



# FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest District Office  
13051 North Telecom Parkway  
Temple Terrace, Florida 33637-0926

RICK SCOTT  
GOVERNOR

HERSCHEL T. VINYARD JR.  
SECRETARY

## Notification of Acceptance of Use of a General Permit

**Permittee:**

Manatee County Utility Operations Dept.  
Mike Gore, Director, Utilities Operations  
4410 66<sup>th</sup> Street West  
Bradenton, FL 34210  
[mike.gore@mymanatee.org](mailto:mike.gore@mymanatee.org)

**Permit Number:** 0133068-1050-DSGP/02

**Issue Date:** October 24, 2013

**Expiration Date:** October 23, 2018

**County:** Manatee

**Project Name:** Anna Maria Waterlines –  
Key Royale Interconnect

**Water Supplier:** Lake Manatee WTP

**PWS ID:** 641-1132

Dear Mr. Gore:

On October 22, 2013, the Florida Department of Environmental Protection received a “*Notice of Intent to Use the General Permit for Construction of Water Main Extensions for PWSs*” [DEP Form No. 62-555.900(7)], under the provisions of Rule 62-4.530 and Chapter 62-555, Florida Administrative Code (F.A.C.). The proposed project includes construction of an eight-inch water main to connect mains at South Bay Blvd. and Key Royale Dr. to eliminate dead ends.

Based upon the submitted Notice and accompanying documentation, this correspondence is being sent to advise that the Department does not object to the use of such general permit at this time. Please be advised that the permittee is required to abide by Rule 62-555.405, F.A.C., all applicable rules in Chapters 62-4, 62-550, 62-555, F.A.C., and the General Conditions for All General Drinking Water Permits (found in 62-4.540, F.A.C.).

The permittee shall comply with all sampling requirements specific to this project. These requirements are attached for review and implementation.

Pursuant to Rule 62-555.345, F.A.C., the permittee shall submit a certification of construction completion [DEP Form No. 62-555.900(9)] to the Department and obtain approval, or clearance, from the Department before placing any water main extension constructed under this general permit into operation for any purpose other than disinfection or testing for leaks.

Within 30 days after the sale or legal transfer of ownership of the permitted project that has not been cleared for service in total by the Department, both the permittee and the proposed permittee shall sign and submit an application for transfer of the permit using Form 62-555.900(8), F.A.C., with the appropriate fee. The permitted construction is not authorized past the 30-day period unless the permit has been transferred.

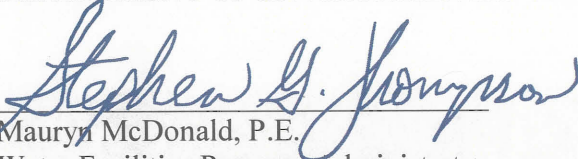
Permittee:  
Manatee County Utility Operations Dept.  
Project: Anna Maria Waterlines – Key Royale Interconnect

DEP File No.: 0133068-1050-DSGP/02

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This permit will expire five years from the date of issuance. If the project has been started and not completed by that time, a new permit must be obtained before the expiration date in order to continue work on the project, per Rule 62-4.030, F.A.C.

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

  
Maury McDonald, P.E.  
Water Facilities Program Administrator

Enclosures: A. General Permit Conditions  
B. Clearance Requirements/Utilities Separation Requirements

cc: James Stockwell, P.E., Manatee County Public Works Dept., [jim.stockwell@mymanatee.org](mailto:jim.stockwell@mymanatee.org)  
Sia Mollanazar, P.E., Manatee County Public Works Dept., [sia.mollanazar@mymanatee.org](mailto:sia.mollanazar@mymanatee.org)  
Andy Fischer, Manatee County Public Works Dept., [Andy.Fischer@mymanatee.org](mailto:Andy.Fischer@mymanatee.org)

## **A. General Permit Conditions**

The permittee shall be aware of and operate under the Permit Conditions below. These applicable conditions are binding upon the permittee and enforceable pursuant to Chapter 403, Florida Statutes. [F.A.C. Rule 62-555.533(1)]

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in this permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be

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required by law and at reasonable times (reasonable time may depend on the nature of the concern being investigated), access to the premises where the permitted activity is located or conducted to:

- a. Have access to and copy any records that must be kept under conditions of the permit;
  - b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
  - c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.
8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
- a. A description of and cause of noncompliance; and
  - b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.
9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 62-302.500, shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard.
11. This permit is transferable only upon Department approval in accordance with Rule 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
12. This permit or a copy thereof shall be kept at the work site of the permitted activity.
13. This permit also constitutes:



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- a. Determination of Best Available Control Technology (BACT)
  - b. Determination of Prevention of Significant Deterioration (PSD)
  - c. Certification of compliance with State Water Quality Standards (Section 401, PL 92-500)
  - d. Compliance with New Source Performance Standards
14. The permittee shall comply with the following:
- a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
  - b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
  - c. Records of monitoring information shall include:
    - i. the date, exact place, and time of sampling or measurements;
    - ii. the person responsible for performing the sampling or measurements;
    - iii. the dates analyses were performed;
    - iv. the person responsible for performing the analyses;
    - v. the analytical techniques or methods used;
    - vi. the results of such analyses.
15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

## **B. CLEARANCE REQUIREMENTS**

Requirements for clearance upon completion of projects are as follows:

### **1) Clearance Form**

Submission of a fully completed Department of Environmental Protection (DEP) Form 62-555.900(9) *Certification of Construction Completion and Request for Clearance to Place Permitted PWS Components into Operation*.

### **2) Record Drawings, If Deviations Were Made**

Submission of the portion of record drawings showing deviations from the DEP construction permit, including preliminary design report or drawings and specifications, if there are any deviations from said permit (Note that it is necessary to submit a copy of only the portion of record drawings showing deviations and not a complete set of record drawings.).

### **3) Bacteriological Results**

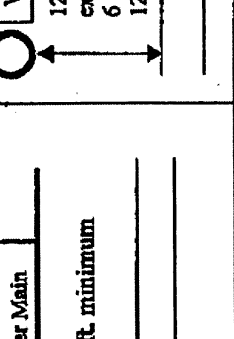
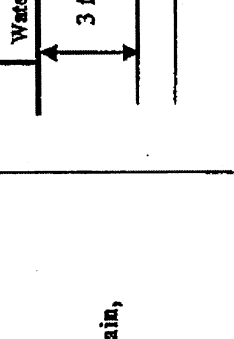
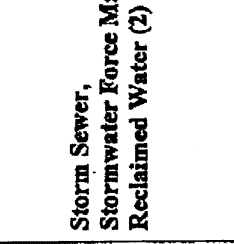
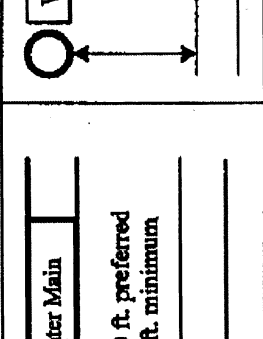
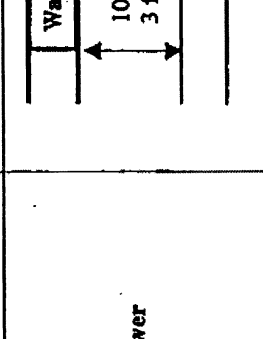
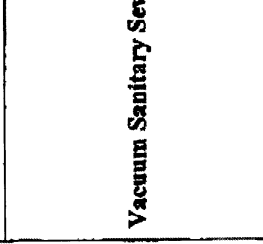
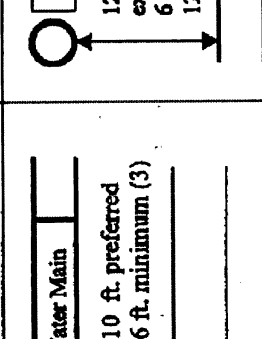
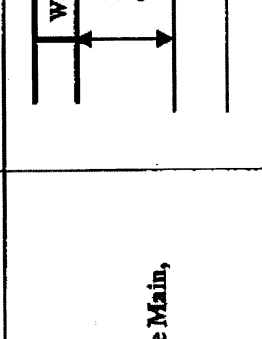
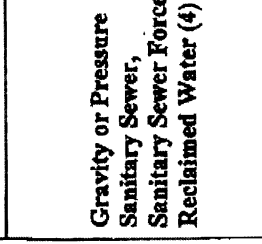
Copies of satisfactory bacteriological analysis (a.k.a. Main Clearance), taken within sixty (60) days of completion of construction, from locations within the distribution system or water main extension to be cleared, in accordance with Rules 62-555.315(6), 62-555.340, and 62-555.330, F.A.C. and American Water Works Association (AWWA) Standard C 651-92, as follows:

- *The endpoint of the proposed addition;*
- *Any water lines branching off a main extension;*
- *Every 1,200 feet of water main;*
- *Each location shall be sampled on two separate days (at least 6 hours apart) with sample point locations and chlorine residual readings clearly indicated on the report and/or drawings.*
- *Bacteriological sample results will be considered unacceptable if the tests were completed more than 60 days before the Department receives the results.*

### **4) Pressure Test Results**

Copy of satisfactory pressure test results demonstrating compliance with AWWA Standard requirements.

LOCATION OF PUBLIC WATER SYSTEMS MAINS IN ACCORDANCE WITH F.A.C. RULE 62-555.314

Other Pipe	Horizontal Separation	Crossings (1)	Joint Spacing @ Crossings (Full Joint Centered)
Storm Sewer, Stormwater Force Main, Reclaimed Water (2)	 <p>Water Main 3 ft. minimum</p>	 <p>Water Main 12 inches is the minimum, except for storm sewer, then 6 inches is the minimum and 12 inches is preferred</p>	 <p>Alternate 3 ft. minimum</p>
Vacuum Sanitary Sewer	 <p>Water Main 10 ft. preferred 3 ft. minimum</p>	 <p>Water Main 12 inches preferred 6 inches minimum</p>	 <p>Alternate 3 ft. minimum</p>
Gravity or Pressure Sanitary Sewer, Sanitary Sewer Force Main, Reclaimed Water (4)	 <p>Water Main 10 ft. preferred 6 ft. minimum (3)</p>	 <p>Water Main 12 inches is the minimum, except for gravity sewer, then 6 inches is the minimum and 12 inches is preferred</p>	 <p>Alternate 6 ft. minimum</p>
On-Site Sewage Treatment & Disposal System	10 ft. minimum	---	---

(1) Water main should cross above other pipe. When water main must be below other pipe, the minimum separation is 12 inches.  
 (2) Reclaimed water regulated under Part III of Chapter 62-610, F.A.C.  
 (3) 3 ft. for gravity sanitary sewer where the bottom of the water main is laid at least 6 inches above the top of the gravity sanitary sewer.  
 (4) Reclaimed water not regulated under Part III of Chapter 62-610, F.A.C.

Disclaimer - This document is provided for your convenience only. Please refer to F.A.C. Rule 62-555.314 for additional construction requirements.

August 9, 2012  
file No: 12-7234

**SUBSURFACE SOIL EXPLORATION,  
ANALYSIS AND RECOMMENDATIONS  
FOR PROPOSED  
"WATERMAIN INTERCONNECT PROJECT,"  
KEY ROYALE DRIVE TO SOUTH BAY BOULEVARD,  
ANNA MARIA,  
MANATEE COUNTY, FLORIDA**



**Ardaman & Associates, Inc.**

**OFFICES**

**FLORIDA**

**Orlando**, 8008 S. Orange Avenue, Orlando, Florida 32809, Phone (407) 855-3860  
**Bartow**, 1525 Centennial Drive, Bartow, Florida 33830, Phone (863) 533-0858  
**Cocoa**, 1300 N. Cocoa Boulevard, Cocoa, Florida 32922, Phone (321) 632-2503  
**Fort Myers**, 9970 Bavaria Road, Fort Myers, Florida 33913, Phone (239) 768-6600  
**Miami**, 2608 W. 84<sup>th</sup> Street, Hialeah, Florida, 33016, Phone (305) 825-2683  
**Port St. Lucie**, 460 NW Concourse Place, Unit #1, Port St. Lucie, Florida 34986-2248, Phone (772) 878-0072  
**Sarasota**, 78 Sarasota Center Boulevard, Sarasota, Florida 34240, Phone (941) 922-3526  
**Tallahassee**, 3175 West Tharpe Street, Tallahassee, Florida 32303, Phone (850) 576-6131  
**Tampa**, 3925 Coconut Palm Drive, Suite 115, Tampa, Florida 33619, Phone (813) 620-3389  
**West Palm Beach**, 2511 Westgate Avenue, Suite 10, West Palm Beach, Florida 33409, Phone (561) 687-8200

**LOUISIANA**

**Alexandria**, 3609 MacLee Drive, Alexandria, Louisiana 71302, Phone (318) 443-2888  
**Baton Rouge**, 316 Highlandia Drive, Baton Rouge, Louisiana 70810, Phone (225) 752-4790  
**Monroe**, 1122 Hayes Street, Monroe, Louisiana 71292, Phone (318) 387-4103  
**New Orleans**, 1305 Distributors Row, Suite 1, Jefferson, Louisiana 70123, Phone (504) 835-2593  
**Shreveport**, 7222 Greenwood Road, Shreveport, Louisiana 71119, Phone (318) 636-3723

**MEMBERS:**

**A.S.F.E.**

**American Concrete Institute  
American Society for Testing and Materials  
Florida Institute of Consulting Engineers**





**Ardaman & Associates, Inc.**

Geotechnical, Environmental and  
Materials Consultants

August 9, 2012  
File No. 12-7234

**TO: Manatee County Government, Public Works Dept.  
Project Management Division  
1022 26<sup>th</sup> Avenue East  
Bradenton, FL 34208**

**Attention: Jim Stockwell, P.E.**

**SUBJECT: Subsurface Soil Exploration, Analysis and Recommendations for Proposed  
"Watermain Interconnect Project," Key Royale Drive to South Bay Boulevard,  
Anna Maria, Manatee County, Florida  
*Manatee County W.A. #84, IFAS #W1200261***

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Dear Mr Stockwell:

As requested, our firm has completed a subsurface soil exploration program at the site referenced above. The purpose of this program was to assess subsurface soil conditions and prepare recommendations relative to the installation of the force main by directional drilling methods.

This report documents our findings and conclusions. It has been prepared for the exclusive use of Manatee County Public Works Department and their consultants for specific application to the subject project, in accordance with generally-accepted geotechnical engineering practices. No other warranty, expressed or implied, is made.

### **SCOPE**

The scope of our services has included the following items:

- 1. Conducting two (2) Standard Penetration Test borings to determine the nature and condition of the subsurface soils.**
- 2. Reviewing each soil sample obtained in our field testing program by a geotechnical engineer in the laboratory for further investigation, classification and assignment of laboratory tests.**

3. Performing laboratory tests on selected samples.
4. Analyzing the existing soil conditions with respect to the proposed construction.
5. Preparing this report to document the results of our field testing program, engineering analyses and recommendations.

### **SITE LOCATION**

The subject site is located within Section 17, Township 34 South, Range 16 East, in Manatee County, Florida. As shown on Figure 1, the proposed force main extends from Key Royale Drive in the City of Holmes Beech to South Bay Boulevard in the City of Anna Maria.

### **FIELD EXPLORATION PROGRAM**

Our field exploration program consisted of conducting two (2) Standard Penetration Test borings at the locations shown on the attached Figure 1. These borings were performed to determine the nature and condition of the subsurface soils to a maximum depth of 25 feet below the existing ground surface. Test boring depths, location and number were determined by Manatee County Public Works.

Test borings were located in the field by visual reference to available site landmarks, referencing it to an aerial photograph. The locations should be considered accurate only to the degree implied by the method used. Should more accurate locations be required, a registered land surveyor should be retained. The equipment and procedures used in the borings are described in Appendix I of this report.

### **GENERAL SUBSURFACE CONDITIONS**

The general subsurface conditions encountered during the field exploration program are shown on the soil boring logs, included in Appendix I of this report. Soil stratification is based on examination of recovered soil samples and interpretation of field boring logs. The stratification lines represent the approximate boundaries between the soil types, while the actual transitions may be gradual.



A generalization of the subsurface soil conditions encountered in the borings is described below:

DEPTH		SOIL DESCRIPTION
From (feet)	To (feet)	
0	4	Fine sand to fine sand with shell
4	6	Organic silty fine sand to very silty fine sand
6	22	Loose fine sand to fine sand with shell
22	25	Medium dense fine sand

On the date of our field exploration program, the groundwater table was encountered at depths ranging from 3.7 to 4.9 feet below the existing ground surface. The groundwater table is anticipated to fluctuate due to seasonal rainfall variations, tidal fluctuations and other factors.

#### **LABORATORY TESTING PROGRAM**

Representative soil samples obtained during our field sampling operation were packaged and transferred to our office and, thereafter, examined by a geotechnical engineer to obtain more accurate descriptions of the existing soil strata. Laboratory testing was performed on selected samples as deemed necessary to aid in soil classification and to further define the engineering properties of the soils. The laboratory tests included determining the fines (silt and clay) content and grain size distribution (by sieve analysis) of selected samples. The test results are presented on the soil boring logs (in Appendix I) at the depths from which the samples were recovered, except that grain size distributions are shown on Plates 1 to 3 of Appendix II. The soil descriptions shown on the soil boring logs are based on the laboratory test results and a visual classification procedure in general accordance with the Unified Soil Classification System (ASTM D-2487 or D-2488).

#### **ANALYSIS AND RECOMMENDATIONS**

We understand that the subject force main will be installed by directional drilling methods.

We see no technical reason why the entire length could not be installed by the directional drilling method. The soils encountered within the boring depth of 25 feet consisted predominantly of fine sands with varying amounts of silt and shell. These soils were generally in a loose state of



compactness, with some medium dense strata. No rock or other hard/dense soils were encountered within the boring depths.

We understand that one of the drill pits may be close to the bay, along the north edge of the property at 840 South Bay Boulevard, as shown on Figure 1. There is an existing seawall along this shoreline, although its depth and condition are unknown at this time. In general, however, we recommend that for every foot that the pit is to be excavated below the existing ground surface, the pit should be located at least 2 feet from the seawall. For example, if the pit is excavated to a depth of 5 feet, the pit should be at least 10 feet from the seawall. We also recommend that the dewatering for the pit excavation include, at a minimum, a line of well points located between the pit and the seawall.

It is, however, the contractor's responsibility to maintain a safe and stable excavation during construction. If adequate shoring is provided, the excavation could be closer to the seawall than recommended above.

#### **GENERAL COMMENTS**

The analysis and recommendations submitted in this report are based upon the data obtained from two (2) test borings performed at the locations indicated on the attached Figure 1. This report does not reflect any variations which may occur between the borings. While the borings are representative of the subsurface conditions at their respective locations and within their respective vertical reaches, local variations characteristic of the subsurface materials of the region are anticipated and may be encountered. The nature and extent of variations may not become evident until during the course of construction. If variations then appear evident, it will be necessary to reevaluate the recommendations of this report, after performing on-site observations during the construction period and noting the characteristics of any variations.

The boring logs and related information are based upon the driller's logs and visual examination of selected samples in the laboratory. The delineation between soil types shown on the logs is approximate, and the description represents our interpretation of the subsurface conditions at the designated boring location on the particular date drilled.



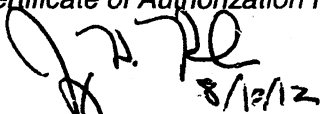



The water table depths shown on the boring logs represent the groundwater surfaces encountered on the dates shown. Fluctuation of the water table should be anticipated throughout the year.

It has been a pleasure to be of assistance to you with this project. Please contact us when we may be of further service to you, or should you have any questions concerning this report.

Very truly yours,

ARDAMAN & ASSOCIATES, INC.  
*Certificate of Authorization No. 5950*

  
8/12/12  
Jerry H. Kuehn, P.E.  
Senior Project Engineer  
Fl. License No. 35557

  
Gary H. Schmidt, P.E.  
Vice President  
Fl. License No. 12305

JHK/GHS:ly



**APPENDIX I**

**SOIL BORING, SAMPLING & TEST METHODS  
and  
SOIL BORING LOGS**

## SOIL BORING, SAMPLING AND TESTING METHODS

### Standard Penetration Test

The Standard Penetration Test (SPT) is a widely accepted method of in situ testing of foundation soils (ASTM D-1586). A 2-foot long, 2-inch O.D. split-barrel sampler attached to the end of a string of drilling rods is driven 18 inches into the ground by successive blows of a 140-pound hammer freely dropping 30 inches. The number of blows needed for each 6 inches of penetration is recorded. The sum of the blows required for penetration of the second and third 6-inch increments of penetration constitutes the test result or N-value. After the test, the sampler is extracted from the ground and opened to allow visual examination and classification of the retained soil sample. The N-value has been empirically correlated with various soil properties allowing a conservative estimate of the behavior of soils under load. The following tables relate N-values to a qualitative description of soil density and, for cohesive soils, an approximate unconfined compressive strength (Qu):

Cohesionless Soils:	<u>N-Value</u>	<u>Description</u>	
	0 to 4	Very loose	
	4 to 10	Loose	
	10 to 30	Medium dense	
	30 to 50	Dense	
	Above 50	Very dense	
Cohesive Soils:	<u>N-Value</u>	<u>Description</u>	<u>Qu (ton/ft<sup>2</sup>)</u>
	0 to 2	Very soft	Below 1/4
	2 to 4	Soft	1/4 to 1/2
	4 to 8	Medium stiff	1/2 to 1
	8 to 15	Stiff	1 to 2
	15 to 30	Very stiff	2 to 4
	Above 30	Hard	Above 4

The tests are usually performed at 5-foot intervals. However, more frequent or continuous testing is done by our firm through depths where a more accurate definition of the soils is required. The test holes are advanced to the test elevations by rotary drilling with a cutting bit, using circulating fluid to remove the cuttings and hold the fine grains in suspension. The circulating fluid, which is a bentonitic drilling mud, is also used to keep the hole open below the water table by maintaining an excess hydrostatic pressure inside the hole. In some soil deposits, particularly highly pervious ones, NX-size flush-coupled casing must be driven to just above the testing depth to keep the hole open and/or prevent the loss of circulating fluid.

Representative split- spoon samples from each sampling interval and from every different stratum are brought to our laboratory in air-tight jars for further evaluation and testing, if necessary. Samples not used in testing are stored for at least six months prior to being discarded. After completion of a test boring, the hole is kept open until a steady-state groundwater level is recorded. The hole is then sealed, if necessary, and backfilled.

A hammer with an automatic drop release (auto-hammer) is sometimes used in place of the safety hammer. The auto-hammer has been calibrated to relate its blow counts to equivalent safety hammer N-values.

## Laboratory Test Methods

Soil samples returned to our laboratory are examined by a geotechnical engineer or geotechnician to obtain more accurate descriptions of the soil strata. Laboratory testing is performed on selected samples as deemed necessary to aid in soil classification and to further define engineering properties of the soils. The test results are presented on the soil boring logs at the depths at which the respective sample was recovered, except that grain size distributions or selected other test results may be presented on separate tables, figures or plates as described in this report. The soil descriptions shown on the logs are based upon a visual-manual classification procedure in general accordance with the Unified Soil Classification System (ASTM D-2488-84) and standard practice. Following is a list of abbreviations which may be used on the boring logs or elsewhere in this report.

-200	- Fines Content (percent passing the No. 200 sieve); ASTM D-1140
DD	- Dry Density of Undisturbed Sample; ASTM D-2937
Gs	- Specific Gravity of Soil; ASTM D-854
k	- Hydraulic Conductivity (Coefficient of Permeability)
LL	- Liquid Limit; ASTM D-423
OC	- Organic Content; ASTM D-2974
pH	- pH of Soil; ASTM D-2976
PI	- Plasticity Index (LL-PL); ASTM D-424
PL	- Plastic Limit; ASTM D-424
Qp	- Unconfined Compressive Strength by Pocket Penetrometer;
Qu	- Unconfined Compressive Strength; ASTM D-2166 (soil), D-2938 (rock)
SL	- Shrinkage Limit; ASTM D-427
USCS	- Unified Soil Classification System; ASTM D-2487, D-2488
w	- Water (Moisture) Content; ASTM D-2216

## Soil Classifications

The soil descriptions presented on the soil boring logs are based upon the Unified Soil Classification System (USCS), which is the generally accepted method (ASTM D-2487 and D-2488) for classifying soils for engineering purposes. The following modifiers are the most commonly used in the descriptions.

For Sands:	<u>Modifier</u>	<u>Fines, Sand or Gravel Content*</u>
	"with silt" or "with clay"	5% to 12% fines
	"silty" or "clayey"	12% to 50% fines
	"with gravel" or "with shell"	15% to 50% gravel or shell
For Silts or Clays:	<u>Modifier</u>	<u>Fines, Sand or Gravel Content*</u>
	"with sand"	15% to 30% sand and gravel; and % sand > % gravel
	"sandy"	30% to 50% sand and gravel; and % sand > % gravel
	"with gravel"	15% to 30% sand and gravel; and % sand < % gravel
	"gravelly"	30% to 50% sand and gravel; and % sand < % gravel

\* may be determined by laboratory testing or estimated by visual/manual procedures. Fines content is the combined silt and clay content, or the percent passing the No. 200 sieve.

Other soil classification standards may be used, depending on the project requirements. The AASHTO classification system is commonly used for highway design purposes and the USDA soil textural classifications are commonly used for septic (on-site sewage disposal) system design purposes.



**BORING LOCATION:** see Figure 1  
**DATE DRILLED:** 8/1/12 **START:** **FINISH:**  
**GROUND SURFACE ELEVATION:**  
**WATER TABLE DEPTH:** 3.7 **TIME:** **DATE:** 8/1/12  
**COMMENTS:** N-values converted to equivalent safety hammer

**CLIENT:** Manatee County Public Works  
**PROJECT:** Watermain Interconnect Project  
**LOCATION:** Key Royale Dr. to South Bay Blvd.  
 Anna Maria, Manatee County, Florida  
**DRILL CREW:** DP/MO **LOGGED BY:** DP

**DRILL MAKE & MODEL:** CME-45 **BIT:** 2-3/8" tricone **DRILLING RODS:** AW  
**DRILLING METHOD:** rotary with SPT (auto-hammer) **WEATHER CONDITIONS:**

DEPTH (feet)	BLOW COUNTS PER 6-INCHES	SPT N-VALUE	SAMPLE NO.	GRAPHIC LOG	USCS	SOIL DESCRIPTION	WATER CONTENT (%)	FINES CONTENT (%)	ORGANIC CONTENT (%)	LIQUID LIMIT	PLASTICITY INDEX
0			1		SP	dark brown fine sand with gravel					
			2		SP	light gray fine sand					
4			3		SP	gray fine sand with shell					
	5-4-3	9	4		SM	black organic silty fine sand (mucky sand)					
			5		SP	light brownish gray fine sand with shell		2.7			
8	2-2-5	9									
	3-4-2	7	6		SP	dark grayish brown fine sand (trace shell)					
					SP-SM	dark brownish gray fine sand with silt (trace shell)					
12											
	2-3-4	9	7		SP	pale brown fine sand (trace shell)		3.7			
16											
	4-2-2	5	8		SP	brownish gray fine sand (trace shell)		3.0			
20											
	5-5-8	16	9		SP	brownish gray fine sand (trace shell)					
24											
						end of boring					
28											

**BORING LOCATION:** see Figure 1  
**DATE DRILLED:** 8/1/12 **START:** **FINISH:**  
**GROUND SURFACE ELEVATION:**  
**WATER TABLE DEPTH:** 4.9 **TIME:** **DATE:** 8/1/12  
**COMMENTS:** N-values converted to equivalent safety hammer

**CLIENT:** Manatee County Public Works  
**PROJECT:** Watermain Interconnect Project  
**LOCATION:** Key Royale Dr. to South Bay Blvd.  
 Anna Maria, Manatee County, Florida  
**DRILL CREW:** DP/MO **LOGGED BY:** DP

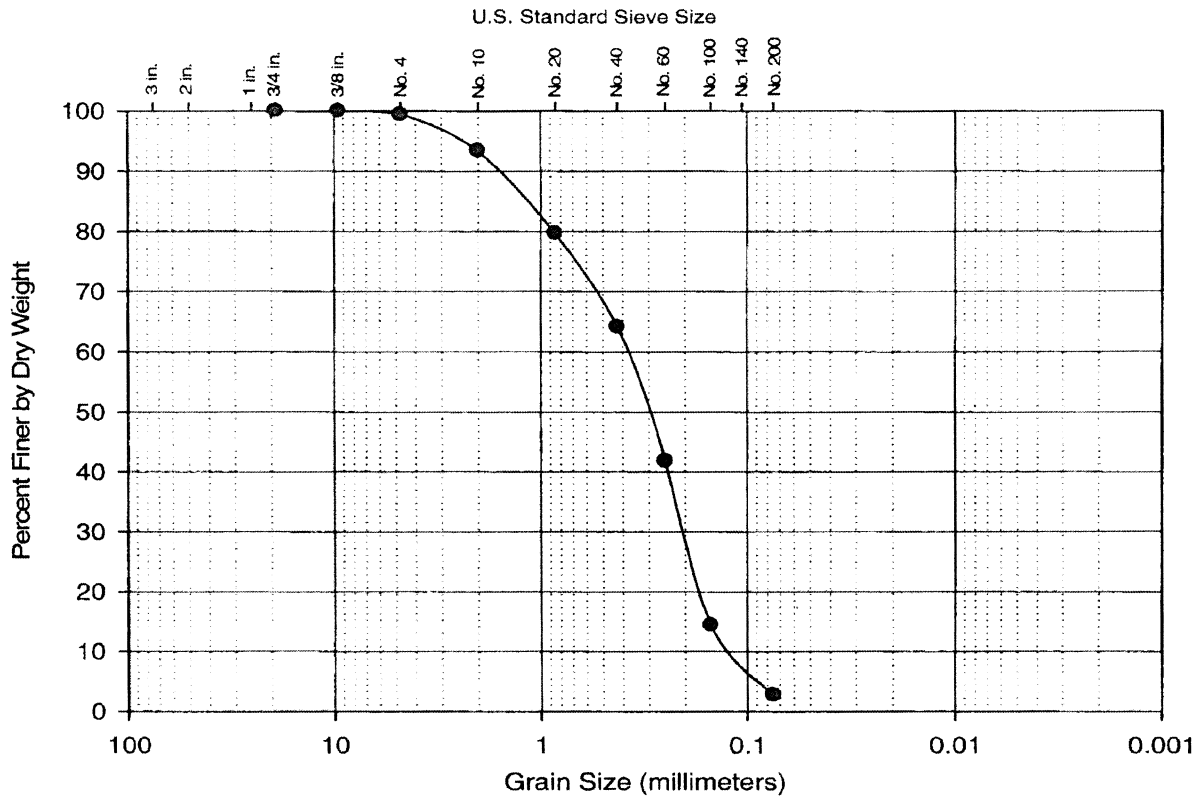
**DRILL MAKE & MODEL:** CME-45 **BIT:** 2-3/8" tricone **DRILLING RODS:** AW  
**DRILLING METHOD:** rotary with SPT (auto-hammer) **WEATHER CONDITIONS:**

DEPTH (feet)	BLOW COUNTS PER 6-INCHES	SPT N-VALUE	SAMPLE NO.	GRAPHIC LOG	USCS	SOIL DESCRIPTION	WATER CONTENT (%)	FINES CONTENT (%)	ORGANIC CONTENT (%)	LIQUID LIMIT	PLASTICITY INDEX
0			1		SP	1" asphalt over					
			2		SP	grayish brown fine sand with shell					
4	2-1-4	6	3		SM	pale brown to white fine sand with shell					
	6-10-10	25	4		SP	dark gray very silty fine sand (trace shell)		3.6			
8	7-5-5	12	5		SP	light gray fine sand with shell					
	4-4-2	7				brown fine sand with shell					
12			6		SP-SM	gray fine sand with silt (trace shell)		6.3			
16			7		SP	brown fine sand (trace shell)					
20	1-2-2	5			SP-SM	gray fine sand with silt (trace shell)					
24	8-8-14	22	8		SP-SM	gray fine sand with silt (trace shell)		6.3			
						end of boring					
28											

## **APPENDIX II**

### **GRAIN SIZE DISTRIBUTION CURVES**

# GRAIN SIZE DISTRIBUTION CURVE



Gravel		Sand			Silt	Clay
Coarse	Fine	Coarse	Medium	Fine		

**SAMPLE DATA:**

Boring No.: 1  
 Sample No.: 5  
 Sample Depth (ft): 7  
 Sampling Date: 8/1/12  
 Unified Soil Class: SP  
 Soil Description: light brownish gray fine sand with shell

**SIEVE ANALYSIS:**

Sieve Size	Percent Finer
3/4 in.	100.0
3/8 in.	100.0
No. 4	99.4
No. 10	93.4
No. 20	79.7
No. 40	64.1
No. 60	41.7
No. 100	14.4
No. 200	2.7

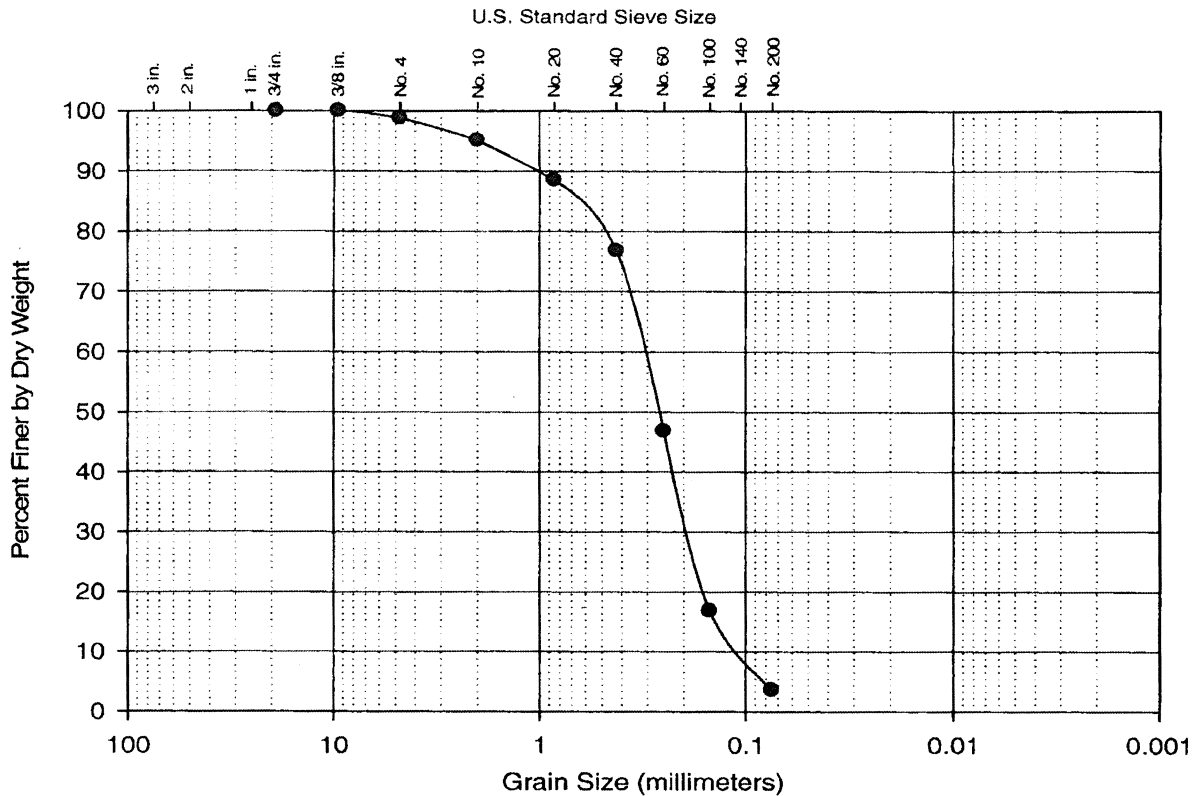
**Ardaman & Associates, Inc.**  
 Geotechnical Environmental and  
 Materials Consultants

Watermain Interconnect Project  
 Anna Maria/Holmes Beach  
 Manatee County, Florida

DRAWN BY: JHK	CHECKED BY: JHK	DATE: 8/8/12
FILE NO.: 12-7234	APPROVED BY: <i>[Signature]</i>	PLATE: 1



# GRAIN SIZE DISTRIBUTION CURVE



Gravel		Sand			Silt	Clay
Coarse	Fine	Coarse	Medium	Fine		

**SAMPLE DATA:**

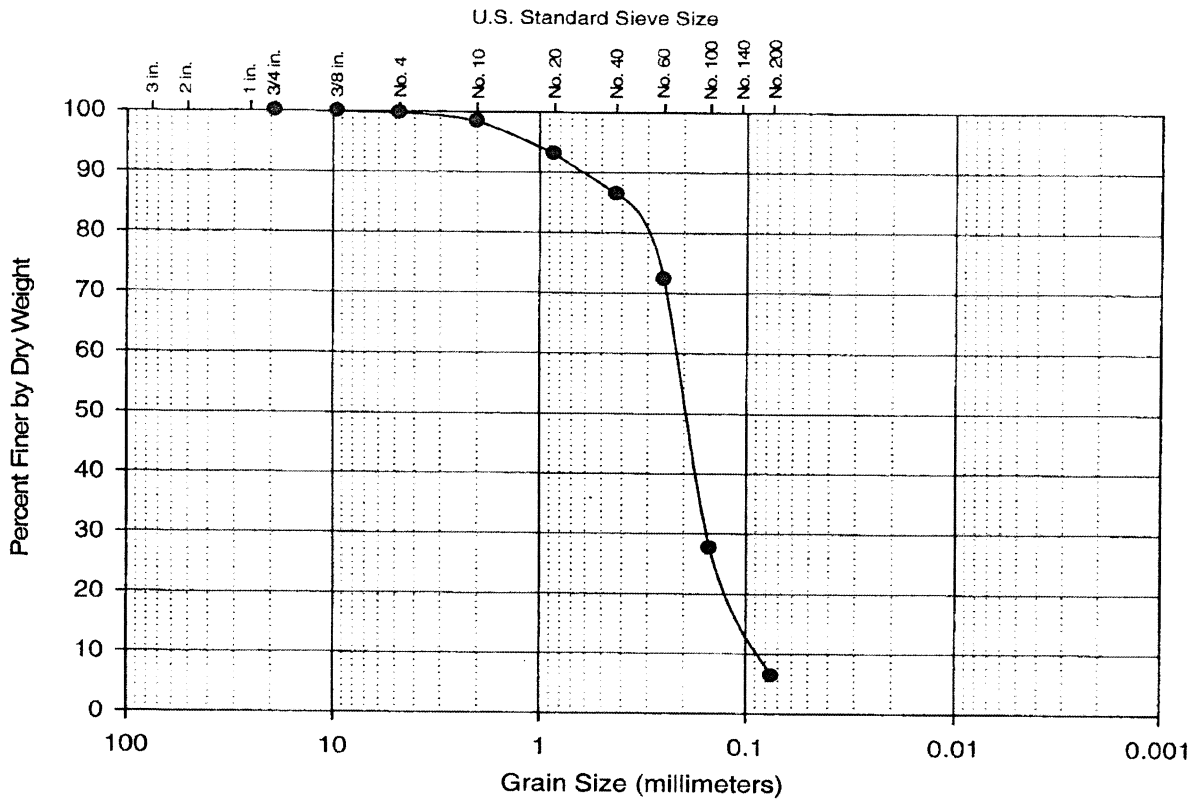
Boring No.: 2  
 Sample No.: 4  
 Sample Depth (ft): 6.5  
 Sampling Date: 8/1/12  
 Unified Soil Class: SP  
 Soil Description: light gray fine sand with shell

**SIEVE ANALYSIS:**

Sieve Size	Percent Finer
3/4 in.	100.0
3/8 in.	100.0
No. 4	98.8
No. 10	95.1
No. 20	88.5
No. 40	76.8
No. 60	46.8
No. 100	16.8
No. 200	3.6

<b>Ardaman &amp; Associates, Inc.</b> Geotechnical, Environmental and Materials Consultants			
Watermain Interconnect Project Anna Maria/Holmes Beach Manatee County, Florida			
DRAWN BY	JHK	CHECKED BY	JHK
FILE NO.	12-7234	DATE	8/8/12
APPROVED BY			PLATE
			2

# GRAIN SIZE DISTRIBUTION CURVE



Gravel		Sand			Silt	Clay
Coarse	Fine	Coarse	Medium	Fine		

**SAMPLE DATA:**

Boring No.: 2  
 Sample No.: 8  
 Sample Depth (ft): 24  
 Sampling Date: 8/1/12  
 Unified Soil Class: SP-SM  
 Soil Description: gray fine sand with silt  
 (trace shell)

**SIEVE ANALYSIS:**

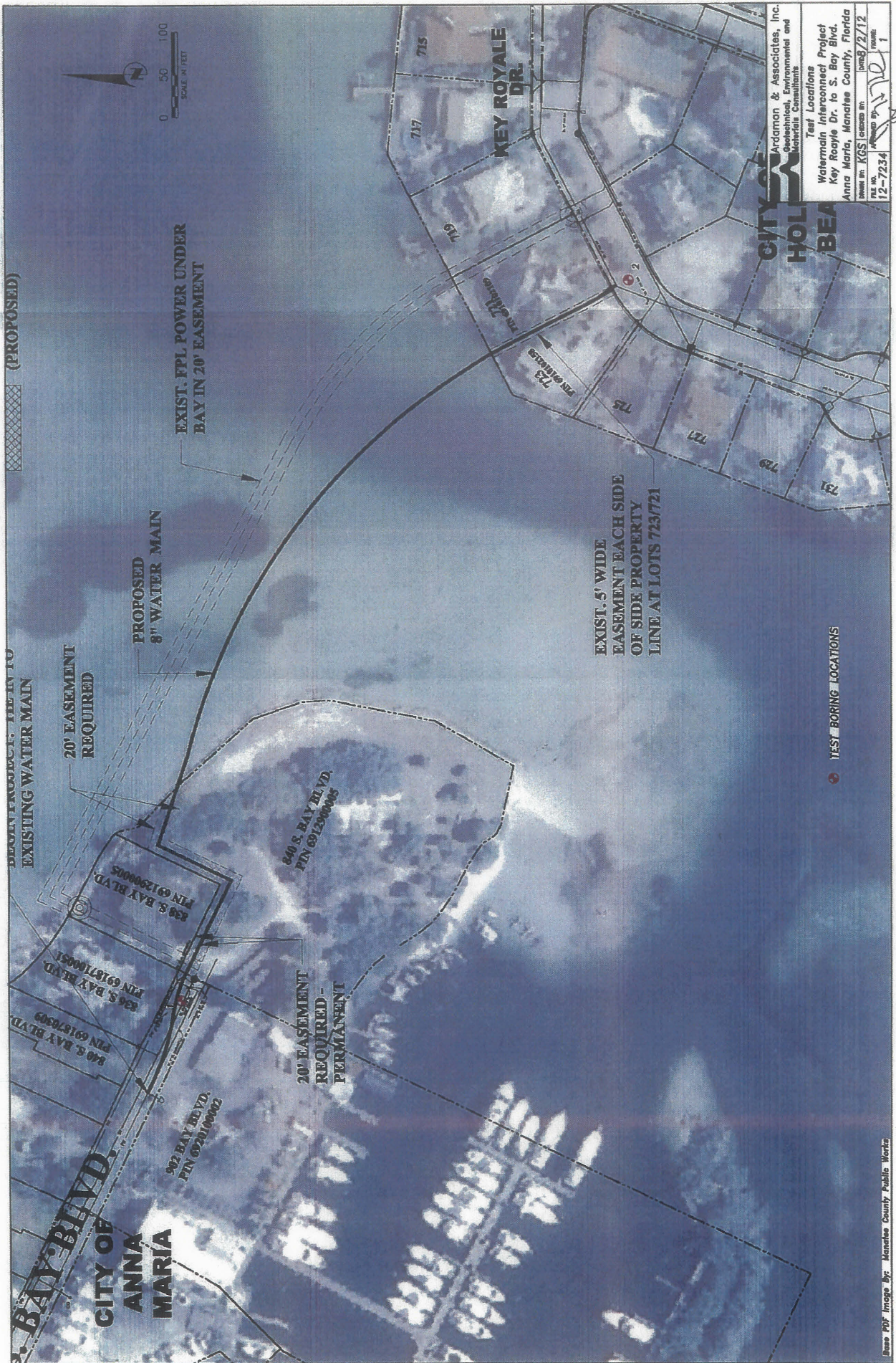
Sieve Size	Percent Finer
3/4 in.	100.0
3/8 in.	100.0
No. 4	99.7
No. 10	98.3
No. 20	93.1
No. 40	86.4
No. 60	72.3
No. 100	27.6
No. 200	6.3

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 Geotechnical, Environmental and  
 Materials Consultants

Watermain Interconnect Project  
 Anna Maria/Holmes Beach  
 Manatee County, Florida

DRAWN BY: JHK	CHECKED BY: JHK	DATE: 8/8/12
FILE NO.: 12-7234	APPROVED BY: <i>[Signature]</i>	PLATE: 3





(PROPOSED)

RECONNECT. BEEN TO EXISTING WATER MAIN

20' EASEMENT REQUIRED

PROPOSED 8" WATER MAIN

EXIST. FPL POWER UNDER BAY IN 20' EASEMENT

20' EASEMENT REQUIRED - PERMANENT

EXIST. 5' WIDE EASEMENT EACH SIDE OF SIDE PROPERTY LINE AT LOTS 723/721

TEST BORING LOCATIONS

**S. BAY BLVD.**  
**CITY OF ANNA MARIA**

**CITY OF HOLLYWOOD BEACH**

**KEY ROYALE DR.**



**Test Locations**  
 Watermain Interconnect Project  
 Key Royale Dr. to S. Bay Blvd.  
 Anna Maria, Manatee County, Florida  
 DRAWN BY: KGS  
 FILE NO. 12-7234  
 APPROVED BY: [Signature]  
 DATE: 8/27/12



11-12-2012  
file No. 12-7234

**ADDITIONAL SUBSURFACE SOIL EXPLORATION  
FOR PROPOSED  
"WATERMAIN INTERCONNECT PROJECT,"  
KEY ROYALE DRIVE TO S. BAY BOULEVARD,  
ANNA MARIA,  
MANATEE COUNTY, FLORIDA  
MANATEE COUNTY W.A. #84, IFAS #W1200261**



**Ardaman & Associates, Inc.**

**OFFICES**

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**Bartow**, 1525 Centennial Drive, Bartow, Florida 33830, Phone (863) 533-0858  
**Cocoa**, 1300 N. Cocoa Boulevard, Cocoa, Florida 32922, Phone (321) 632-2503  
**Fort Myers**, 9970 Bavaria Road, Fort Myers, Florida 33913, Phone (239) 768-6600  
**Miami**, 2608 W. 84<sup>th</sup> Street, Hialeah, Florida, 33016, Phone (305) 825-2683  
**Port St. Lucie**, 460 NW Concourse Place, Unit #1, Port St. Lucie, Florida 34986-2248, Phone (772) 878-0072  
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**Baton Rouge**, 316 Highlandia Drive, Baton Rouge, Louisiana 70810, Phone (225) 752-4790  
**Monroe**, 1122 Hayes Street, Monroe, Louisiana 71292, Phone (318) 387-4103  
**New Orleans**, 1305 Distributors Row, Suite 1, Jefferson, Louisiana 70123, Phone (504) 835-2593  
**Shreveport**, 7222 Greenwood Road, Shreveport, Louisiana 71119, Phone (318) 636-3723

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**PUBLIC WORKS  
ENGINEERING DIVISION**



**Ardaman & Associates, Inc.**

Geotechnical, Environmental and  
Materials Consultants

November 12, 2012  
File No. 12-7234

**TO:** Manatee County Government, Public Works Dept.  
Project Management Division  
1022 26<sup>th</sup> Avenue East  
Bradenton, FL 34208

Attention: Jim Stockwell, P.E.

**SUBJECT:** Additional Subsurface Soil Exploration for Proposed  
"Watermain Interconnect Project," Key Royale Drive to South Bay Boulevard,  
Anna Maria, Manatee County, Florida  
*Manatee County W.A. #84, IFAS #W1200261*

---

Dear Mr Stockwell:

As requested, our firm has completed an additional subsurface soil exploration program at the site referenced above. The results of our previous explorations at the site were documented in our report of August 9, 2012 (Ardaman File No. 12-7234).

This report documents our findings and conclusions. It has been prepared for the exclusive use of Manatee County Public Works Department and their consultants for specific application to the subject project, in accordance with generally-accepted geotechnical engineering practices.

#### **SCOPE**

The scope of our services has included the following items:

1. Reviewing the results of our previous exploration at the site.
2. Conducting one (1) additional Standard Penetration Test boring to determine the nature and condition of the subsurface soils.
3. Reviewing each soil sample obtained in our field testing program by a geotechnical engineer in the laboratory for further investigation, classification and assignment of laboratory tests.
4. Performing laboratory tests on selected samples.



4. Analyzing the existing soil conditions with respect to the proposed construction.
5. Preparing this report to document the results of our field testing program, engineering analyses and recommendations.

#### **SITE LOCATION**

The subject site is located within Section 17, Township 34 South, Range 16 East, in Manatee County, Florida. As shown on Figure 1, the proposed force main extends from Key Royale Drive in the City of Holmes Beech to South Bay Boulevard in the City of Anna Maria.

#### **FIELD EXPLORATION PROGRAM**

Our previous exploration program consisted of conducting two (2) Standard Penetration Test Borings (Nos. 1 and 2) at the locations shown on the attached Figure 1. Our additional exploration consisted of conducting one (1) additional Standard Penetration Test Boring (No. 3), the location of which is also shown on Figure 1. This additional boring was performed to determine the nature and condition of the subsurface soils to a depth of 30 feet below the existing ground surface. Test boring depth, location and number were determined by Manatee County Public Works.

Test borings were located in the field by visual reference to available site landmarks, referencing it to an aerial photograph. The location should be considered accurate only to the degree implied by the method used. Should more accurate locations be required, a registered land surveyor should be retained. The equipment and procedures used in the boring are described in Appendix I of this report.

#### **GENERAL SUBSURFACE CONDITIONS**

The general subsurface conditions encountered during the field exploration program are shown on the soil boring log, included in Appendix I of this report. Soil stratification is based on examination of recovered soil samples and interpretation of the field boring log. The stratification lines represent the approximate boundaries between the soil types, while the actual transitions may be gradual.



A generalization of the subsurface soil conditions encountered in the borings is described below:

DEPTH		SOIL DESCRIPTION
From (feet)	To (feet)	
0	4.5	Loose fine sand to fine sand with gravel
4.5	7.5	Shelly fine sand with debris
7.5	12	Loose to fine sand with shell
12	27	Medium dense fine sand, some with silt or shell
27	30	Loose sandy silt

On the date of our field exploration program, the groundwater table was encountered at a depth of 3.3 feet below the existing ground surface. The groundwater table is anticipated to fluctuate due to seasonal rainfall variations, tidal fluctuations and other factors.

#### LABORATORY TESTING PROGRAM

Representative soil samples obtained during our field sampling operation were packaged and transferred to our office and, thereafter, examined by a geotechnical engineer to obtain more accurate descriptions of the existing soil strata. No additional testing was deemed necessary to aid in soil classification and to further define the engineering properties of the soils. The soil descriptions shown on the soil boring logs are based on a visual classification procedure in general accordance with the Unified Soil Classification System (ASTM D-2487 or D-2488).

#### ANALYSIS AND RECOMMENDATIONS

The soil conditions encountered at Boring No. 3 are similar to those previously encountered at Boring Nos. 1 and 2. Hence, most of our conclusions and recommendations are the same as those presented in our previous report.

We see no technical reason why the entire length could not be installed by the directional drilling method. The soils encountered within a depth of 25 feet consisted primarily of loose to medium dense fine sands with varying amounts of silt and shell. No rock or other hard/dense soils were encountered within the boring depth. Loose sandy silt with a trace amount of cemented silt fragments was encountered below this step, however. This stratum is often interbedded with or directly underlain by dense, cemented silt or rock, although these were not encountered within a depth of 30 feet at the boring location.





We understand that one of the drill pits may be close to the bay, at or near the location of Boring No. 3. A notable exception to the generalized soil conditions is that an approximately 3 feet thick layer of soil mixed with buried debris was encountered at a depth of approximately 4.5 to 7.5 feet below the ground surface at Boring No. 3. The horizontal extent of the buried debris is not known, however. If it is necessary to excavate the debris within the drill pit area, it will need to be disposed of properly. Although no "hazardous" materials such as petroleum product or chemical containers were encountered at the boring location, these or similar items may be present and may be encountered during excavation.

This debris layer could also be highly permeable and make dewatering of the drill pit more difficult. For this reason, a drill pit with perimeter sheet pile walls may be prudent in order to better control seepage. It may also be prudent to line with casing the directional drill borehole where it penetrates through the debris layer, in order to prevent excessive loss of drilling fluid. There may also be groundwater contamination issues which will need to be addressed for proper disposal of the discharge from any dewatering system. The contractor may wish to consider either a fully lined or elevated drill pit, so that little or no dewatering is required.

There is an existing seawall along this shoreline, although its depth and condition are unknown at this time. In general, however, we recommend that for every foot that the pit is to be excavated below the existing ground surface, the pit should be located at least 2 feet from the seawall. For example, if the pit is excavated to a depth of 5 feet, the pit should be at least 10 feet from the seawall. This assumes either dry (above the water table) or dewatered soils between the seawall and the drill pit.

It is, however, the contractor's responsibility to maintain a safe and stable excavation during construction. If adequate shoring is provided, the excavation could be closer to the seawall than recommended above.





### GENERAL COMMENTS

The analysis and recommendations submitted in this report are based upon the data obtained from test borings performed at the locations indicated on the attached Figure 1. This report does not reflect any variations which may occur between the borings. While the borings are representative of the subsurface conditions at their respective locations and within their respective vertical reaches, local variations characteristic of the subsurface materials of the region are anticipated and may be encountered. The nature and extent of variations may not become evident until during the course of construction. If variations then appear evident, it will be necessary to reevaluate the recommendations of this report, after performing on-site observations during the construction period and noting the characteristics of any variations.

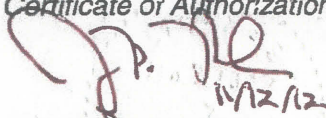
The boring logs and related information are based upon the driller's logs and visual examination of selected samples in the laboratory. The delineation between soil types shown on the logs is approximate, and the description represents our interpretation of the subsurface conditions at the designated boring location on the particular date drilled.

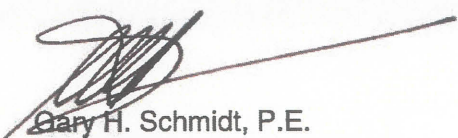
The water table depths shown on the boring logs represent the groundwater surfaces encountered on the dates shown. Fluctuation of the water table should be anticipated throughout the year.

It has been a pleasure to be of assistance to you with this project. Please contact us when we may be of further service to you, or should you have any questions concerning this report.

Very truly yours,

ARDAMAN & ASSOCIATES, INC.  
*Certificate of Authorization No. 5950*

  
11/12/12  
Jerry H. Kuehn, P.E.  
Senior Project Engineer  
Fl. License No. 35557

  
Gary H. Schmidt, P.E.  
Vice President  
Fl. License No. 12305

JHK/GHS:ly



Ardaman & Associates, Inc.

**APPENDIX I**

**SOIL BORING, SAMPLING & TEST METHODS  
and  
SOIL BORING LOGS**

## SOIL BORING, SAMPLING AND TESTING METHODS

### Standard Penetration Test

The Standard Penetration Test (SPT) is a widely accepted method of in situ testing of foundation soils (ASTM D-1586). A 2-foot long, 2-inch O.D. split-barrel sampler attached to the end of a string of drilling rods is driven 18 inches into the ground by successive blows of a 140-pound hammer freely dropping 30 inches. The number of blows needed for each 6 inches of penetration is recorded. The sum of the blows required for penetration of the second and third 6-inch increments of penetration constitutes the test result or N-value. After the test, the sampler is extracted from the ground and opened to allow visual examination and classification of the retained soil sample. The N-value has been empirically correlated with various soil properties allowing a conservative estimate of the behavior of soils under load. The following tables relate N-values to a qualitative description of soil density and, for cohesive soils, an approximate unconfined compressive strength ( $Q_u$ ):

Cohesionless Soils:	<u>N-Value</u>	<u>Description</u>	
	0 to 4	Very loose	
	4 to 10	Loose	
	10 to 30	Medium dense	
	30 to 50	Dense	
	Above 50	Very dense	
Cohesive Soils:	<u>N-Value</u>	<u>Description</u>	<u><math>Q_u</math> (ton/ft<sup>2</sup>)</u>
	0 to 2	Very soft	Below 1/4
	2 to 4	Soft	1/4 to 1/2
	4 to 8	Medium stiff	1/2 to 1
	8 to 15	Stiff	1 to 2
	15 to 30	Very stiff	2 to 4
	Above 30	Hard	Above 4

The tests are usually performed at 5-foot intervals. However, more frequent or continuous testing is done by our firm through depths where a more accurate definition of the soils is required. The test holes are advanced to the test elevations by rotary drilling with a cutting bit, using circulating fluid to remove the cuttings and hold the fine grains in suspension. The circulating fluid, which is a bentonitic drilling mud, is also used to keep the hole open below the water table by maintaining an excess hydrostatic pressure inside the hole. In some soil deposits, particularly highly pervious ones, NX-size flush-coupled casing must be driven to just above the testing depth to keep the hole open and/or prevent the loss of circulating fluid.

Representative split-spoon samples from each sampling interval and from every different stratum are brought to our laboratory in air-tight jars for further evaluation and testing, if necessary. Samples not used in testing are stored for at least six months prior to being discarded. After completion of a test boring, the hole is kept open until a steady-state groundwater level is recorded. The hole is then sealed, if necessary, and backfilled.

A hammer with an automatic drop release (auto-hammer) is sometimes used in place of the safety hammer. The auto-hammer has been calibrated to relate its blow counts to equivalent safety hammer N-values.

## Laboratory Test Methods

Soil samples returned to our laboratory are examined by a geotechnical engineer or geotechnician to obtain more accurate descriptions of the soil strata. Laboratory testing is performed on selected samples as deemed necessary to aid in soil classification and to further define engineering properties of the soils. The test results are presented on the soil boring logs at the depths at which the respective sample was recovered, except that grain size distributions or selected other test results may be presented on separate tables, figures or plates as described in this report. The soil descriptions shown on the logs are based upon a visual-manual classification procedure in general accordance with the Unified Soil Classification System (ASTM D-2488-84) and standard practice. Following is a list of abbreviations which may be used on the boring logs or elsewhere in this report.

-200	- Fines Content (percent passing the No. 200 sieve); ASTM D-1140
DD	- Dry Density of Undisturbed Sample; ASTM D-2937
Gs	- Specific Gravity of Soil; ASTM D-854
k	- Hydraulic Conductivity (Coefficient of Permeability)
LL	- Liquid Limit; ASTM D-423
OC	- Organic Content; ASTM D-2974
pH	- pH of Soil; ASTM D-2976
PI	- Plasticity Index (LL-PL); ASTM D-424
PL	- Plastic Limit; ASTM D-424
Qp	- Unconfined Compressive Strength by Pocket Penetrometer;
Qu	- Unconfined Compressive Strength; ASTM D-2166 (soil), D-2938 (rock)
SL	- Shrinkage Limit; ASTM D-427
USCS	- Unified Soil Classification System; ASTM D-2487, D-2488
w	- Water (Moisture) Content; ASTM D-2216

## Soil Classifications

The soil descriptions presented on the soil boring logs are based upon the Unified Soil Classification System (USCS), which is the generally accepted method (ASTM D-2487 and D-2488) for classifying soils for engineering purposes. The following modifiers are the most commonly used in the descriptions.

For Sands:	<u>Modifier</u>	<u>Fines, Sand or Gravel Content*</u>
	"with silt" or "with clay"	5% to 12% fines
	"silty" or "clayey"	12% to 50% fines
	"with gravel" or "with shell"	15% to 50% gravel or shell
For Silts or Clays:	<u>Modifier</u>	<u>Fines, Sand or Gravel Content*</u>
	"with sand"	15% to 30% sand and gravel; and % sand > % gravel
	"sandy"	30% to 50% sand and gravel; and % sand > % gravel
	"with gravel"	15% to 30% sand and gravel; and % sand < % gravel
	"gravelly"	30% to 50% sand and gravel; and % sand < % gravel










\* may be determined by laboratory testing or estimated by visual/manual procedures. Fines content is the combined silt and clay content, or the percent passing the No. 200 sieve.

Other soil classification standards may be used, depending on the project requirements. The AASHTO classification system is commonly used for highway design purposes and the USDA soil textural classifications are commonly used for septic (on-site sewage disposal) system design purposes.

BORING LOCATION: see Figure 1  
 DATE DRILLED: 11/1/12 START: FINISH:  
 GROUND SURFACE ELEVATION:  
 WATER TABLE DEPTH: 3.3 TIME: DATE: 11/1/12  
 COMMENTS: N-values converted to equivalent safety hammer

CLIENT: Manatee County Public Works  
 PROJECT: Watermain Interconnect Project  
 LOCATION: Key Royale Dr. to South Bay Blvd.  
 Anna Maria, Manatee County, Florida  
 DRILL CREW: DP/MO LOGGED BY: DP

DRILL MAKE & MODEL: CME-45 BIT: 2-3/8" tricone DRILLING RODS: AW  
 DRILLING METHOD: rotary with SPT (auto-hammer) WEATHER CONDITIONS:

DEPTH (feet)	BLOW COUNTS PER 6-INCHES	SPT N-VALUE	SAMPLE NO.	GRAPHIC LOG	USCS	SOIL DESCRIPTION	FINES CONTENT (%)	ORGANIC CONTENT (%)	WATER CONTENT (%)	LIQUID LIMIT	PLASTICITY INDEX
0	1-2-3	6	1		SP	dark gray fine sand					
	3-4-4	10	2		SP	dark gray fine sand with gravel					
	3-4-3	9									
5	2-1-2	4	3		SP	dark gray & brown shelly fine sand with debris (glass, string, cloth, tile)					
	2-2-2	5									
	4-3-5	10	4		SP	dark brown & gray fine sand with shell					
10	4-3-3	7	5		SP	grayish brown fine sand with shell					
15	3-6-5	14	6		SP	light brownish gray fine sand					
20	5-8-7	19	7		SP-SM	pale brown fine sand with silt					
25	5-5-7	15	8		SP	brownish gray fine sand with shell					
30	3-4-3	9	9		ML	light gray sandy silt (trace cemented silt fragments)					
						end of boring					
35											



(PROPOSED)

RECONSTRUCT THE EXISTING WATER MAIN

**BAY BLVD.**  
**CITY OF ANNA MARIA**

902 BAY BLVD.  
PIN 0929100002

840 & BAY BLVD.  
PIN 09187399

836 & BAY BLVD.  
PIN 091870051

838 & BAY BLVD.  
PIN 091290005

840 & BAY BLVD.  
PIN 091290005

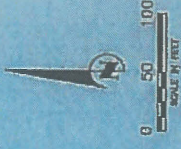
20' EASEMENT  
REQUIRED -  
PERMANENT

PROPOSED  
8" WATER MAIN

EXIST. FPL POWER UNDER  
BAY IN 20' EASEMENT

EXIST. 5' WIDE  
EASEMENT EACH SIDE  
OF SIDE PROPERTY  
LINE AT LOTS 723/721

TEST BORING LOCATIONS



717  
715

**KEY ROYALE DR.**

719

725 PROPOSED  
723 PROPOSED

715

721

729

731

REVISED: 11/5/12  
Boring #3 added.

**CITY OF ANNA MARIA**  
**HOLIDAY BEACH**

Ardaman & Associates, Inc.  
 Geotechnical, Environmental and  
 Materials Consultants

Test Locations  
 Watermain Interconnect Project  
 Key Royale Dr. to S. Bay Blvd.  
 Anna Maria, Manatee County, Florida

PROJECT NO: KGS (located on sheet 8/2/12)  
 DATE: 11/5/12  
 12-7234



THIS INSTRUMENT PREPARED BY:  
Division Manager, Property Acquisition Division  
Manatee County Property Management Department  
1112 Manatee Avenue West, Suite 800  
Bradenton, Florida 34205



PROJECT NAME: Key Royale  
PROJECT#: 6083070  
PARCEL#: N/A  
PID#: 6912900005

-----SPACE ABOVE THIS LINE FOR RECORDING DATA-----

**PERMANENT UTILITIES EASEMENT**

**THIS INDENTURE** made this 30<sup>th</sup> day of December, 2013, between **JACK R. FISKE, Individually, and as Trustee of THE JACK R. FISKE REVOCABLE TRUST DATED THE 1<sup>ST</sup> DAY OF MAY 2002**, whose mailing address is 840 South Bay Boulevard, Anna Maria, Florida 34216, as "**Grantor**," and **MANATEE COUNTY**, a political subdivision of the State of Florida, whose mailing address is Post Office Box 1000, Bradenton, Florida 34206, as "**Grantee**,"

**WITNESSETH:**

**THAT** said Grantor, for and in consideration of the sum of \$1.00 and other valuable consideration in hand paid, the receipt whereof is hereby acknowledged, has granted, bargained, sold, and transferred, and by these presents does grant, bargain, sell, and transfer unto Grantee, a **non-exclusive, permanent easement for ingress, egress, construction, repair and maintenance of underground utility facilities** over, under, and across the property situate in Manatee County, State of Florida, more particularly described as that portion of **Parcel # 6912900005** described in **Exhibit "A"** attached hereto and incorporated herein by this reference.

**THAT** said Grantor reserves unto itself, its heirs, successors or assigns, the right to the continued free use and enjoyment of the property herein described, for any purposes which are not inconsistent with the rights granted herein unto the Grantee.

**IN WITNESS WHEREOF**, Grantor has hereunto set its hand and seal, the day and year above written.

Signed, sealed, and delivered in the presence of:

[Signature]  
Witness  
Perin Parks  
Printed Name  
[Signature]  
Witness  
OWEN E HARRIS  
Printed Name

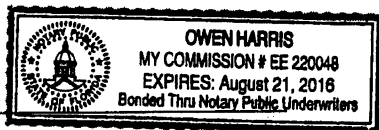
[Signature]  
JACK R. FISKE, Individually  
[Signature]  
JACK R. FISKE, as Trustee of THE JACK R. FISKE REVOCABLE TRUST DATED THE 1<sup>ST</sup> DAY OF MAY 2002

(Signature of two witnesses required by law.)

STATE OF Florida  
COUNTY OF Manatee

The foregoing instrument was acknowledged before me this 30<sup>th</sup> day of Dec, 2013, by **JACK R. FISKE, Individually, and as Trustee of THE JACK R. FISKE REVOCABLE TRUST DATED THE 1<sup>ST</sup> DAY OF MAY 2002**, who is  personally known to me or  who has produced FL D.L. as identification.

Notary Public Seal:

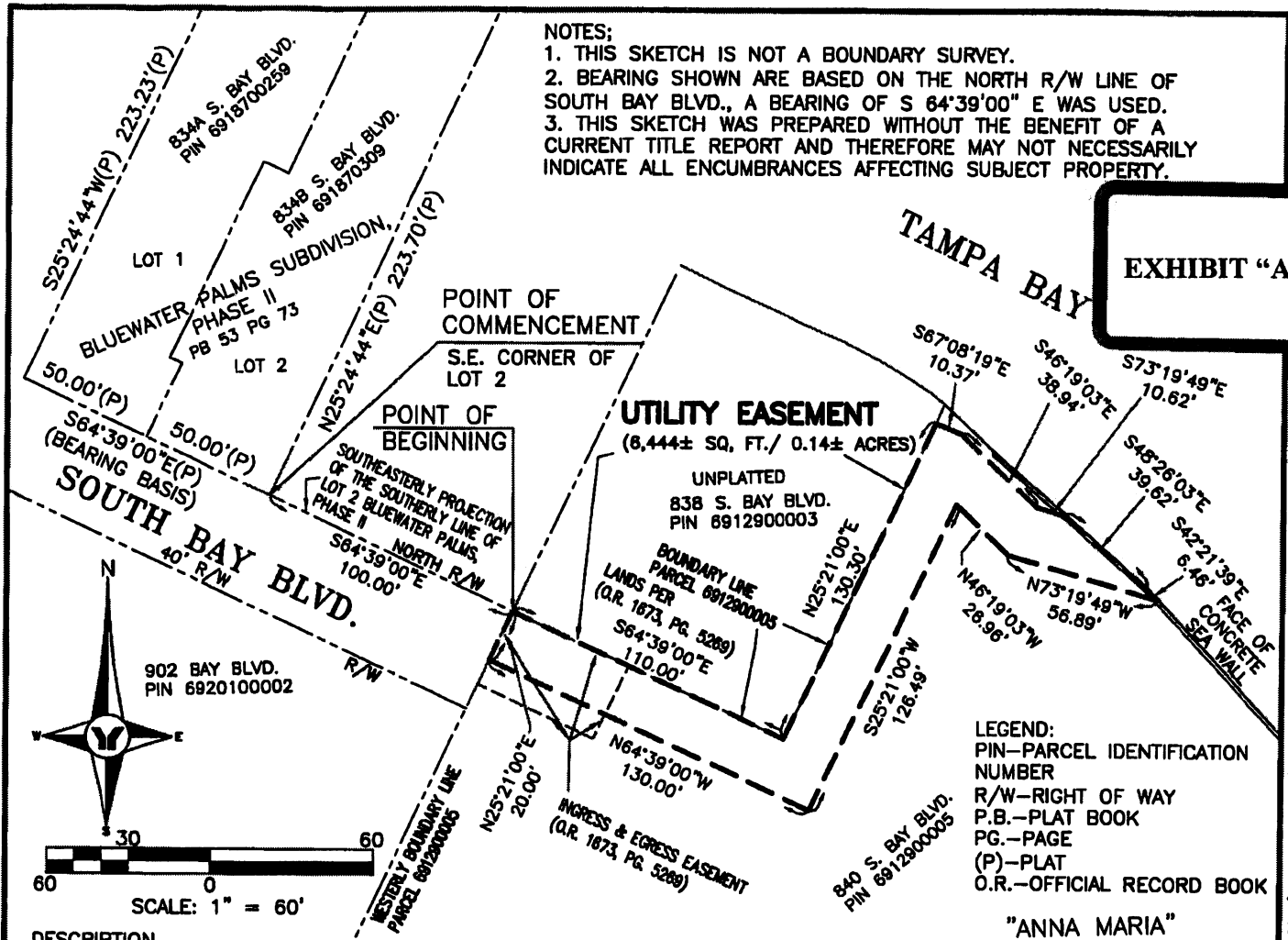


My Commission Expires:

[Signature]  
NOTARY PUBLIC, State of \_\_\_\_\_  
Printed Name

**EXHIBIT "A"**

**NOTES:**  
 1. THIS SKETCH IS NOT A BOUNDARY SURVEY.  
 2. BEARING SHOWN ARE BASED ON THE NORTH R/W LINE OF SOUTH BAY BLVD., A BEARING OF S 64°39'00" E WAS USED.  
 3. THIS SKETCH WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT AND THEREFORE MAY NOT NECESSARILY INDICATE ALL ENCUMBRANCES AFFECTING SUBJECT PROPERTY.



**LEGEND:**  
 PIN—PARCEL IDENTIFICATION NUMBER  
 R/W—RIGHT OF WAY  
 P.B.—PLAT BOOK  
 PG.—PAGE  
 (P)—PLAT  
 O.R.—OFFICIAL RECORD BOOK

**"ANNA MARIA"**

**DESCRIPTION**

A UTILITY EASEMENT FOR THE INSTALLATION AND MAINTENANCE OF UTILITY LINES LYING WITHIN A PORTION OF MANATEE COUNTY PARCEL NUMBER 6912900005, SITE ADDRESS BEING 840 SOUTH BAY BOULEVARD, ANNA MARIA, FLORIDA, LYING IN SECTION 17, TOWNSHIP 34 SOUTH, RANGE 16 EAST, MANATEE COUNTY, FLORIDA AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTHEAST CORNER OF LOT 2, BLUEWATER PALMS SUBDIVISION, PHASE II, ACCORDING TO THE PLAT THEREOF, RECORDED IN PLAT BOOK 53, PAGE 73 OF THE PUBLIC RECORDS OF MANATEE COUNTY, FLORIDA, SAID POINT LYING ON THE NORTH RIGHT-OF-WAY LINE OF SOUTH BAY BOULEVARD (A 40' RIGHT-OF-WAY, PER PLAT); THENCE LEAVING SAID SOUTHEAST CORNER OF SAID LOT 2 AND ALONG THE SOUTHEASTERLY PROJECTION OF THE SOUTHERLY BOUNDARY LINE OF SAID LOT 2, SOUTH 64°39'00" EAST, 100.00 FEET TO ITS INTERSECTION WITH THE WESTERLY BOUNDARY LINE OF SAID PARCEL NUMBER 6912900005 FOR THE POINT OF BEGINNING; THENCE CONTINUE ALONG THE BOUNDARY LINE OF SAID PARCEL THE FOLLOWING CALLS: SOUTH 64°39'00" EAST, 110.00 FEET; THENCE NORTH 25°21'00" EAST, 130.30 FEET; THENCE LEAVING SAID PARCEL BOUNDARY LINE, SOUTH 67°08'19" EAST, 10.37 FEET; THENCE SOUTH 46°19'03" EAST, 38.94 FEET; THENCE SOUTH 73°19'49" EAST, 10.62 FEET TO ITS INTERSECTION WITH THE WATERSIDE FACE OF A CONCRETE SEAWALL; THENCE ALONG THE FACE OF SAID CONCRETE SEAWALL, SOUTH 48°26'03" EAST, 39.62 FEET; THENCE SOUTH 42°21'39" EAST, 6.46 FEET; THENCE LEAVING SAID FACE OF CONCRETE SEAWALL, NORTH 73°19'49" WEST, 56.89 FEET; THENCE NORTH 46°19'03" WEST, 26.96 FEET; THENCE SOUTH 25°21'00" WEST, 126.49 FEET; THENCE NORTH 64°39'00" WEST, 130.00 FEET TO ITS INTERSECTION WITH THE BOUNDARY LINE OF SAID PARCEL NUMBER 6912900005; THENCE ALONG SAID BOUNDARY LINE, NORTH 25°21'00" EAST, 20.00 FEET TO THE POINT OF BEGINNING AND CONTAINING 6,444 SQUARE FEET OR 0.14 ACRES, MORE OR LESS.

**\*NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER\***

PREPARED FOR: <b>MANATEE COUNTY PUBLIC WORKS</b> 1022 28th Ave. East Bradenton, FL 34208		<b>AMI KEY ROYALE WM</b> SKETCH & DESCRIPTION SECTION 17, TOWNSHIP 34 S., RANGE 16 E.		BY P.L. 1/21/13	DATE 1/21/13	DESCRIPTION REVISED PER MAN. CO. SURVEYOR COMMENTS
CREW CHIEF DRAWN CHECKED FIELD BOOK FIELD DATE	INITIALS DATE 12/11/12 12/11/12	F. Polar Lutz, Jr. PSM LS 5506 DATE 1/21/13		<b>George F. Young, Inc.</b> 10540 PORTAL CROSSING, SUITE 105 BRADENTON, FLORIDA 34211 PHONE (841) 747-2881 FAX (841) 747-7234 BUSINESS ENTITY LB21 ARCHITECTURE·ENGINEERING·ENVIRONMENTAL·LANDSCAPE·PLANNING·SURVEYING·UTILITIES GAINESVILLE·LAKEWOOD RANCH·ORLANDO·PALM BEACH GARDENS·ST. PETERSBURG·TAMPA·VENICE		JOB NO. <b>0973000526</b> SHEET NO. <b>S1 of S1</b>

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THIS INSTRUMENT PREPARED BY:  
Division Manager, Property Acquisition Division  
Manatee County Property Management Department  
1112 Manatee Avenue West, Suite 800  
Bradenton, Florida 34205



PROJECT NAME: Key Royale  
PROJECT#: 6083070  
PARCEL#: N/A  
PID#: 6912900005

SPACE ABOVE THIS LINE FOR RECORDING DATA

**TEMPORARY CONSTRUCTION EASEMENT**

**THIS INDENTURE** made this 30<sup>th</sup> day of December, 2013, between **JACK R. FISKE, Individually, and as Trustee of THE JACK R. FISKE REVOCABLE TRUST DATED THE 1<sup>ST</sup> DAY OF MAY 2002**, whose mailing address is 840 South Bay Boulevard, Anna Maria, Florida 34216, as “**Grantor**,” and **MANATEE COUNTY**, a political subdivision of the State of Florida, whose mailing address is Post Office Box 1000, Bradenton, Florida 34206, as “**Grantee**,”

**WITNESSETH:**

**THAT** said Grantor, for and in consideration of the sum of \$1.00 and other valuable consideration in hand paid, the receipt whereof is hereby acknowledged, has granted, bargained, sold, and transferred, and by these presents does grant, bargain, sell, and transfer unto Grantee, a **non-exclusive temporary construction easement** over, under, and across the property situate in Manatee County, State of Florida, more particularly described as that portion of **Parcel # 6912900005** described in **Exhibit “A”** attached hereto and incorporated herein by this reference.

**THIS** temporary construction easement shall be for the purpose of **constructing, improving, sloping, grading, and inspecting underground utility facilities** adjacent to the easement area and for all other construction purposes reasonably related to the construction to be undertaken by Grantee. This easement is granted upon the condition that the sloping and/or grading upon the above property shall not extend beyond the limits outlined above and that all grading and/or sloping shall conform to all existing improvements on Grantor’s property and all work shall be performed in such a manner that existing improvements will be left in same or like condition.

**THAT** said Grantor reserves the right to use the easement area in any manner that will not prevent or interfere with the rights granted to the Grantee herein; provided, that the Grantor does not to obstruct, or permit to others to obstruct, the easement area at any time without first obtaining express written consent of the Grantee.

**THIS** Easement shall be for a term of **three (3) years from the date hereof or upon completion of the project, whichever comes first.**

**IN WITNESS WHEREOF**, the said Grantor has caused these presents to be executed in its name, and its corporate seal to be hereunto affixed, by its proper officers thereunto duly authorized, the day and year first above written.

**[SIGNATURE PAGE AND ACKNOWLEDGEMENT FOLLOW ON NEXT PAGE.]**

Signed, sealed, and delivered in the presence of:

[Signature]  
Witness  
Devin Parks

[Signature]  
JACK R. FISKE, Individually

Printed Name  
Owen E Harris  
Witness  
OWEN E HARRIS  
Printed Name

[Signature]  
JACK R. FISKE, as Trustee of THE JACK R. FISKE REVOCABLE TRUST DATED THE 1<sup>ST</sup> DAY OF MAY 2002

(Signature of two witnesses required by law.)

STATE OF Florida  
COUNTY OF Manatee

The foregoing instrument was acknowledged before me this 30<sup>th</sup> day of Dec, 2013, by JACK R. FISKE, Individually, and as Trustee of THE JACK R. FISKE REVOCABLE TRUST DATED THE 1<sup>ST</sup> DAY OF MAY 2002, who is ( ) personally known to me or () who has produced F.C.D.R. as identification.

Notary Public Seal:

[Signature]  
NOTARY PUBLIC, State of \_\_\_\_\_

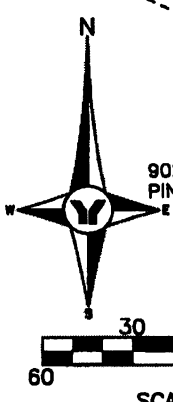
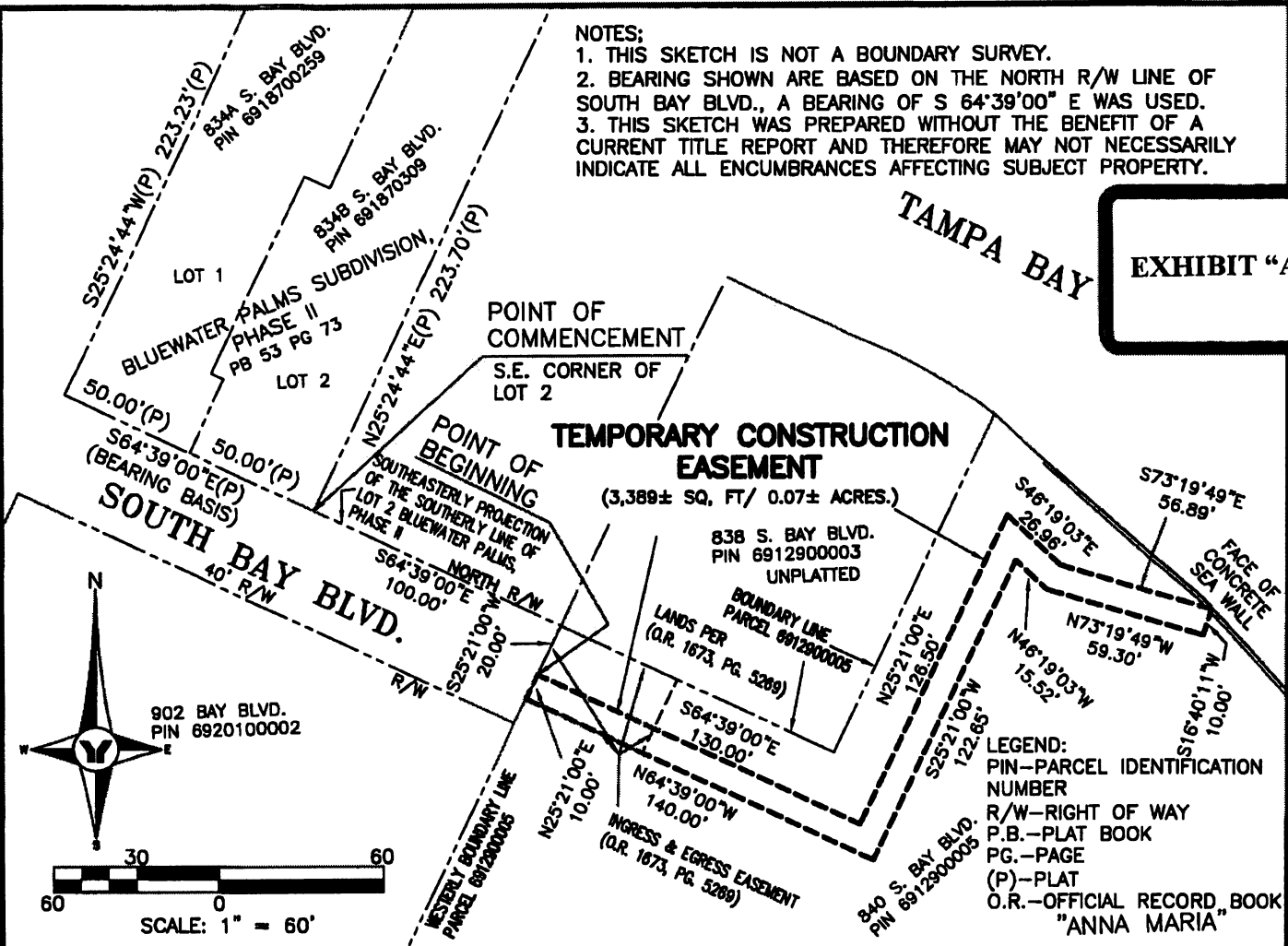
My Commission Expires: \_\_\_\_\_

Printed Name



EXHIBIT "A"

NOTES:  
 1. THIS SKETCH IS NOT A BOUNDARY SURVEY.  
 2. BEARING SHOWN ARE BASED ON THE NORTH R/W LINE OF SOUTH BAY BLVD., A BEARING OF S 64°39'00" E WAS USED.  
 3. THIS SKETCH WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT AND THEREFORE MAY NOT NECESSARILY INDICATE ALL ENCUMBRANCES AFFECTING SUBJECT PROPERTY.



LEGEND:  
 PIN—PARCEL IDENTIFICATION NUMBER  
 R/W—RIGHT OF WAY  
 P.B.—PLAT BOOK  
 PG.—PAGE  
 (P)—PLAT  
 O.R.—OFFICIAL RECORD BOOK "ANNA MARIA"

DESCRIPTION

A (10' WIDE) TEMPORARY CONSTRUCTION EASEMENT FOR THE INSTALLATION OF UTILITY LINES LYING WITHIN A PORTION OF MANATEE COUNTY PARCEL NUMBER 6912900005, SITE ADDRESS BEING 840 SOUTH BAY BOULEVARD, ANNA MARIA, FLORIDA, LYING IN SECTION 17, TOWNSHIP 34 SOUTH, RANGE 16 EAST, MANATEE COUNTY, FLORIDA AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTHEAST CORNER OF LOT 2, BLUEWATER PALMS SUBDIVISION, PHASE II, ACCORDING TO THE PLAT THEREOF, RECORDED IN PLAT BOOK 53, PAGE 73 OF THE PUBLIC RECORDS OF MANATEE COUNTY, FLORIDA, SAID POINT LYING ON THE NORTH RIGHT-OF-WAY LINE OF SOUTH BAY BOULEVARD (A 40' RIGHT-OF-WAY, PER PLAT); THENCE LEAVING SAID SOUTHEAST CORNER OF SAID LOT 2 AND ALONG THE SOUTHEASTERLY PROJECTION OF THE SOUTHERLY BOUNDARY LINE OF SAID LOT 2, SOUTH 64°39'00" EAST, 100.00 FEET TO ITS INTERSECTION WITH THE WESTERLY BOUNDARY LINE OF SAID PARCEL NUMBER 6912900005; THENCE LEAVING SAID NORTH RIGHT-OF-WAY LINE, SOUTH 25°21'00" WEST, 20.00 FEET FOR THE POINT OF BEGINNING; THENCE LEAVING SAID BOUNDARY LINE OF SAID PARCEL, RUN THE FOLLOWING CALLS: SOUTH 64°39'00" EAST, 130.00 FEET; THENCE NORTH 25°21'00" EAST, 126.50 FEET; THENCE SOUTH 46°19'03" EAST, 26.96 FEET; THENCE SOUTH 73°19'49" EAST, 56.89 FEET TO ITS INTERSECTION WITH THE WATERSIDE FACE OF A CONCRETE SEAWALL; THENCE LEAVING THE FACE OF SAID CONCRETE SEAWALL, SOUTH 16°40'11" WEST, 10.00 FEET; THENCE NORTH 73°19'49" WEST, 59.30 FEET; THENCE NORTH 46°19'03" WEST, 15.52 FEET; THENCE SOUTH 25°21'00" WEST, 122.65 FEET; THENCE NORTH 64°39'00" WEST, 140.00 FEET TO ITS INTERSECTION WITH THE BOUNDARY LINE OF SAID PARCEL NUMBER 6912900005; THENCE ALONG SAID BOUNDARY LINE, NORTH 25°21'00" EAST, 10.00 FEET TO THE POINT OF BEGINNING AND CONTAINING 3,389 SQUARE FEET OR 0.07 ACRES, MORE OR LESS.

"NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER"

PREPARED FOR: <b>MANATEE COUNTY PUBLIC WORKS</b> 1022 26th Ave. East Bradenton, FL 34209		<b>AMI KEY ROYALE WM</b> SKETCH & DESCRIPTION SECTION 17, TOWNSHIP 34 S., RANGE 16 E.		BY P.L. 1/21/13	DATE 1/21/13	DESCRIPTION PER MAN. CO. SURVEYOR COMMENTS
CREW CHIEF INITIALS DATE	DRAWN P.L. 12/11/12	CHECKED MEB 12/11/12	FIELD BOOK FIELD DATE	 F. Peter Lutz, Jr. PSM LS 5506 DATE 1/21/13	 <b>George F. Young, Inc.</b> 10540 PORTAL CROSSING, SUITE 103 BRADENTON, FLORIDA 34211 PHONE (841) 747-2881 FAX (841) 747-7234 BUSINESS ENTITY LS21 ARCHITECTURE-ENGINEERING-ENVIRONMENTAL-LANDSCAPE-PLANNING-SURVEYING-UTILITIES GAINESVILLE-LANESWOOD RANCH-ORLANDO-PALM BEACH GARDENS-ST. PETERSBURG-TAMPA-VENICE	JOB NO. 0973000526 SHEET NO. S1 of S1

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 PLOTTED: 01/21/13 15:26:30

THIS INSTRUMENT PREPARED BY:  
Division Manager, Property Acquisition Division  
Manatee County Property Management Department  
1112 Manatee Avenue West, Suite 800  
Bradenton, Florida 34205



PROJECT NAME: Key Royale  
PROJECT#: 6083070  
PARCEL#: N/A  
PID#: 6912900005

SPACE ABOVE THIS LINE FOR RECORDING DATA

**AFFIDAVIT OF OWNERSHIP AND ENCUMBRANCES**

STATE OF Florida  
COUNTY OF Manatee

BEFORE ME, the undersigned authority, this day personally appeared **JACK R. FISKE, Individually, and as Trustee of THE JACK R. FISKE REVOCABLE TRUST DATED THE 1<sup>ST</sup> DAY OF MAY 2002**, whose mailing address is 840 South Bay Boulevard, Anna Maria, Florida 34216, who, being first duly sworn, deposes and says:

1. That the undersigned, hereinafter called the "Grantor," is the owner of and has full authority to sell or encumber the property situate in Manatee County, State of Florida, more particularly described as that portion of Parcel # 6912900005 described in Composite Exhibit "A" attached hereto and incorporated herein by this reference (hereinafter "Property").
2. That the Grantor plans to convey a permanent easement and temporary construction easement to MANATEE COUNTY, a political subdivision of the State of Florida, whose mailing address is Post Office Box 1000, Bradenton, Florida 34206 (hereinafter "Grantee").
3. That to the best of my knowledge, the only mortgages, liens, or encumbrances including, but not limited to, any leasehold interest or potential claims against the Property are:

**That certain easement described in the "Warranty Deed" recorded in the official records of Manatee County, Florida at O.R. Book 1222, Page 3661.**

4. That there has been no labor, material, or service furnished for improvement of the Property which remains unpaid, except as set forth in paragraph 3 of this Affidavit.
5. That there are no claims, demands, liens, or judgments outstanding against the Property and that the Grantor is not indebted to anyone for any such property, except as set forth in paragraph 3 of this Affidavit.
6. That the Grantor makes this Affidavit for the purpose of assisting the Grantee in the acquisition of the Property.

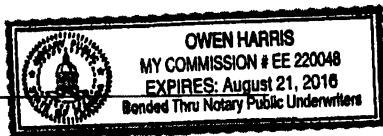
Jack R. Fiske  
JACK R. FISKE, Individually

Jack R. Fiske  
JACK R. FISKE, as Trustee of THE JACK R. FISKE REVOCABLE TRUST DATED THE 1<sup>ST</sup> DAY OF MAY 2002

SWORN to (or affirmed) and subscribed before me this 30<sup>th</sup> day of Dec, 2013, by JACK R. FISKE, Individually, and as Trustee of THE JACK R. FISKE REVOCABLE TRUST DATED THE 1<sup>ST</sup> DAY OF MAY 2002, who is  personally known to me or  who has produced FL D-2 as identification.

Notary Public Seal:

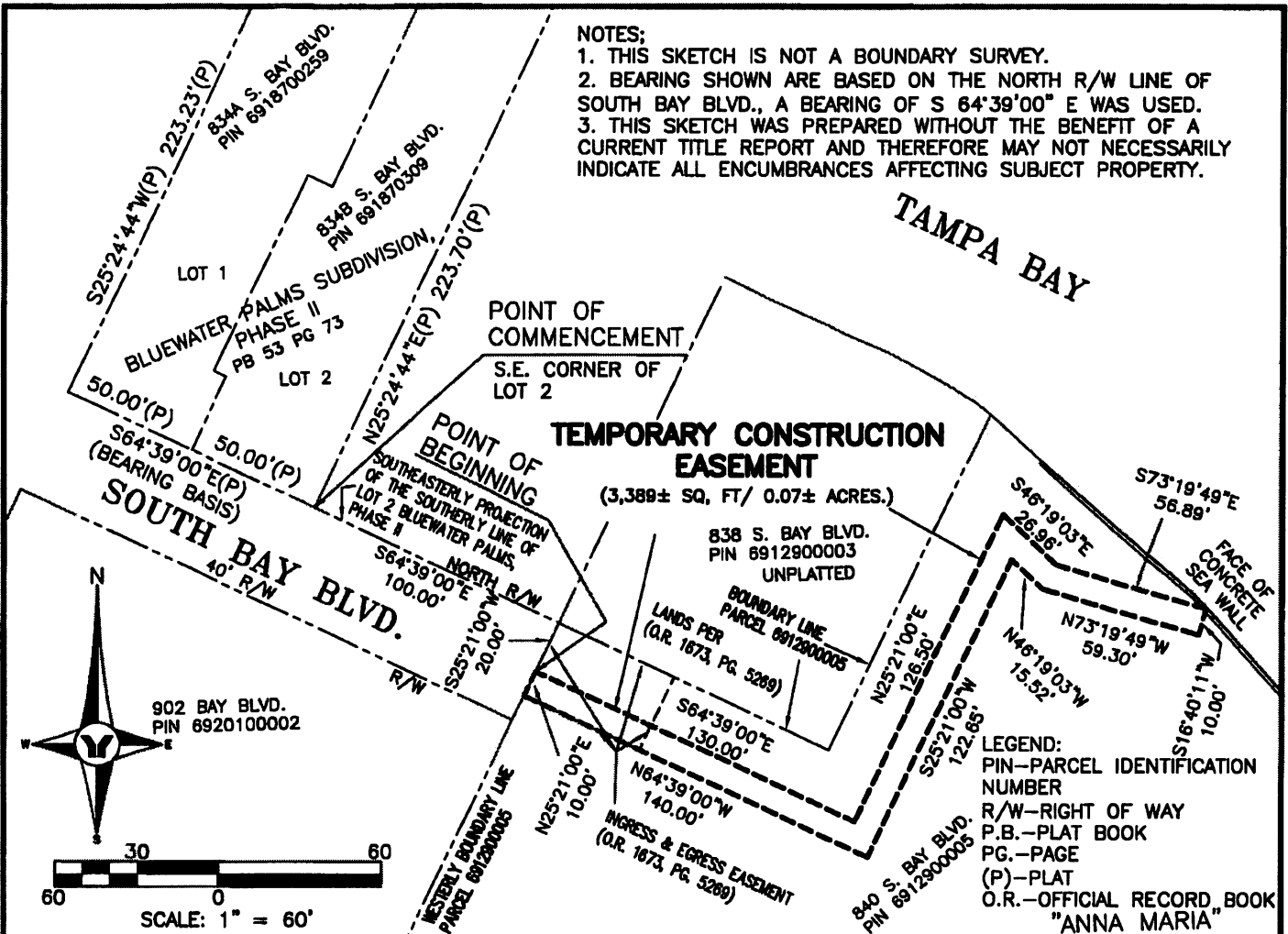
My Commission Expires:



Owen E. Harris  
NOTARY PUBLIC, State of \_\_\_\_\_

Printed Name





**DESCRIPTION**

A (10' WIDE) TEMPORARY CONSTRUCTION EASEMENT FOR THE INSTALLATION OF UTILITY LINES LYING WITHIN A PORTION OF MANATEE COUNTY PARCEL NUMBER 6912900005, SITE ADDRESS BEING 840 SOUTH BAY BOULEVARD, ANNA MARIA, FLORIDA, LYING IN SECTION 17, TOWNSHIP 34 SOUTH, RANGE 16 EAST, MANATEE COUNTY, FLORIDA AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTHEAST CORNER OF LOT 2, BLUEWATER PALMS SUBDIVISION, PHASE II, ACCORDING TO THE PLAT THEREOF, RECORDED IN PLAT BOOK 53, PAGE 73 OF THE PUBLIC RECORDS OF MANATEE COUNTY, FLORIDA, SAID POINT LYING ON THE NORTH RIGHT-OF-WAY LINE OF SOUTH BAY BOULEVARD (A 40' RIGHT-OF-WAY, PER PLAT); THENCE LEAVING SAID SOUTHEAST CORNER OF SAID LOT 2 AND ALONG THE SOUTHEASTERLY PROJECTION OF THE SOUTHERLY BOUNDARY LINE OF SAID LOT 2, SOUTH 64°39'00" EAST, 100.00 FEET TO ITS INTERSECTION WITH THE WESTERLY BOUNDARY LINE OF SAID PARCEL NUMBER 6912900005; THENCE LEAVING SAID NORTH RIGHT-OF-WAY LINE, SOUTH 25°21'00" WEST, 20.00 FEET FOR THE POINT OF BEGINNING; THENCE LEAVING SAID BOUNDARY LINE OF SAID PARCEL, RUN THE FOLLOWING CALLS: SOUTH 64°39'00" EAST, 130.00 FEET; THENCE NORTH 25°21'00" EAST, 126.50 FEET; THENCE SOUTH 46°19'03" EAST, 26.96 FEET; THENCE SOUTH 73°19'49" EAST, 56.89 FEET TO ITS INTERSECTION WITH THE WATERSIDE FACE OF A CONCRETE SEAWALL; THENCE LEAVING THE FACE OF SAID CONCRETE SEAWALL, SOUTH 16°40'11" WEST, 10.00 FEET; THENCE NORTH 73°19'49" WEST, 59.30 FEET; THENCE NORTH 46°19'03" WEST, 15.52 FEET; THENCE SOUTH 25°21'00" WEST, 122.65 FEET; THENCE NORTH 64°39'00" WEST, 140.00 FEET TO ITS INTERSECTION WITH THE BOUNDARY LINE OF SAID PARCEL NUMBER 6912900005; THENCE ALONG SAID BOUNDARY LINE, NORTH 25°21'00" EAST, 10.00 FEET TO THE POINT OF BEGINNING AND CONTAINING 3,389 SQUARE FEET OR 0.07 ACRES, MORE OR LESS.

"NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER"

PREPARED FOR: <b>MANATEE COUNTY PUBLIC WORKS</b> 1022 28th Ave. East Bradenton, FL 34208		<b>AMI KEY ROYALE WM</b> SKETCH & DESCRIPTION SECTION 17, TOWNSHIP 34 S., RANGE 18 E.		BY P.L.	DATE 1/21/13	DESCRIPTION PER MAN. CO. SURVEYOR COMMENTS
CREW CHIEF DRAWN CHECKED FIELD BOOK FIELD DATE	INITIALS DATE 1/21/13	F. Peter Lutz, Jr. PSM LS 5506		<b>George F. Young, Inc.</b> 10540 PORTAL CROSSING, SUITE 105 BRADENTON, FLORIDA 34211 PHONE (941) 747-2981 FAX (941) 747-7234 BUSINESS ENTITY LE21 ARCHITECTURE-ENGINEERING-ENVIRONMENTAL-LANDSCAPE-PLANNING-SURVEYING-UTILITIES GAINESVILLE-LAKEWOOD RANCH-ORLANDO-PALM BEACH GARDENS-ST. PETERSBURG-TAMPA-VENICE		JOB NO. 0973000526 SHEET NO. S1 of S1

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