Tavernier Creek; Snake Creek; Whale Harbor Channel; Tea Table Key Channel; Shell Key Channel; Indian Key Channel; Lignum Vitae Channel and Niles Channel

Avirom & Associates, Inc.

Keith S. Brien



Senior Survey CAD Technician

Years with Avirom & Associates: 4

Total Years of Experience: 20

Education

1999 / U.S. Army Engineering School / Technical Engineer

Professional Experience

Keith Brien has 20 years of survey experience including crew chief, survey technician, instrument man and AutoCAD draftsman. He is responsible for design surveys, topographic surveys, boundary surveys and 3D laser scanning. He performs layout calculations, writing of legal descriptions, preparing job packages for survey field crews, and creating exhibits for specific purpose projects. Mr. Brien is responsible for 3D laser scan projects from start to finish, from scanning in the field to processing and drafting of project based on client's needs.

Professional Projects

Key West International Airport – topographic survey of Feraldo Circle, commercial apron, departure hall/restroom area (utilizing 3D scanner); detailed topographic survey of proposed EMAS system Runway 9; boundary survey; establish ground control on 13 ID points and 5 check points

Marathon Airport – topographic survey of Rick Turner Airport access road; topographic and tree survey to support design of proposed car wash; topographic survey to support design of FDOT drainage pond; topographic survey for design of 11 hangars; specific purpose survey

Delray Beach Master Plan (A1A south of Casurina Road to north end of the public beach) – topographic survey; beach dune transects

Rest Beach – boundary, topographic and mean high water survey to FDEP permit requirements; map coastal vegetation

AutoNation Ford, Delray Beach – boundary survey; topographic and tree survey; plat preparation and processing; sketch and descriptions

Big Pine Key Overlook (Swimming Hole) - boundary, mean high water line survey, topographic survey and wetland delineation survey

Key West International Airport - boundary survey; numerous topographic surveys; locate and tie-in runway end points to Primary Airport Control Points

Las Olas Riverwalk - base mapping; topographic data; locate above ground improvements and underground utilities

402 Appelrouth Lane, Unit 2E, Key West, Florida 33040





Gloria Clavijo

CADD Technician

Years with Avirom & Associates: 1

Total Years of Experience: 22

Professional Experience

Gloria Clavijo has over 22 years of survey experience. She is responsible for design surveys, topographic surveys, boundary surveys, bathymetric surveys and sketch and descriptions.

Professional Projects

Key West Aquarium – bathymetric survey; upland topographic survey

Sheraton Key West Hotel – boundary survey; topographic survey; tree survey; FEMA elevation certificates

Key West Diesel Substation – boundary survey; topographic survey; sketch and description

Marathon Airport – topographic survey of Rick Turner Airport access road; topographic and tree survey to support design of proposed car wash; topographic survey to support design of FDOT drainage pond; topographic survey for design of 11 hangars; specific purpose survey

Florida Power & Light Company/Miami Substation – topographic survey

Florida Power & Light Company/West County Energy Center – construction staking based on engineering design drawings

Florida Power & Light Company/Osteen-Sanford Substation – sketch showing proposed structures with dimensions relative to existing improvements and right-of-way

Florida Power & Light Company/Martin Solar Energy Center – topographic survey of tank farm (23 acres)

Florida Power & Light Company/Coconut Grove-Galloway – boundary, topographic and tree surveys; sketch and description of expanded substation and underground feeder line

Florida Power & Light Company/Uleta Substation: boundary, topographic and tree survey

Hialeah Hospital - topographic survey with underground locates



Russel Dame

Field Crew Chief

Years with Avirom & Associates: 27

Total Years of Experience: 34

Professional Experience

Russel Dame has 32 years of surveying experience as a Field Crew Chief. Russel has been with Avirom for 24 years and is an integral part of the firm's field crew staff. He is engaged in making plane and/or geodetic surveys for construction, topographic, right-of-way and control survey projects; participates in pre-survey planning meetings with project managers and contractor representatives; assigns and monitors work and provides input for evaluation of members of field survey crew; instructed and trains crew in survey and mapping methods, use of equipment and field safety procedures. As Field Crew Chief, he gathers field survey data through use of conventional and Global Positioning System (GPS) methods; sets up, adjusts and operates surveying equipment, including electronic total station, data collector and GPs equipment, in order to measure distances, elevations and angles; prepares field notes and drawings; and performs field surveying for roadway, bridges, and flood control projects; including installing surveying construction stakes; tying out existing intersection ties, and locating or establishing vertical and horizontal control, right of way, monuments, corners, boundaries and property lines; provides survey information for Geographic Information System (GIS); and prepare finished grade sheets, topographic maps, records of survey, corner records and other survey reports.

Professional Projects

Coral Springs Public Safety Complex – boundary and topographic survey for architect and engineer's design of police headquarters and fire substation renovation

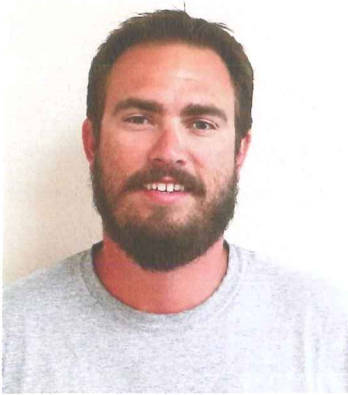
Key West International Airport – topographic survey of Feraldo Circle, commercial apron, departure hall/restroom area (utilizing 3D scanner); detailed topographic survey of proposed EMAS system Runway 9; boundary survey; establish ground control on 13 ID points and 5 check points

Key West High School – boundary re-tracement; topographic route survey; sketch and description

Marathon Airport – topographic survey of Rick Turner Airport access road; topographic and tree survey to support design of proposed car wash; topographic survey to support design of FDOT drainage pond; topographic survey for design of 11 hangars; specific purpose survey

Marathon Adult Education Center – boundary, topographic and mean high water line survey;

Rest Beach – boundary, topographic and mean high water survey to FDEP permit requirements; map coastal vegetation



John Sturgeon

Field Crew Chief

Years with Avirom & Associates: 3

Total Years of Experience: 3

Professional Experience

John Sturgeon began his surveying career with our firm as an instrument person and is now one of our firm's Field Crew Chief's. He is responsible for design surveys, topographic surveys, boundary surveys, control surveys and condominium documents.

Professional Projects

Key West International Airport – topographic survey of Feraldo Circle, commercial apron, departure hall/restroom area (utilizing 3D scanner); detailed topographic survey of proposed EMAS system Runway 9; boundary survey; establish ground control on 13 ID points and 5 check points

Key West Aquarium – bathymetric survey; upland topographic survey

Sheraton Key West Hotel – boundary survey; topographic survey; tree survey; FEMA elevation certificates

Key West Diesel Substation – boundary survey; topographic survey; sketch and description

Marathon Airport – topographic survey of Rick Turner Airport access road; topographic and tree survey to support design of proposed car wash; topographic survey to support design of FDOT drainage pond; topographic survey for design of 11 hangars; specific purpose survey

Truman Annex – Riparian Rights Line; topographic survey; bathymetric survey; footer location; tree survey

Okeechobee Clean Energy Center – miscellaneous land surveying services

Great Whale Cay – ALTA/NSPS land title survey with boundary

Card Sound Road, Key Largo – specific purpose survey

Florida Power & Light Company/Levee-Midway – stake structures with offsets; stake mitigation area

Florida Power & Light Company/Turkey Point-Levee – boundary/topographic survey





Jimmy Friddle

Field Crew Chief

Years with Avirom & Associates: 20

Total Years of Experience: 42

Professional Experience

Jimmy Friddle has 42 years of survey experience as a field crew chief. He is responsible for design surveys, topographic surveys, boundary surveys, control surveys and condominium documents.

Professional Projects

City of Delray Beach, Fire Station #2 – boundary, topographic and tree survey

AutoNation Ford, Delray Beach – boundary survey; topographic and tree survey; plat preparation and processing; sketch and descriptions

Shuckers - Boundary, mean high water line and coastal construction control line survey

Big Pine Key Overlook (Swimming Hole) - boundary, mean high water line survey, topographic survey and wetland delineation survey

Sugar Cane Bailing Facility - topographic survey; boundary survey; legal description

Rockland Key - 3D laser scanning; boundary, MHWL, topographic and wetland survey

Mandalay, Key Largo - 3D laser scanning; boundary, topographic and MHWL surveys

Office Depot - boundary, topographic and tree survey; miscellaneous layout

North Juno Water System Distribution Improvements - Route-of-line survey

Sawgrass Building A and Building B - ALTA/NSPS survey

Key West International Airport - boundary survey; numerous topographic surveys; locate and tie-in runway end points to Primary Airport Control Points

Lynn University - overall boundary, topographic and tree survey; survey support for construction

Pompano Beach Streetscapes - construction layout and record drawings for improvements along 3,800 linear feet of streetscape

Las Olas Riverwalk - base mapping; topographic data; locate above ground improvements and underground utilities

SW 6th, 7th, 8th and 9th Avenues, Delray Beach - Boundary and topographic survey; underground locates; plat preparation; plat processing

Sabal Ridge Apartments - boundary, erosion control line, coastal construction control line and DEP permit survey; 3D interior garage survey; scanning services

North Broward Preparatory School – overall boundary survey along with detailed topographic and tree survey; survey support for construction layout of buildings and infrastructure

Boca Raton Museum of Art – surveying services for the building and infrastructure needed for the planning and design of the museum; as-built surveys and final survey

Experience in Key West and Monroe County



Experience

Our firm's land surveying experience in Monroe County began in 1981 when the firm was established. This long-term presence affords Avirom the knowledge and expertise necessary to fulfill this contract. We established our Key West office in 2009 to better facilitate our clients' needs in the Monroe County area.

We provided surveying services for the U.S. Coast Guard Station in Key West. This project involved the preparation of a detailed topographic survey for engineering design and construction of new facilities. Avirom established on-site benchmarks and utilized GPS technology to establish horizontal control positions. Our firm acquired precise horizontal and vertical locations of all above ground facilities including buildings, pavement, walks, utilities and docking facilities. This project has become current again and we will be utilizing our terrestrial LiDAR scanners to obtain 3D models of the current facilities.

Avirom worked with Florida Keys Aqueduct Authority (FKAA) on a project in Lower Sugarloaf, Upper Sugarloaf, Cudjoe, Summerland, Ramrod, Little Torch, Big Pine and No Name Keys. The project involved the mapping of more than 16 miles of the Florida Keys for the engineering design of new sewer and water systems. Our services included aerial and conventional topographic mapping; establishing NGVD benchmarks; GPS controls; utility locations and inverts. We researched and recovered right-of-way and property control monuments. Additionally, we calculated plats and right-of-ways for development of the base map.

Additional work performed for the FKAA consisted of bathymetric survey including near shore topographic survey of the bridge spans at Tavernier Creek, Snake Creek, Whale Harbor, Tea Table Relief Channel, Tea Table Channel, Indian Creek Channel and Lignum Vitae Channel.

We provided services on the Richard A. Heyman Wastewater Treatment Plant project for the City of Key West. The scope of work included design and permitting to produce secondary quality effluent at a rate of 10 million gallons per day (MGD) of this 3-acre site. Avirom's responsibilities included recovering/setting monumentation; establishing NGVD 1929 benchmarks; topographic survey for engineering design; location of all above ground improvements and obtaining recorded plats and right-of-way maps.

Additional projects performed for the City of Key West indirectly as a sub-consultant for engineering firms directly contracted with the City of Key West include, but are not limited to:

1. Rest Beach: Performed a boundary survey, topographic survey, bathymetric survey, tree survey and Florida Department of Environmental Protection Permit Survey based on the Survey Requirements according to Rule 62B-33.0081, Florida Administrative Code to support the design of a new seawall.



2. Half Shell Raw Bar and Turtle Kraal: Performed a topographic survey, limited bathymetric survey and detailed location of the seawall to support the design of a new seawall.
3. Ferry Terminal, Schooner Wharf to Conch Republic: Performed a topographic survey, limited bathymetric survey, location of utilities and detailed location of the seawall to support the application for a Letter of Map Revision (LOMR) with FEMA. We utilized our terrestrial LiDAR scanner to obtain the topographic data because of the high volume of visitor traffic along this corridor and to preserve the historical data within the epoch of the survey.
4. Key West Aquarium: Performed a topographic survey, bathymetric survey, location of utilities and detailed location of the seawall to support the design of a new seawall to replace the current seawall damaged by hurricane Irma. We utilized our terrestrial LiDAR scanner to obtain the topographic data because of the high volume of visitor traffic along the perimeter of the aquarium.
5. Stock Island Landfill: Performed aerial mapping services, ground control survey and detailed topographic survey of approximately 36 acres located on Stock Island, Monroe County.

Avirom & Associates, Inc., performed surveying services for the Key Largo Wastewater Treatment District on Key Largo Basins E and F. The project consisted of approximately 74,300 linear feet of right-of-way corridors where new sewer lines were to be designed and built. Avirom established baseline of survey and NGVD 1929 benchmarks; compiled platted subdivisions into database; located all above ground improvements and trees within limits of right-of-way and obtained cross section elevations. Avirom prepared a certified survey and computer files for engineering design.

Our firm worked on the Sigsbee Force Main for the City of Key West. The project involved proposed re-routing of an existing sanitary sewer gravity main which encompassed a five-block segment. Avirom prepared a topographic survey for areas of proposed improvements, with locations of all existing infrastructure with the depicted survey limits, including above and below ground utilities.

Avirom & Associates, Inc. provided surveying services to Monroe County on projects at Marathon Airport (MTH), Watson Boulevard Bridge and the animal shelter in Key Largo.

The work at the airport consisted of establishing horizontal coordinates, relative to the North American Datum of 1983 (NAD 83) and vertical elevations, relative to the North American Vertical Datum of 1988 (NAVD 88) at the thresholds of Runway 7 and Runway 25 and the lens face of the two sets of the Precision Approach Path Indicator (PAPI) lights at both ends of the runways for location requirements according to the Federal Aviation Authority (FAA) specifications.

Additional work at the Marathon Airport included establishing ground controls and check points to support Aerial Photogrammetry in accord with the Federal Aviation Authority (FAA) Advisory Circular AC 150/5300-17B.



A topographic survey with underground location of utilities at the Marathon Airport was performed to support the design of the Florida Department of Transportation (FDOT) drainage pond study.

The work at Watson Boulevard Bridge consisted of performing a topographic route-of-line survey to support the restoration of the existing bridge along Watson Boulevard, a County road, with drawings submitted and reviewed by District 6 of the Florida Department of Transportation.

The work at the animal shelter was to create sketch and descriptions for the acquisition of excess lands from the Florida Department of Transportation (District 6) with submittals to the Department.

Additional work for Monroe County consist of:

1. Key West International Airport: Topographic Survey of the paved runway to support the design of the runway expansion in accord with the FAA Advisory Circular 150/5300-18 B. Pavement shots were taken on a 25-foot grid with natural ground shots taken on a 50-foot grid. The work was performed during the hours of 11:00pm to 6:00am to mitigate interruptions of the airport operations.
2. Key West International Airport: Establish ground controls and check points to support Aerial Photogrammetry in accord with the Federal Aviation Authority (FAA) Advisory Circular AC 150/5300-17B. The project area included all of Key West and Stock Island. Additional work included survey of the runway end points, determining the runway true azimuth, runway touchdown zone elevations and location of on-airport navigational aids.
3. Key West International Airport: Performed a boundary survey, certified in accord with Chapter 472, Florida Statutes of six parcels that comprise the Key West International property. An Exhibit 'A' Property Inventory Map was prepared in accord with the requirements of the "Standard Operating Procedure (SOP) for FAA Review of Exhibit 'A' Airport Property Inventory Maps".
4. East Upper Martello Tower: Performed a topographic survey, tree survey and underground location of utilities of the East Upper Martello Tower site located at 3501 South Roosevelt Boulevard, Key West. We obtained sufficient elevations to define the existing topography in detail, and to generate 1' contours, including significant grade changes in elevations. We utilized our terrestrial LiDAR scanner to obtain the topographic data to preserve the historical data within the epoch of the survey, so in future if the need arises we can create a point cloud of the fort for design purposes.
5. Rowells Marina: Performed a topographic survey, tree survey and establishment of the Safe Upland Line in accord with the procedure as approved by the Florida Department of Environmental Protection to support the design of a proposed public park.



6. Big Pine Key Swimming Hole: Performed a boundary, mean high water line survey, topographic survey and wetland delineation survey to support the design of a scenic overlook. The survey was completed in accord with the Florida Department of Transportation (FDOT) survey requirements, being funded through a Local Agency Program (LAP). The mean high water line survey was submitted to the Florida Department of Environmental Protection Agency (FDEP) for approval and for recording in the public repository. We utilized our Leica P20 Scan Station to obtain the topographic data along Overseas Highway because of the enhanced safety factor by eliminating having our personnel work within the heavy traffic traversing the roadway.



Ability to Perform Services



Location of Office and Professional Personnel

Avirom & Associates has a demonstrated ability to meet time and budget constraints on projects. Due to the linear nature of the Florida Keys, it is very difficult to service the various municipalities from a single office. Historically, we have made arrangements with various accommodations. This methodology has proven successful with past projects within the Florida Keys.

Our survey crews will arrive in Key West the night before, if necessary, to commence the survey. All CADD work will be performed in our Boca Raton office.

Responsible Office:

Avirom & Associates, Inc.
402 Appelrouth Lane, Unit 2E
Key West, Florida 33040
(305) 294-7770

Personnel Based Part Time in Key West Office:

Keith M. Chee-A-Tow, P.L.S.

Personnel Based in Key West Per Project

Survey Field Crew
Russel Dame
Jimmy Friddle
John Sturgeon

Boca Raton / Corporate Office:

Avirom & Associates, Inc.
50 SW 2nd Avenue, Suite 102
Boca Raton, Florida 33432
(561) 392-2594

Personnel Based in Boca Raton Office:

CADD Technicians
Keith Brien
Gloria Clavijo

Branch Office:

Avirom & Associates, Inc.
2506 SE Willoughby Boulevard
Stuart, Florida 34994
(772) 781-6266



Internal Peer Review Procedures



Quality Assurance/Quality Control and Project Management

Avirom & Associates, Inc. utilizes our firm's quality assurance, quality control and project management policy from the inception of a project to ensure the project is carried through to completion in the most efficient and timely manner.

Our firm's quality assurance, quality control and project management approach is as follows:

A detailed statement of the scope of work and required services from our client is our first step. Along with the scope, we define the standards for the project to enable us to determine the surveying and mapping criteria. Any unique requirements of the client for the project are taken into consideration together with the drafting standards to be used and the format for the final deliverables. Therefore, a coordination conference between the City and Avirom to discuss layering methods and file format for delivery is highly suggested. It is always our goal that our final survey documentation fits seamlessly into the systems of the City and it's subconsultants.

Next we determine our fees based upon the scope of work. Realistic schedules are set at the start of the project and every effort is made to meet agreed upon timeframes. Progress reports are routinely issued on an agreed upon schedule and, depending on the size of the project, phased progress deliverables can be arranged. These reports track timeframe and costs for the project and assist in the planning and scheduling for the remainder of the project. The hours, direct and indirect costs are tracked by our accounting software.

Once the scope is established, timeframes are set and a notice to proceed is received, we take the following steps to ensure the quality of the project:

- ⌘ Project Surveyor will coordinate with City staff to develop a project scope of services to meet the needs of the City
- ⌘ Develop survey plan for implementation of project scope
- ⌘ Research for plats, right-of-ways, controls, prior surveys, benchmarks, etc.
- ⌘ Tailgate meeting with survey crew to discuss parameters of the project and safety procedures
- ⌘ Determine the technology necessary for the project and establish equipment to be used in the field
- ⌘ Mobilize field crew(s)
- ⌘ Ongoing review of project standards, criteria and checklist
- ⌘ Daily review of field notes for inaccuracies, including checks to ensure that the scope of work and standards are met
- ⌘ Ongoing communication between project manager and field crew on a daily basis with special emphasis on the transmittal of data, quality control, safety, cost and schedule adherence
- ⌘ Process survey field data and prepare final drawings
- ⌘ Field review by project manager for quality assurance and to ensure that the work meets Florida State Statutes and Minimum Technical Standards
- ⌘ Deliverables to client



Our project staffing approach is defined by team assignments. When assigning each team, we specifically consider team members individually, their experience and project completion history. We then deploy the most suitable team for that project. By utilizing this team approach method, we are capable of producing high quality products within the allotted time period and always within budget.

Avirom & Associates, Inc. utilizes a chronological numbering system for in-house project organization. When a project is received and authorized, the next number is issued and the project is then recorded in a system based upon legal description. The legal descriptions are further broken down by county. The project, if applicable, is also cross-referenced by common name. When additional work is to be performed on a completed project, a dashed number is added to the original number, (i.e. 6000, 6000-1, 6000-2 etc.) as the project scope is changed or updated.

Avirom & Associates, Inc. conducts a monthly safety meeting with our field survey crews and quarterly safety meetings with office staff. Avirom & Associates, Inc. is a drug free workplace.

Throughout every stage of the project, quality checks are utilized. Field notes and data files are submitted at the end of each work day to the project surveyor. All our crews are equipped with mobile office capabilities. The field notes are then checked immediately, or early the next morning, by a survey technician whose responsibility includes drafting the work in AutoCAD and reporting any issues immediately to the project surveyor so corrective measures can be taken.

After the drafting has been completed by the survey technician and a due diligence review by the project surveyor, the crew returns to the field with a copy of the survey to perform a field check to ensure that there are no omissions or errors with the product.

A final due diligence check is made by the project surveyor prior to signing, sealing and delivery to the client.

Avirom & Associates, Inc.'s quality assurance/quality control and project management policy has proven a solid tool in ensuring a high quality product in a timely fashion.

As a standard of practice, we apply a minimum of one hour supervision to eight hours of field crew work and one hour supervision to eight hours of drafting production. Therefore, 25% of a project surveyor's time would apply to supervision of field and office work based upon a full day's production in both aspects of land surveying. The balance of a supervisor's time typically is spent in client communication, communication with client's consultants, project research, calculations and review of legal documents including land descriptions, easements and other types of encumbrances on the property. This supervision varies with the type of work being performed. Resolving conflicting boundary control evidence would take longer to review and supervise than possibly a topographic survey. Any construction related stake out is immediately reviewed prior to releasing the construction stakes to the contractor for his use. We have found this review and checking of notes and procedures helps to eliminate the liability of construction related activities.



Examples of Surveying Projects



Tavernier Creek, Monroe County

Owner:
Monroe County

Client:
Eckler Engineering, Inc.
4700 Riverside Drive
Coral Springs FL 33067
(954) 510-4700
Evan Kennedy

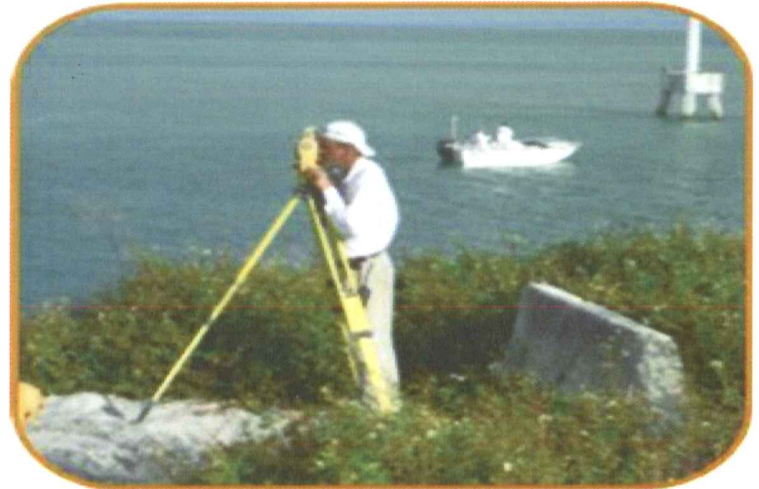
Malcolm Pirnie
2410 Paces Ferry Road
Atlanta, GA 30339
(770) 431-8666
W. Wynne Grubbs

Location:
Tavernier Creek

Staff Assigned:
Michael D. Avirom
Keith Chee-A-Tow
Russel Dame

Avirom & Associates, Inc. performed a bathymetric survey of channels at 7 bridges (Tavernier Creek, Snake Creek, Whale Harbor, Tea Table Relief Channel, Tea Table Channel, Indian Creek Channel and Lignum Vitae Channel), including uplands at both shorelines, with a bandwidth of 200 feet beyond the bridge spans to support the design of subaqueous crossing of force mains.

Avirom also performed a topographic survey; verified work performed by the photogrammetrist; obtained additional topographic cross section information in obscured areas hidden from the photography; obtained information on overhead wires and established an elevation at the underground locates.



Avirom & Associates, Inc. obtained all recorded plats and right-of-way maps to graphically depict the platted boundary lines within the digital files and recovered sufficient monumentation in the field to spatially place the plats within the digital file. Avirom established permanent benchmarks at a minimum of 100 feet to facilitate the construction phase of the project. Additional controls were referenced and based on the ground control survey (by others) which were

established to support the aerial survey work.



Lower Sugarloaf, Upper Sugarloaf, Cudjoe, Summerland, Ramrod, Little Torch, Big Pine and No Name Keys, Monroe County, Florida

Owner:

Monroe County

Client:

Florida Keys Aqueduct Authority
1100 Kennedy Drive
Key West, FL 33040
(305) 295-2142
Donald Hubbs

Location:

Lower Keys
Monroe County, Florida

Staff Assigned:

Keith Chee-A-Tow
Russel Dame
Jimmy Fridde



Avirom & Associates, Inc. performed aerial topographic mapping with rectified color raster image underlay, conventional topographic survey, utility locates and established benchmarks for construction. Sufficient boundary monumentation was recovered and located with GPS to spatially define the right-of-ways and platted lot lines within the digital AutoCAD file. The topographic route-of-line survey was comprised of both public right-of-ways and private roadways throughout each island, including the Overseas Highway (U.S. 1). To meet the specified timeframe of the project, a total of four field crews were mobilized and worked simultaneously utilizing both conventional survey methods and GPS methodology, with each crew equipped with mobile office technology.



The data generated by each crew was transmitted to the office staff for processing with daily updates to the end product.

Our crews were equipped with four Trimble R8 GNSS receivers, utilized as rovers, with a fifth used as a base station.



Bahama Village, Key West

Owner:
City of Key West

Client:
Kimley-Horn and Assocs.
1221 Brickell Avenue
Suite 400
Miami, FL 33131
(305) 673-2025
Juan E. Jimenez

Location:
Key West
Monroe County, Florida

Staff Assigned:
Keith Chee-A-Tow
Jimmy Friddle

Bahama Village is a neighborhood in the City of Key West, Monroe County. It is located southwest of downtown, in Old Town.



Bahama Village covers over a 16 block area that lies southwest of Whitehead Street and northeast of Truman Annex, bordered by Whitehead, Southard, Fort and Louisa Streets. It is named for its many original residents who were of Bahamian ancestry.

The entrance to the village on Petronia Street has an open air flea market, shops and restaurants, and has recently become a small tourist attraction.



Avirom & Associates, Inc. performed topographic route-of-line survey throughout Bahama Village from Duval Street southerly to Front Street, including the Truman Annex to support the rehabilitation and new construction of sidewalks. Elevations were based on NGVD 1929, with benchmarks established at every intersection and mid-point of blocks. Sufficient boundary evidence was recovered to spatially place the right-of-way and platted lot lines within the digital AutoCAD file.



Controversial Key West chickens



Watson Boulevard Bridge

Owner:
Monroe County

Client:
CH2M Hill
225 E. Robinson Street
Orlando, FL 32801
(904) 527-5908
Randy Mock

Location:
Watson Boulevard
Big Pine Key
Monroe County, Florida

Staff Assigned:
Michael D. Avirom
Keith Chee-A-Tow
Russel Dame



This bridge is located along Watson Boulevard, a County roadway on Big Pine Key servicing No Name Key, crossing an unnamed canal.

Avirom & Associates, Inc. performed a topographic route-of-line survey to support the design for the restoration of the existing bridge, with drawings submitted and reviewed by District 6 of the Florida Department of Transportation.



U.S. Coast Guard Station Key West

Owner:

United States
Coast Guard

Client:

The Haskell Company
111 Riverside Avenue
Jacksonville, FL 32202
(904) 791-4757
Jonathan W. Peters

Location:

Key West
Monroe County, Florida

Staff Assigned:

Michael D. Avirom
Keith Chee-A-Tow

The United States Coast Guard Sector at Trumbo Point in Key West is a major base in the US Coast Guard 7th District.

The site is located adjacent to an active US Navy Installation (US Navy Annex, Key West, Florida). Access to the site is controlled by the Navy with all rules and regulations for working on the site enforced by the Navy.



Avirom & Associates, Inc. prepared a detailed topographic survey for engineering design and construction of new support facilities to accommodate the home porting of eight new Fast Response Cutters (FRC) due to arrive in June 2012. Services included the establishment of on-site benchmarks referenced to the National Geodetic Vertical Datum of 1929 (NGVD 29) by three-wire closed loop differential leveling referenced to published National Geodetic Survey benchmarks. Utilizing GPS technology, we established horizontal control positions referenced to the North American Datum of 1983, adjustment of 1990 (NAD 83-90). After the establishment of the control stations, we employed total station with data collector to obtain precise horizontal and vertical locations of all above ground facilities including buildings, pavement, walks, utilities and docking facilities with the location of the underground utilities by Ground Penetrating Radar (GPR).



Our crews were vetted following the procedure for the "Rapid Gate" security clearance which allows them unescorted access throughout the site.



City Forms Addendum





THE CITY OF KEY WEST

Post Office Box 1409 Key West, FL 33041-1409 (305) 809-3883

ADDENDUM NO. 1

PROFESSIONAL SURVEYING SERVICES / RFQ # 18-002

March 20, 2018

This addendum is issued as supplemental information to the RFQ for clarification of certain matters of both a general and a technical nature. The referenced Request for Qualifications (RFQ) package is hereby amended in accordance with the following items:

1. *If we have any sub-consultants listed on our Team for this RFQ, are they required to completed any of the required Forms & Affidavits?* NO
2. *Can you please confirm if it is acceptable to have a title company as a sub-consultant/support to complete Title Searches.* YES
3. *Is proof of insurance required to be included in the submittal?* NO, however, if firm cannot meet insurance requirements stated in the RFQ, proposed limits must be provided with Qualification submittal.
4. *Should tabs/dividers be used, will they be counted towards the page count?* NO
5. *Are licenses and certifications included in the page count?* NO

All Bidders shall acknowledge receipt and acceptance of this Addendum No. 1 by submitting the addendum with their proposal. Proposals submitted without acknowledgement or without this Addendum may be considered non-responsive.

Avirom & Associates, Inc.

Signature

Name of Business

ANTI-KICKBACK AFFIDAVIT

STATE OF FLORIDA)
 : SS
COUNTY OF MONROE)

I, the undersigned hereby duly sworn, depose and say that no portion of the sum herein bid will be paid to any employees of the City of Key West as a commission, kickback, reward or gift, directly or indirectly by me or any member of my firm or by an officer of the corporation.

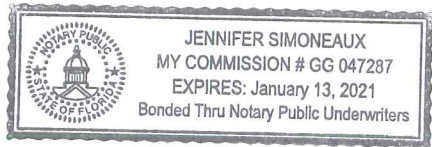
By: *Michael O'Connell*

Sworn and subscribed before me this

22 day of March, 2018.

Jennifer Simoneaux
NOTARY PUBLIC, State of Florida at Large

My Commission Expires: _____



**SWORN STATEMENT UNDER SECTION 287.133(3)(a)
FLORIDA STATUTES ON PUBLIC ENTITY CRIMES**

THIS FORM MUST BE SIGNED IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICE AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement is submitted with Bid, Bid or Contract No. 18-002 for _____

2. This sworn statement is submitted by Avirom & Associates, Inc.
(Name of entity submitting sworn statement)
whose business address is 402 Applerouth Lane, Suite 2E, Key West, FL 33040
_____ and (if applicable) its Federal
Employer Identification Number (FEIN) is 59-2101822 (If the entity has no FEIN,
include the Social Security Number of the individual signing this sworn statement.)

3. My name is Michael D. Avirom and my relationship to
(Please print name of individual signing)
the entity named above is President.

4. I understand that a "public entity crime" as defined in Paragraph 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including but not limited to, any Bid or contract for goods or services to be provided to any public entity or an agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, material misrepresentation.

5. I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

6. I understand that an "affiliate" as defined in Paragraph 287.133(1)(a), Florida Statutes, means
 1. A predecessor or successor of a person convicted of a public entity crime: or
 2. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

7. I understand that a "person" as defined in Paragraph 287.133(1)(8), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which Bids or applies to Bid on contracts for the provision of goods or services

let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.

8. Based on information and belief, the statement, which I have marked below, is true in relation to the entity submitting this sworn statement. (Please indicate which statement applies.)


Neither the entity submitting this sworn statement, nor any officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, nor any affiliate of the entity have been charged with and convicted of a public entity crime subsequent to July 1, 1989.

The entity submitting this sworn statement, or one or more of the officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989, AND (Please indicate which additional statement applies.)

There has been a proceeding concerning the conviction before a hearing of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer did not place the person or affiliate on the convicted vendor list. (Please attach a copy of the final order.)

The person or affiliate was placed on the convicted vendor list. There has been a subsequent proceeding before a hearing officer of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer determined that it was in the public interest to remove the person or affiliate from the convicted vendor list. (Please attach a copy of the final order.)

The person or affiliate has not been put on the convicted vendor list. (Please describe any action taken by or pending with the Department of General Services.)



(Signature)

Michael D. Aviom

STATE OF FLORIDA (Date)

COUNTY OF MONROE

PERSONALLY APPEARED BEFORE ME, the undersigned authority,


Michael D. Aviom

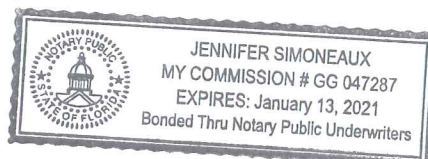
(Name of individual signing)

who, after first being sworn by me, affixed his/her signature in the

space provided above on this 22 day of March, 2018.

My commission expires:
NOTARY PUBLIC






EQUAL BENEFITS FOR DOMESTIC PARTNERS AFFIDAVIT

STATE OF FLORIDA)
: SS
COUNTY OF MONROE)

I, the undersigned hereby duly sworn, depose and say that the firm of Avirom & Associates, Inc. provides benefits to domestic partners of its employees on the same basis as it provides benefits to employees' spouses per City of Key West Ordinance Sec. 2-799.

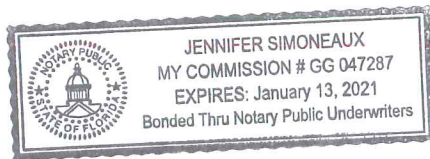
By: 

Sworn and subscribed before me this

22 day of March, 2018.


NOTARY PUBLIC, State of Florida at Large

My Commission Expires: _____



INDEMNIFICATION

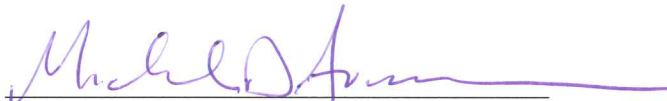
To the fullest extent permitted by law, the CONSULTANT expressly agrees to indemnify and hold harmless the City of Key West, their officers, directors, agents, and employees (herein called the "indemnitees") from liabilities, damages, losses and costs, including, but not limited to, reasonable attorney's fees and court costs, such legal expenses to include costs incurred in establishing the indemnification and other rights agreed to in this Paragraph, to persons or property, to the extent caused by the negligence, recklessness, or intentional wrongful misconduct of the CONSULTANT, its Sub-consultants or persons employed or utilized by them in the performance of the Contract. Claims by indemnitees for indemnification shall be limited to the amount of CONSULTANT's insurance or \$1 million per occurrence, whichever is greater. The parties acknowledge that the amount of the indemnity required hereunder bears a reasonable commercial relationship to the Contract and it is part of the project specifications or the bid documents, if any.

The indemnification obligations under the Contract shall not be restricted in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the CONSULTANT under workers' compensation acts, disability benefits acts, or other employee benefits acts, and shall extend to and include any actions brought by or in the name of any employee of the CONSULTANT or of any third party to whom CONSULTANT may subcontract a part or all the Work. This indemnification shall continue beyond the date of completion of the work.

CONTRACTOR: Avirom & Associates, Inc.

SEAL:

402 Applerouth Lane, Suite 2E, Key West, FL 33040
Address


Signature

Michael D. Avirom
Print Name

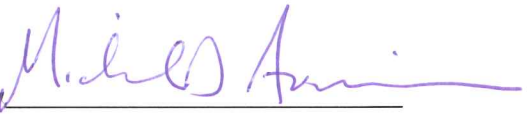
President
Title

March 22, 2018
Date

NON-COLLUSION AFFIDAVIT

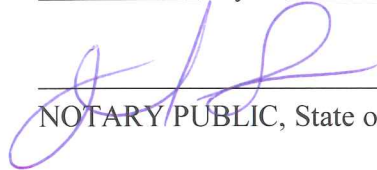
STATE OF FLORIDA)
 : SS
COUNTY OF MONROE)

I, the undersigned hereby declares that the only persons or parties interested in this Request for Qualifications are those named herein, that this Request for Qualifications is, in all respects, fair and without fraud, that it is made without collusion with any official of the Owner, and that the Request for Qualifications is made without any connection or collusion with any person submitting another Request for Qualifications on this Contract.

By: 

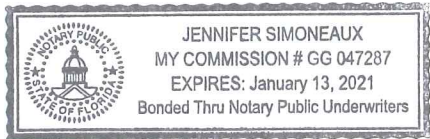
Sworn and subscribed before me this

22 day of March, 2018.



NOTARY PUBLIC, State of Florida at Large

My Commission Expires: _____



CONE OF SILENCE AFFIDAVIT

STATE OF FLORIDA)
: SS
COUNTY OF MONROE)

I the undersigned hereby duly sworn depose and say that all owner(s), partners, officers, directors, employees and agents representing the firm of Avirom & Associates, Inc. have read and understand the limitations and procedures regarding communications concerning City of Key West issued competitive solicitations pursuant to City of Key West Ordinance Section 2-773 Cone of Silence (attached).

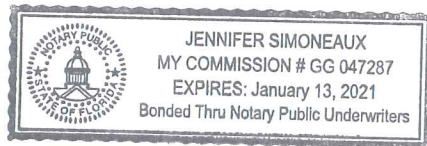
Michael A. Amin
(signature)
March 22, 2018
(date)

Sworn and subscribed before me this

22 Day of March, 2018.

J. Simoneaux
NOTARY PUBLIC, State of Florida at Large

My Commission Expires: _____



State of Florida Professional Licenses





Florida Department of Agriculture and Consumer Services
 Division of Consumer Services
 Board of Professional Surveyors and Mappers
 2005 Apalachee Pkwy Tallahassee, Florida 32399-6500

License No.: **LB3300**
 Expiration Date February 28, 2019

Professional Surveyor and Mapper Business License
 Under the provisions of Chapter 472, Florida Statutes

AVIROM & ASSOCIATES INC
 50 SW 2ND AVE #102
 BOCA RATON, FL 33432-4799

ADAM H. PUTNAM
 COMMISSIONER OF AGRICULTURE

This is to certify that the professional surveyor and mapper whose name and address are shown above is licensed as required by Chapter 472, Florida Statutes.



Florida Department of Agriculture and Consumer Services
 Division of Consumer Services
 Board of Professional Surveyors and Mappers
 2005 Apalachee Pkwy Tallahassee, Florida 32399-6500

License No.: **LS3268**
 Expiration Date February 28, 2019

Professional Surveyor and Mapper License
 Under the provisions of Chapter 472, Florida Statutes

MICHAEL DAVID AVIROM
 50 SW 2ND AVENUE
 BOCA RATON, FL 33432

ADAM H. PUTNAM
 COMMISSIONER OF AGRICULTURE

This is to certify that the professional surveyor and mapper whose name and address are shown above is licensed as required by Chapter 472, Florida Statutes.





Florida Department of Agriculture and Consumer Services
Division of Consumer Services
Board of Professional Surveyors and Mappers
2005 Apalachee Pkway Tallahassee, Florida 32399-6500

License No.: **LS5328**
Expiration Date February 28, 2019

Professional Surveyor and Mapper License
Under the provisions of Chapter 472, Florida Statutes

KEITH M CHEE-A-TOW
1355 EAST LANCEWOOD PLACE
DELRAY BEACH, FL 33445

A handwritten signature in black ink, appearing to read "Adam H. Putnam".

ADAM H. PUTNAM
COMMISSIONER OF AGRICULTURE

This is to certify that the professional surveyor and mapper whose name and address are shown above is licensed as required by Chapter 472, Florida Statutes.



State of Florida

Department of State

I certify from the records of this office that AVIROM & ASSOCIATES, INC. is a corporation organized under the laws of the State of Florida, filed on July 1, 1981.

The document number of this corporation is 693023.

I further certify that said corporation has paid all fees due this office through December 31, 2018, that its most recent annual report/uniform business report was filed on January 15, 2018, and that its status is active.

I further certify that said corporation has not filed Articles of Dissolution.

*Given under my hand and the
Great Seal of the State of Florida
at Tallahassee, the Capital, this
the Fifteenth day of January, 2018*



Ken Detjmer
Secretary of State

Tracking Number: CC1910052493

To authenticate this certificate, visit the following site, enter this number, and then follow the instructions displayed.

<https://services.sunbiz.org/Filings/CertificateOfStatus/CertificateAuthentication>

2018 FLORIDA PROFIT CORPORATION ANNUAL REPORT

DOCUMENT# 693023

Entity Name: AVIROM & ASSOCIATES, INC.

Current Principal Place of Business:

50 SW 2ND AVENUE
SUITE 102
BOCA RATON, FL 33432

Current Mailing Address:

50 SW 2ND AVENUE
SUITE 102
BOCA RATON, FL 33432

FEI Number: 59-2101822

Certificate of Status Desired: Yes

Name and Address of Current Registered Agent:

AVIROM, MICHAEL D
581 GOLDEN HARBOUR DR
BOCA RATON, FL 33432 US

The above named entity submits this statement for the purpose of changing its registered office or registered agent, or both, in the State of Florida.

SIGNATURE:

Electronic Signature of Registered Agent

Date

Officer/Director Detail :

Title	DPS	Title	T
Name	AVIROM, MICHAEL D	Name	AVIROM, MICHAEL D
Address	581 GOLDEN HARBOUR DR	Address	581 GOLDEN HARBOUR DR
City-State-Zip:	BOCA RATON FL 33432	City-State-Zip:	BOCA RATON FL 33432

I hereby certify that the information indicated on this report or supplemental report is true and accurate and that my electronic signature shall have the same legal effect as if made under oath; that I am an officer or director of the corporation or the receiver or trustee empowered to execute this report as required by Chapter 607, Florida Statutes; and that my name appears above, or on an attachment with all other like empowered.

SIGNATURE: MICHAEL D AVIROM

PRESIDENT

01/15/2018

Electronic Signature of Signing Officer/Director Detail

Date