

CONSULTANT WORK ORDER PROPOSAL

Date: January 5, 2018

Dear Mr. Rey:

Kimley-Horn and Associates, Inc. (Consultant or KHA) proposes to provide the services identified below for the project entitled “**Work Order No. 2, Storm Water Master Plan Update #3**”, pursuant to its Professional Service Agreement with the Town of Miami Lakes (the Town) for **2017-32, Continuing Civil Engineering Services for Miscellaneous Projects**, dated **November 16, 2017**.

I. General

The Town would like to update their Storm Water Master Plan (SWMP) that was originally completed in 2002 and addressed flood protection, creating a storm water utility, developing a prioritized Storm Water Capital Improvement Plan (CIP), and joining federal flood insurance programs. Updates to the original SWMP were completed in 2006 and in 2012 to evaluate the progress made to date, identify and evaluate the next priority storm water projects, and modify the CIP accordingly.

The second SWMP Update is now over five (5) years old and there have been several stormwater projects completed that have enhanced and improved the Town’s stormwater system. In addition, there have been changes in the construction industry that should be reviewed and incorporated into the budgets for the stormwater program. In order to address these issues and to assess additional areas of the Town for stormwater programming and priorities, it is recommended that the Town update the SWMP.

Having completed all prior storm water master plans as well as implementing a majority of the Town’s capital storm water improvement projects, the Consultant has extensive information and local knowledge that will be used to minimize data collection efforts and to better serve the Town.

II. Scope of Work

Task 1- Project Initiation/Meetings

The purpose of this task is to initiate the project including identifying project protocols and establishing the necessary coordination between the Consultant and Town staff. The Consultant will conduct a project Kick-off meeting after receiving notice to proceed from the Town. At this meeting, information will be reviewed about previous storm water management efforts and experiences, particularly those relative to ongoing flooding and pavement deterioration within the Town. The meeting will address the project schedule, coordination requirements, project goals, and project objectives.

Up to two (2) coordination meetings may be required between the Town and the Consultant throughout the duration of the project.

Deliverables:

- 1.1 Kickoff meeting and two (2) coordination meetings

Task 2- Storm Water Data Collection

- 2.1 The Consultant will collect and evaluate information contained in the original Storm Water Master Plan, Storm Water Master Plan Update #1, Update #2 and readily available

information that has been prepared since completion of the original Storm Water Master Plan. The data collection will be limited to the Town's corporate limits and offsite areas that directly impact the Town's drainage system. Types of data that may be collected by the Consultant include:

1. NPDES Permit information and data (from Miami-Dade County)
2. Town ordinances, regulations or guidelines for storm water management, and green stormwater infrastructure
3. Storm Water management and land use Geographic Information System (GIS) coverage (from Miami-Dade County)
4. Design and record drawings of completed or proposed storm water management/drainage projects
5. Citizen complaint reports/Public Works Department Work Orders (from Town)
6. Records of storm water management problem areas (from Town)
7. Key current and future developments

The Consultant will prepare a brief memorandum summarizing the data collected to support the development of the Storm Water Master Plan Update. As part of the task, if it is identified that additional information is needed to complete the memorandum the Consultant will coordinate directly with the Town to request the missing information. Additionally, all field data collection to be provided by the Town and this task does not include topographic surveys or geotechnical testing.

Deliverables:

2.1 Data Collection memorandums

Task 3- Storm Water Master Plan Update

The result of this task is to develop a Storm Water Master Plan Update that utilizes the services performed and information collected in Tasks 1 and 2. The Consultant will meet with the Town to identify the content and organization of the Storm Water Master Plan Update. This task will be conducted in the following three sub-tasks.

- 3.1 Existing Problems/Needs Assessment
- 3.2 Hydrologic/Hydraulic Modeling
- 3.3 Summary of Needed Improvements/Capital Improvements Plan (CIP)
- 3.4 Resiliency Alternatives

3.1 Existing Problems/ Needs Assessment

The Consultant will meet with the Town Staff to review storm water complaints, identify the locations of storm water problem areas and collect information relative to problem nature, and severity. In addition, the Consultant will visit the Town during major storm events (rainfall lasting more than one-hour) that occur during the data collection and existing problems/ needs assessment phases. The purpose of the visits will be to identify additional storm water problem areas (locations where roadway flooding extends across an entire travel lane or where buildings appear to be in danger of flooding). Once these areas have been identified, an exhibit will be created depicting the storm water problem areas within the Town. This exhibit will be provided to the Town for review, and it will be modified once to incorporate comments.

Once the exhibit depicting storm water problem areas has been created, the Consultant will meet with the Town to identify up to eight (8) Priority Sub-basins for Hydrologic/ Hydraulic modeling. The selection of the Priority Sub-basins will be based on the Sub-basin boundaries defined in the original Storm Water Master Plan and the severity of storm water problems within each Sub-basin.

3.2 Hydrologic/Hydraulic Modeling

The Consultant will develop a hydrologic/hydraulic (H/H) storm water model to evaluate the Priority Sub-basins. All storm water facilities within a Priority Sub-basin may not be included in the model if they are not required to evaluate the area. The Consultant will develop hydrologic and hydraulic storm water models for the selected Sub-basins using SFWMD Cascade or another model acceptable to the Town. Typical data required for these models include:

- Stage/Storage relationships
- Time of Concentration
- Soils Infiltration/Storage
- Impervious Areas
- Curve Number/Runoff Coefficient
- Storm Water Facility Information
- Rainfall Data
- Flow Data

A design level of service goal for all Priority Sub-basins was established in the original Storm Water Master Plan. As part of this update, that level of service will be the base line, but the Consultant will review increasing the level of service to provide a safety factor associated with improving stormwater resiliency. The Consultant will execute the model for the following storm events:

- 5-year/ 24-hour
- 10-year/ 24-hour
- 25-year/ 72-hour
- 100-year/ 72-hour

Model input and results of existing condition model will be reviewed with the Town prior to proceeding with modeling of alternative solutions. The alternative solutions will include stormwater management practices that may be required to accommodate the change in level of service due to stormwater resiliency impacts. Utilizing the H/H model the Consultant will evaluate up to two alternative solutions for each of the selected Priority Sub-basins. The recommended improvements may include both structural and nonstructural controls to address the storm water management problems identified.

In addition to storm water management, the consultant will utilize a spreadsheet model to estimate storm water quality or pollutant load reductions for total suspended solids, total phosphorus, and total nitrogen based on existing load use and proposed water quality improvements.

3.3 Summary of Needed Improvements/Storm Water CIP

Utilizing the results of the above outlined tasks, the Consultant will summarize the improvements that are needed to upgrade the level of service for the Town's storm water system. This task will be summarized in a prioritized manner and will address the opinion of probable cost associated with each improvement.

The Town's Storm Water CIP will be presented in a spreadsheet format. Each project will be outlined with a description and corresponding budget. A brief summary of each project including anticipated pollutant load reductions will be included as part of the Storm Water CIP. The Storm Water CIP will include updated budgets for projects included in the original Storm Water Master Plan and Stormwater Master Plan Updates as well as budgets for improvements to meet level of service goals in the Priority Sub-basins identified in this Storm Water Master Plan Update.

The CIP will reference Operation and Maintenance costs for the existing storm water system as well as implementing localized storm water improvements that are not categorized as specific capital improvement projects.

Upon completion of the above noted sub tasks, the Consultant will prepare and distribute two (2) draft copies of the Storm Water Master Plan Update to the Town. The Consultant will meet with the Town staff to present the contents of the report.

The Consultant will incorporate Town staff comments and will prepare and submit nine (9) copies of a second draft of the Storm Water Master Plan Update for the Town staff to provide to the Town Council. The Consultant will incorporate comments from the Town Council and submit 9 copies of the final Storm Water Master Plan Update. One set of comments from the Town will be incorporated into the final report.

3.4 Resiliency Alternatives

The Consultant will utilize the models prepared in task 3.2 to account for resiliency by raising the water table level twelve inches (12"). The designs will then utilize best management practices to account for the reduction in ground water storage resulting from the raised water table. Additionally, the Consultant will discuss with the Town the current design level of service goals to see if modifications are necessary.

This task does not include the design or feasibility of stormwater pump stations to address stormwater management. If the intent is to add stormwater pump stations that would be an additional service.

Deliverables:

- 3.1 Two Draft Reports
- 3.2 Nine Second Draft Reports
- 3.3 Nine Final Reports

III. Subconsultants

The below listed Subconsultants will assist in the performance of the Work.

Subconsultant Name	Specialty or Expertise

IV. Schedule of Work – Time of Performance

Consultant shall submit the deliverables and perform the Work as depicted in the tables below for each phase.

SCHEDULE OF DELIVERABLES**			
Task	Major Task, Sub-Task, Activity, or Deliverable	Duration (specify weeks or calendar days)	Delivery Date* (cumulative weeks, or calendar days)
1	Project Initiation/Meetings	Ongoing	11/30/18
2	Storm Water Data Collection	30 Days	03/30/18
3	Storm Water Master Plan Update	150 Days	08/27/18

* An updated schedule, indicating actual delivery dates, based on the above durations, will be provided to the Town upon receipt of the NTP.

**This schedule assumes an NTP date of 02/28/18

Deliverables: At the completion of each task, Kimley-Horn will provide to the Town all files associated with each deliverable. These files include drawing files, H/H model and output files, ArcGIS files, and any other supporting documentation associated with each deliverable.

V. Compensation

Consultant shall perform the Work detailed in this Proposal for a Total Lump Sum fee of Sixty Thousand Three Hundred and Forty-Four Dollars and Seventy Seven Cents (\$60,344.77). The Town shall not be liable for any fee, cost, expense or reimbursable expense or other compensation beyond this amount unless approved in a supplemental Work Order. Said fee includes an allowance for Reimbursable Expenses required in connection with the Work, which shall not exceed \$0.00. Said Reimbursable Expenses shall be used in accordance with the Agreement Provisions and shall conform to the limitations of Florida Statutes § 112.061.

The following is a cost breakdown:

SUMMARY OF COMPENSATION*			
Task, Sub-task, or Activity ID #	Major Task Name and/or Activity Description	Fee Amount	Fee Basis
1	Project Initiation/Meetings	\$3,469.18	Lump Sum
2	Storm Water Data Collection	\$5,566.06	Lump Sum
3	Storm Water Master Plan Update	\$51,309.53	Lump Sum
	<i>Subtotal – Professional Fees</i>	<i>\$60,344.77</i>	<i>Lump Sum</i>
	<i>Allowance for Reimbursable Expenses</i>	<i>\$0.00</i>	
	TOTAL	\$60,344.77	Lump Sum

**Note: Compensation should match the Task, Activities, and/or Deliverables identified.*

VI. Additional Services

The Town may establish an allowance for additional services requested by the Town and for unforeseen circumstances, which shall be utilized at the sole discretion of the Town.

VII. DATA PROVIDED BY THE TOWN

The information or documents listed in Task 2 are to be provided by the Town.

VIII. PROJECT MANAGER

Consultant's Project Manager for this Work Order assignment will be Gary R. Ratay, P.E.

Submitted by: _____
Gary R. Ratay, P.E.
Kimley-Horn and Associates, Inc.

Reviewed and approval by:

Department Director

Procurement Manager

Alex Rey
Town Manager