



V I L L A G E O F K E Y B I S C A Y N E



Office of the Village Manager

MEMORANDUM

Village Council
Mayra P. Lindsay, *Mayor*
Franklin H. Caplan, *Vice Mayor*
Luis F de La Cruz
Theodore Holloway
Michael E. Kelly
Edward London
James Taintor

Village Manager
John C. Gilbert

DATE: December 1, 2015

TO: Honorable Mayor and Council Members

FROM: John C. Gilbert, Village Manager

RE: EAC Consulting, Inc. - Task 2 of Stormwater Improvement Implementation Plan

RECOMMENDATION

It is recommended that the Village Council approve the attached Resolution amending the Agreement with EAC Consulting, Inc. for Engineering Services to include Task 2 of the Stormwater Improvement Implementation Plan in an amount not to exceed \$91,114.58.

BACKGROUND

The Village Council at their May 12, 2015 Council Meeting, authorized the Village Manager to execute an agreement with EAC Consulting, Inc. (EAC) for Task 1 of the Stormwater Improvement Implementation Plan. On November 20th, EAC submitted their evaluation report for the implementation of the Stormwater Master Plan. The attached proposal for Task 2 includes the necessary data collection (surveying, subsurface utility engineering and geotechnical), engineering and environmental assessments required for the project(s), securing all of the required jurisdictional approvals/permits, bid package compilation and support during the procurement of construction and construction observation services for Tier 1 projects. As described at the October 6th Stormwater workshop, Tier 1 improvements provide the first line of stormwater management facilities needed with the Village's watershed. Tier 1 improvements will involve proposing engineered systems to prevent and/or reduce staging that results from high tides.

Funding for Task 2 will come from the Stormwater Enterprise Fund- Stormwater Implementation Plan Refinanced Loan.

Reviewed by Mr. Chad Friedman from Weiss Serota Helfman Cole & Bierman as to form and legal sufficiency.

RESOLUTION NO. 2015 -

A RESOLUTION OF THE VILLAGE COUNCIL OF THE VILLAGE OF KEY BISCAYNE, FLORIDA, AMENDING THE AGREEMENT WITH EAC CONSULTING, INC. FOR ENGINEERING SERVICES TO INCLUDE TASK 2 OF THE STORMWATER IMPROVEMENT IMPLEMENTATION PLAN; PROVIDING FOR AUTHORIZATION; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the Village of Key Biscayne (“Village”) issued Request for Qualifications No. 2014-02 (“RFQ”) for a stormwater improvement implementation plan, in order to provide for the planning, engineering and administration of construction of stormwater infrastructure improvements within the Village (the “Services”); and

WHEREAS, pursuant to the RFQ, the Village selected EAC Consulting, Inc. (“Consultant”) for the Services; and

WHEREAS, the Village commenced Task 1 of the Services, which consisted of hydraulic and hydrologic analyses and evaluation of the Village’s storm watershed, including data collection, analyses and evaluation in order to establish improvements required for stormwater management; and

WHEREAS, the Village wishes to commence Task 2 of the Services, as provided in the proposal attached hereto Exhibit “A,” which consists of the necessary data collection (surveying, subsurface utility engineering and geotechnical), engineering and environmental assessments required for the project(s), securing all of the required jurisdictional approvals/permits, and support during the procurement of construction and construction observation services; and

WHEREAS, as such, the Village desires to amend the agreement with the Consultant to include Task 2 of the Services consistent with the proposal attached hereto as Exhibit “A;” and

WHEREAS, the Village Council finds that this Resolution is in the best interest and welfare

of the residents of the Village.

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE VILLAGE OF KEY BISCAYNE, FLORIDA, AS FOLLOWS:

Section 1. Recitals Adopted. That each of the recitals stated above is hereby adopted and confirmed.

Section 2. Amendment Approved. The Village Council hereby approves an amendment to the agreement with the Consultant to include Task 2 of the Services in accordance with the proposal attached hereto as Exhibit "A."

Section 3. Village Manager Authorized. The Village Manager is hereby authorized to execute an agreement consistent with the proposal, attached hereto as Exhibit "A," subject to final approval as to form, content, and legal sufficiency by the Village Attorney.

Section 4. Effective Date. That this Resolution shall be effective immediately upon adoption hereof.

PASSED AND ADOPTED this ____ day of _____, 2015.

MAYOR MAYRA PEÑA LINDSAY

ATTEST:

CONCHITA H. ALVAREZ, MMC, VILLAGE CLERK

APPROVED AS TO FORM AND
LEGAL SUFFICIENCY

VILLAGE ATTORNEY



November 18, 2015

Jose G. Lopez
jlopez@keybiscayne.fl.gov
Stormwater Utility & Sewer Representative
Village of Key Biscayne
88 West McIntyre Street, Suite 230
Key Biscayne, FL 33149

**Re: Village of Key Biscayne (VKB) – Implementation of Stormwater Master Plan (SWMP)
Tier 1 Improvements – High Tide Mitigation Infrastructure Improvements**

Dear Mr. Lopez:

EAC Consulting, Inc., as part of the ongoing implementation of the Village's Stormwater Master Plan respectfully submits this design services proposal request to undertake the engineering tasks required for implementing Tier 1 Improvements – High Tide Mitigation Improvements at twenty (20) selected locations village wide as part of our "Task 2" services of the Village Key Biscayne's RFQ 14-02. The selected locations include the Village system's outfalls and connections to the Crandon Boulevard interceptor.

Background

The Village of Key Biscayne (VKB) Council and staff as a result of RFQ 14-02 contracted EAC to perform the requisite services to plan, engineer and administer the construction of the needed infrastructure improvements consistent with the Village's Stormwater Masterplan. This effort is primarily goaled at protecting the village's residents and business owners from unnecessary flooding and promoting a higher level of stormwater serviceability for all the Village's stakeholders. The implementation of the Village's SWMP ("the project") has two main task elements:

1. Hydraulic and Hydrologic Analyses and Evaluation of VKB's Storm Watershed.
 2. Engineering Design and the Development of Construction Documents for Priority Basins.
- **Task 1** - Hydraulic and Hydrologic Analyses and Evaluation of VKB's Storm Watershed including all necessary engineering and technical services to successfully perform the analyses of storm water infrastructure existing village wide and currently under the jurisdiction / ownership of the Village (Public Works Department). The effort requires incorporating recent infrastructure improvements undertaken by the Village, updating the existing SWMP to reflect more accurate representative data and other updates the watershed as reflected in new information collected from various sources. In addition, opportunities to incorporate green infrastructure as part of the overall storm water management plan will now be explored in an effort to streamline the amount of new infrastructure required to address determined deficiencies. This task is being concluded as included a public outreach meeting with residents in October 2015 highlighting the findings of the hydraulic and hydrologic analyses, soliciting feedback from residents and illustrating the capital infrastructure improvements plan proposed to resolve excessive storm water staging village-wide.
 - **Task 2** - Include the necessary data collection (surveying, subsurface utility engineering and geotechnical), engineering and environmental assessments required for the project(s). Included in this element is the securing of all required jurisdictional approvals/permits, support during the procurement of construction and construction observation services to the extent authorized by VKB.

As described at the October 2015 public meeting, the Tier 1 Infrastructure improvements provide the first line/level of stormwater management facilities needed within the Village's watershed. The low lying

topography and geographic proximity the bay makes the Village susceptible to the bay's tidal patterns. Tier 1 improvements (also referred to as the High Tide Mitigation Improvements) will involve proposing carefully engineered systems to prevent and/or reduce staging that results from high tides.

The Tier 1 Improvements will also include the provision of engineering design / oversight services required for implementing ground water levels/flow monitoring devices at up to five (5) selected locations within the Village. Continuous surface and groundwater monitoring is proposed to provide information which will be used to better understand the hydrology of VKB in terms of surface and groundwater levels and salt water intrusion. The information which will be obtained from the Surface and Groundwater monitoring effort will provide long term data which will be used to determine the water level trends within the Key.

A.) Tier 1 Improvements - Scope of Work

Tidal Flooding Mitigation design services are required due to conclusive determinations made about tidal flooding in the Village of Key Biscayne from the hydraulic & hydrologic analyses performed as part of Task 1 of the SWMP Implementation effort. The services rendered through this scope of work will provide the Village with a solution to tidal flooding conditions experienced at various locations throughout the Key.

The Scope of work consists of proposing new or replacement, retrofit and repair to existing stormwater infrastructure, associated roadway and ground cover restoration and other miscellaneous work items necessary for a complete and functional operations.

Generally, the scope includes the following tasks:

- i. Topography Surveying and Mapping at each of the twenty (20) locations to include roadways, sidewalks, fences, walls, paved areas, drains, planters, utilities, light poles, power poles, driveways, catch basins, curbs, signs and all other aboveground improvements within the limits of the survey. All control points will have Northing and Easting coordinates referenced to the Florida State Plane Coordinate System, based on the North American Datum of 1983/90. All elevations will be referenced to the North American of 1983 (NAVD83). (Please refer to Attachment 1 for Location sketches and extent of survey work)
- ii. Easement Verification Services - Public record data search find the existence to any easements affecting the properties. Please note that this scope does not include Title Searches.
- iii. Geotechnical Investigations Services – Five (5) Standard Penetration Test borings at 15 feet depth at prescribed locations within the Village
- iv. Field Engineering & Data Collection
- v. Utility Coordination Services
- vi. Engineering & Construction Documents (100% Plans Package & Technical Specifications)
- vii. Permitting & Jurisdictional Approvals
- viii. Bid Package Compilation & Limited Bid Assistance Services
- ix. Limited Engineering Support During Construction

Attachment 1 included with this proposal provides a more detail on the scope items described above.

B.) Tier 1 Improvements - Schedule

Our preliminary schedule for completion is estimated as follows:

- | | |
|---|--------------------------|
| ○ Pre Design Services (Surveying, Geotechnical, etc.) | NTP+3 Weeks |
| ○ Design and Construction Documents | NTP+8 Weeks |
| ○ Permitting & Approvals | NTP+12 Weeks (projected) |

Due to the level of improvements envisioned, the permitting and jurisdictional approvals can be coordinated with the respective jurisdictions during the design phase and should be completed relatively quickly, however, this is typically controlled by the jurisdictions and projected timelines cannot be guaranteed.

We will also work with the Village to expedite the procurement documents and processes as needed.

C.) Tier 1 Improvements - Compensation

Compensation for the varying tasks is on a lump sum basis that is based on the following breakdown and will be invoiced on a percentage basis in accordance with the completion at the time of billing.

○ Pre Design Services	
○ Topography Surveying & Mapping	\$ 15,000.00
○ Geotechnical Engineering Services	\$ 2,500.00
○ Design & Construction Documents	\$ 40,069.85
○ Engineering Design Support / Oversight for Groundwater Monitoring Stations	\$ 7,200.00
○ Permitting & Jurisdictional Approvals	\$ 4,314.93
○ Bid Package Compilation / Bid Assistance	\$ 8,088.90
○ Limited Construction Support Services	\$ 12,940.90
Sub-Total:	\$ 90,914.58
Printing/Reimbursable(s):	\$ 1,000.00
Total Compensation for this Work Order:	\$ 91,114.58

All terms and conditions shall be per our Agreement with the Village RFQ 14-02.

We are ready begin working on this assignment. If the above fee proposal and the terms above are acceptable to you, please provide us with a Work Authorization / Work Order. Please feel free to contact me if any clarifications are required.

Thank you for the opportunity to be of service to the Village of Biscayne.

Sincerely,
EAC Consulting, Inc



Michael Adeife
Vice President, Civil Engineering

c.c: File
Tony Brown (VKB Public Works)
Mark Kuntz (EAC)
Evelyn Rodriguez (EAC)

Attachment 1

**STATEMENT OF WORK
VILLAGE OF KEY BISCAYNE (VKB)
IMPLEMENTATION OF STORMWATER MASTERPLAN (SWMP)
VKB RFQ NO.14-02**

HIGH TIDE MITIGATION IMPROVEMENTS DESIGN SERVICES

Our Scope of Services for the High Mitigation Infrastructure Improvements is described as follows:

I. Pre Design Services

Our approach to resolving flooding associated with the high tides will commence with collecting and gathering field existing data. This collection effort will occur through means such as performing field topography surveying and mapping as well as undertaking field testing for subsurface ground conditions.

a. Task 2A-1.1 Topography Surveying & Mapping

Topography Surveying and Mapping at each of the twenty (20) locations to include roadways, sidewalks, fences, walls, paved areas, drains, planters, utilities, light poles, power poles, driveways, catch basins, curbs, signs and all other aboveground improvements within the limits of the survey. All control points will have Northing and Easting coordinates referenced to the Florida State Plane Coordinate System, based on the North American Datum of 1983/90.

All elevations will be referenced to the North American Vertical Datum of 1983 (NAVD 83). All survey work will also comply with the Minimum Technical Standards for Surveying and Mapping, according to Chapter 5J-17.052 of Florida Administrative Code, as adopted by the Board of Professional Surveyors, Chapter 472, Florida Statutes.

b. Task 2A-1.2 Geotechnical Engineering Services

Subsurface conditions will be explored by drilling/sampling five Standard Penetration Test (SPT) borings to depths of 15 feet below grade. The SPT borings will be performed with truck-mounted machinery using rotary drilling procedures. Samples of the in-place materials will be recovered with a standard split barrel driven with a 140-pound hammer falling 30 inches (the Standard Penetration Test in accordance with ASTM D1586).

After completion of drilling, all boreholes will be backfilled with excavated soil/rock, asphalt patched where necessary and the site generally cleaned, as required. Underground utility clearance will be obtained via "Sunshine One-Call" Service.

II. Task 2A-2.1 Design & Construction Documents

EAC will undertake requisite engineering services related to investigation, assessment of existing conditions, evaluation of proposed improvements and recommendations for design approach. Our services includes a wide range of engineering tasks such as Site Assessments and Field Review of Existing Conditions. Our services also covers contacting all existing utility owners within the project limits and request for copies of as built information of their respective facilities located within the project limits. EAC shall proceed to notify these utility owners of impending proposed design work and request for concerns and potential conflicts between the proposed work and their respective utilities. Information on future planned development by each respective utility owner will also be requested to ensure that the pertinent coordination is implemented.

EAC shall undertake the engineering design, develop plans and construction and issue as construction documents, general information plans providing specific direction on the project's working conditions, general site conditions, information data related to the improvements and project construction requirements. The general information documents will also include SWPPP

Notes and Details, Construction Notes, Maintenance of Traffic Notes and Details and Geotechnical Subsurface Profiles and Notes.

EAC will develop construction plans for each of the twenty (20) locations village wide overlaid on certified topography survey. The plans would provide necessary construction direction for the infrastructure and improvements required for the high tide mitigation strategy. The construction plans would be developed in accordance with prevailing jurisdictional regulations of authorities and agencies that mandate the proposed work. Construction plans will be tied horizontally to monuments and would be vertically referenced to established datum and benchmarks.

In addition, we will develop incorporate within the documents pertinent technical specifications that will guide the construction process.

Please note that our design services assume that no work will be performed within the waters of Biscayne Bay and that no environmental impacts and permits are required.

Task 2A-2.2 Design Support & Oversight for Groundwater Monitoring Stations

A continuous surface and groundwater monitoring plan is proposed to provide information which will be used to better understand the hydrology of the Village of Key Biscayne in terms of surface and groundwater levels and salt water intrusion. The information which will be obtained from the Surface and Groundwater monitoring system will provide long term data which will be used to determine the water level trends, the available storage within the Village, and the interaction of ground water under varying boundary conditions. EAC will provide engineering support for the development and implementation of the surface and ground monitoring system at up to five (5) locations to include:

- a. Evaluate and coordinate with Village staff to select locations of monitoring stations.
- b. Review specifications of sensors, data acquisition parameters, frequency and accessibility, this includes one on-site visit at each location.
- c. Verify sensor installation, operation, data recording and data collection, this includes an on-site visit at each location, a summary of recording parameters and an operations plan review.

III. Task 2A-3 Permitting & Jurisdictional Approvals

EAC Consulting, Inc., will provide engineering services needed to obtain the approval and permits from regulatory agencies having jurisdiction over civil/underground infrastructure improvements.

Permits and approvals from the following agencies is anticipated:

- Village of Key Biscayne – Applicable Departments
- Miami Dade Regulatory and Environmental Resources
- Florida Department of Environmental Protection

Due to the nature of changing approval fees and permit processing costs, EAC's fees do not include any fees payable to the permitting/approval agencies.

Our design and permitting services assume that no work will be performed within the waters of Biscayne Bay and that no environmental impacts and permits are required.

IV. Task 2A-4 Bid Package Compilation / Bid Assistance

EAC will work with the Village to compile the bid documents. The bid documents will include a complete package of drawings and Division 1 and Technical Construction Specifications signed and sealed by the our team's Engineer of Record, appropriate bid forms and any other special bid conditions which may be mandated by the Village and/or agencies that have jurisdiction. Our Bid Assistance services will be limited to the following:

- Attendance at Pre-bid Meeting
- Respond to Bid Questions and Clarifications

- Prepare Necessary Addenda
- Attendance at Bid Opening
- Assist the Village with the Bid Evaluation and Preparation of Bid Recommendation / Concurrence Memorandum

V. Task 2A-5 Limited Construction Support Services

EAC will provide construction support administration services consistent with the construction documents produced. Our role during construction will not be to observe the day to day progress of the work, but to undertake periodic, scheduled and unscheduled site visits to ensure that work is constructed in adherence with applicable jurisdictional regulations and construction drawings. We will represent the VKB's interest by ensuring that potential problems are recognized early and remedied spontaneously.

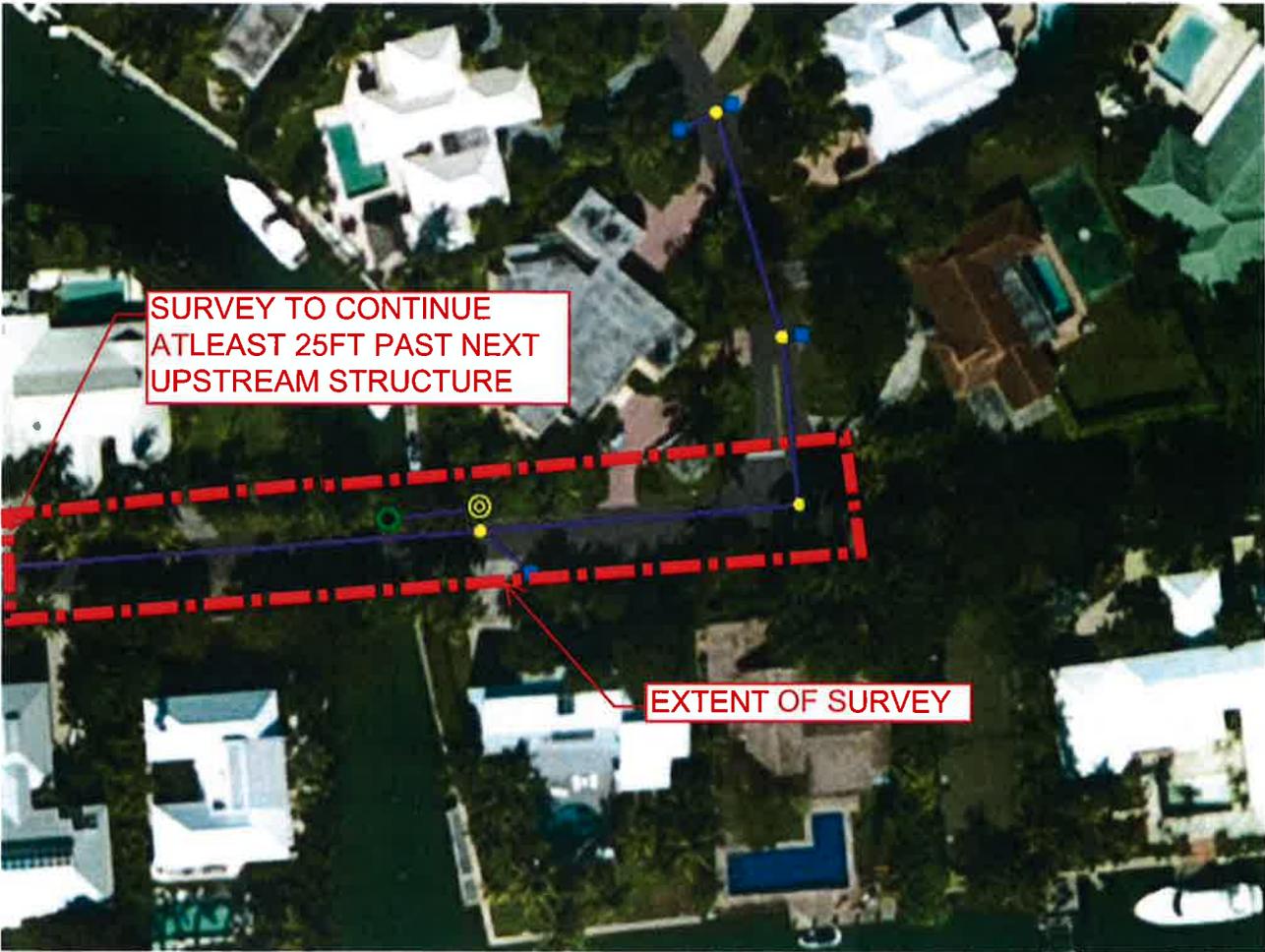
EAC will provide the following tasks as part of Construction Administration:

- Inspections necessary to certify elements of the constructed work.
- Attend pre-construction and construction meetings as necessary and as applicable to the engineering and site work.
- Shop Drawing reviews and approvals.
- Review contractor's pay requests.
- Review contractor's change order requests.
- Issue resolutions to contractor's request for information (RFI).
- Issue resolutions to request contractor's for clarification.
- Issue field change orders.
- As-built drawings processing.
- Close Out services – punch-lists, walkthrough and closing open permits.



O-01

151 Cape Florida Dr.



O-02

Cape Florida Dr.



O-03 A & B

100 Island Dr. 90 Knollwood Dr.



O-04

250 Knollwood Dr.



O-05

911 Harbor Dr.



O-06

W. Mashta Dr.



O-07

W. Mashta Dr.



O-08

Marine Dr.



O-09

631 North Mashta Dr.



O-10

735 North Mashta Dr.



O-11

700 Harbor Dr.



O-12

645 Sunset Circle

Village Key Biscayne Stormwater Inspection Status

This map illustrates the status of SW structure inspections by the Village's contractor



Esri, HERE | DigitalGlobe, Microsoft

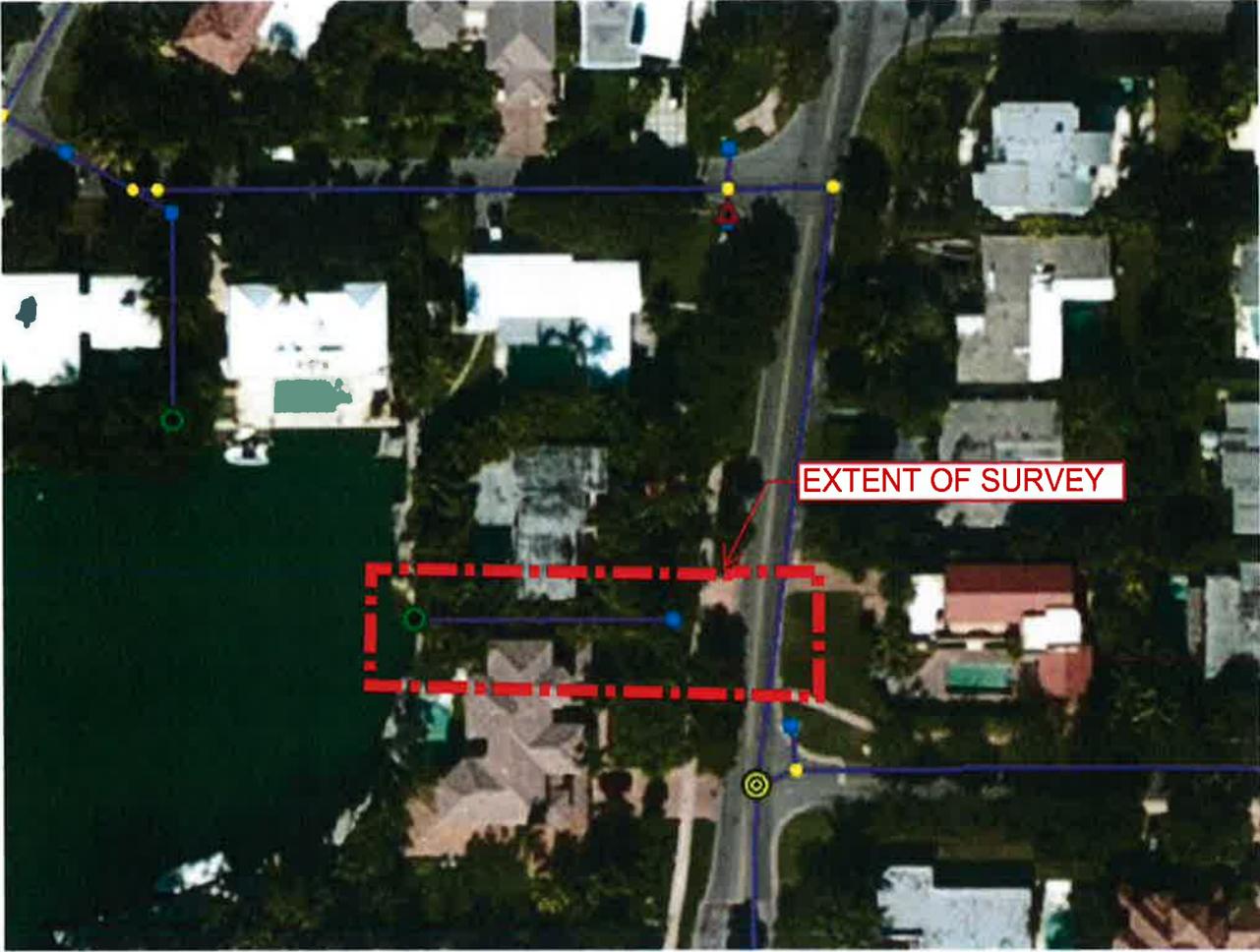
O-13

14 Harbor Point



O-14

460 W. Matheson Dr.



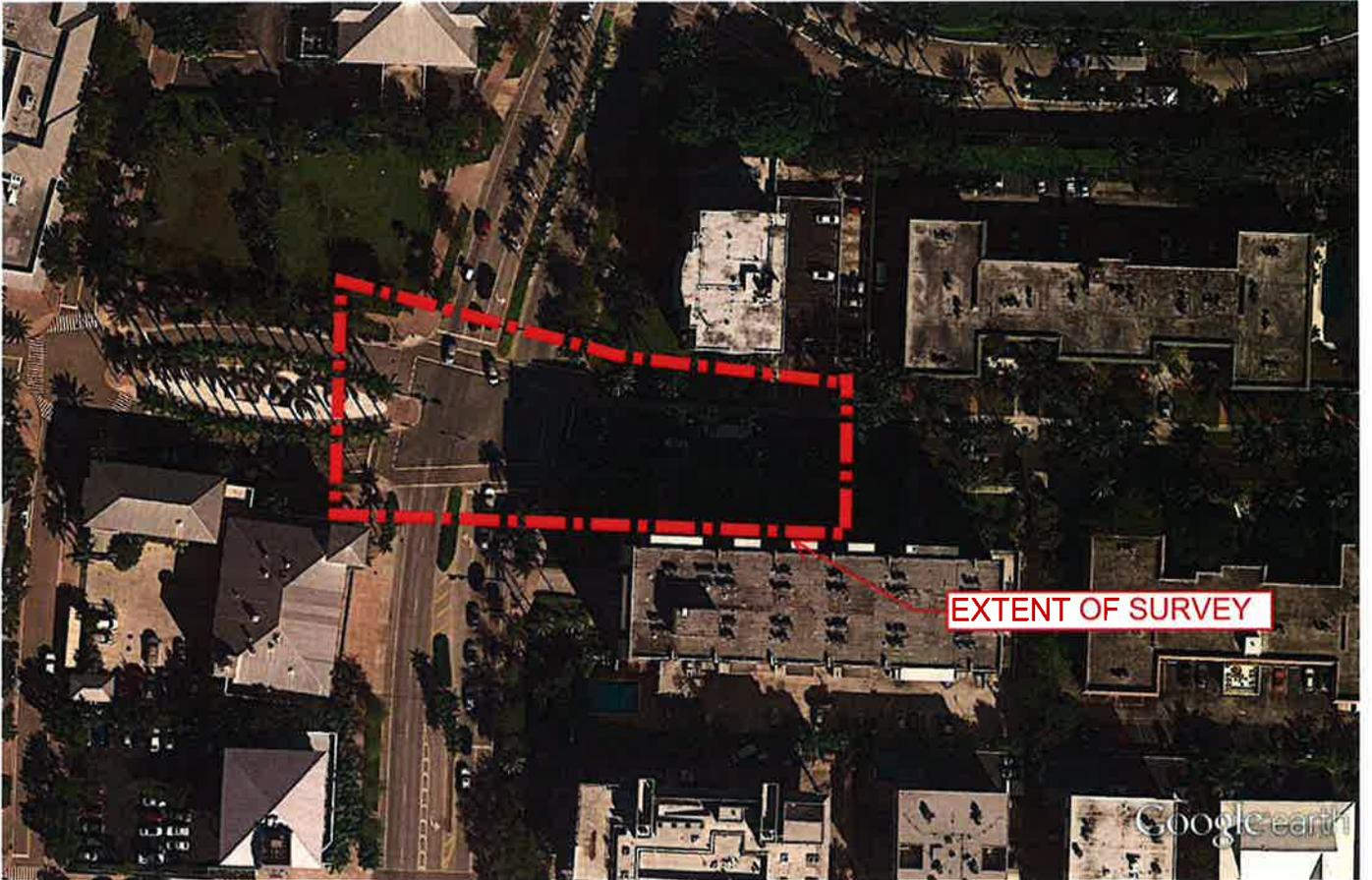
O-15

540 Harbor Dr.



Crandon South 1

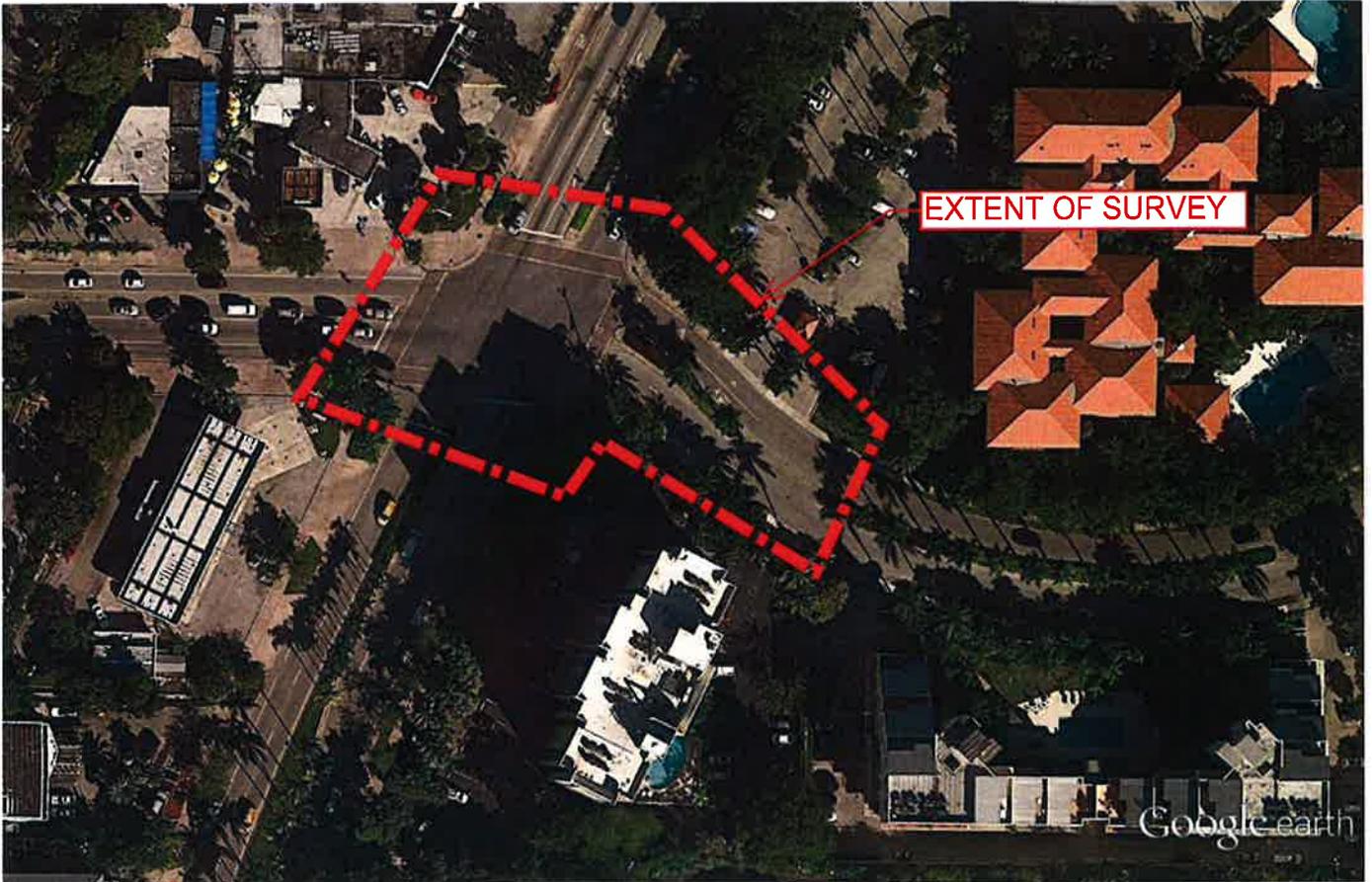
Crandon Blvd and Pines Canal



CRANDON BLVD AND GALEN DR INTERCEPTOR



CRANDON BLVD AND EAST HEATHER DR
INTERCEPTOR



CRANDON BLVD AND OCEAN LANE DR INTERCEPTOR