

RESOLUTION NO. 2023-

**A RESOLUTION OF THE VILLAGE OF PINECREST,
FLORIDA, AUTHORIZING THE VILLAGE MANAGER
TO EXECUTE AN AGREEMENT WITH METRIC
ENGINEERING FOR STORMWATER DRAINAGE
SYSTEM DESIGN SERVICES; PROVIDING FOR AN
EFFECTIVE DATE.**

BE IT RESOLVED BY THE VILLAGE COUNCIL OF PINECREST, FLORIDA, AS FOLLOWS:

Section 1. That the Village Council hereby authorizes the Village Manager to enter into the attached agreement with Metric Engineering for the C100A-W3N (Phase 3) sub basin in the amount of \$340,958.10.

Section 2. This resolution shall take effect immediately upon adoption.

PASSED AND ADOPTED this 18th day of July, 2023.

Joseph M. Corradino, Mayor

Attest:

Priscilla Torres, MMC
Village Clerk

Approved as to Form and Legal Sufficiency:

Mitchell Bierman
Village Attorney

Motion:
Second:
Vote:



Yocelyn Galiano, ICMA-CM
Village Manager
manager@pinecrest-fl.gov

VILLAGE OF PINECREST
Office of the Village Manager

DATE: July 7, 2023
TO: The Honorable Mayor and Members of the Village Council
FROM: Yocelyn Galiano, ICMA CM, Village Manager
RE: Resolution for Agreement for Stormwater Design Services

Attached for your consideration, please find a design proposal dated June 2, 2023 from Metric Engineering for data collection, design, permitting, and post-design services and support for Basin 100A-W3N – Phase 3. The subject consultant is one of several firms that have been selected by the Village based on an RFQ for Civil Engineering Services.

During Fiscal Year 2022, the Village secured \$500,000 from the State of Florida and \$604,000 from the Federal government to be used toward design and construction of drainage projects throughout the Village. This project will allow for the drainage design and permitting for Basin 100A-W3N. This basin is rated 3 of 15 for drainage priority per the Stormwater Master Plan.

I hereby respectfully recommend the Village Council adopt the attached resolution authorizing the Village Manager to execute an agreement for engineering design services for Basin 100A-W3N with Metric Engineering in the amount of \$340,958.10.



I. SCOPE OF WORK

The Scope of Work is comprised of the following essential tasks:

Task 1 – Data Collection and Evaluation

Task 1-1 General Data Collection

Task 1-2 Surveying and Mapping

Task 1-3 Geotechnical Investigations

Task 1-4 Subsurface Utility Engineering

Task 2 – Design Plans and Specifications

Task 2-1 Drainage Analysis and Documentation

Task 2-2 Design Plans and Specifications

Task 3 – Permitting

Task 4 – Post-design Services

Task 1 – Data Collection and Evaluation

Task 1-1 General Data Collection

Metric Engineering staff will attend one kick-off meeting with the Village staff and obtain all available data and information needed for this project. The anticipated data and information to be collected from the Village will include:

- GIS data and atlas maps
- Available reports and data within the project limits
- Hydraulic models (ICPR 3/XPSWMM) notated in the SWMP
- All other data that will assist Metric Engineering in the analysis and design of the project

Metric Engineering staff will review and evaluate all information collected from the Village. Metric Engineering staff will also perform a field review to observe the existing roadway, drainage, and site conditions, and evaluate the existing drainage systems throughout the project limits.

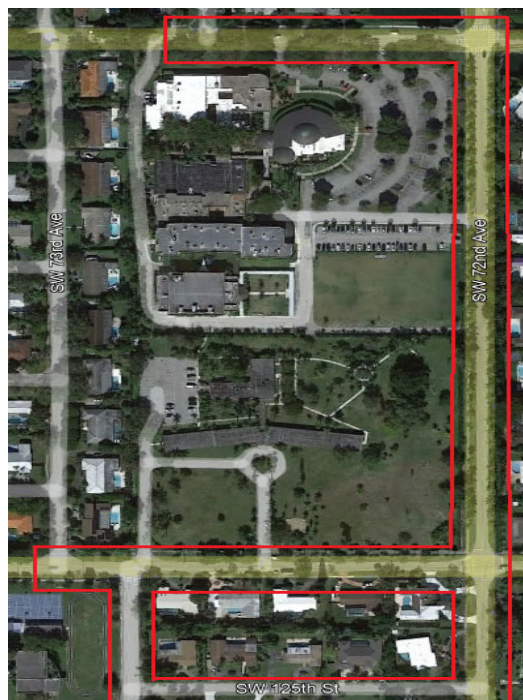
Metric Engineering will also coordinate with the following engineering subconsultants: surveyors, geotechnical engineers, and subsurface utility engineers. Metric Engineering will also review the subconsultant's deliverables and provide comments before the documents are submitted.

Task 1-2 Surveying and Mapping

Metric Engineering will retain M.G. Vera & Associates, Inc. (MGV) to perform surveying and mapping services for approximately 4,254 linear feet of roadway to support the design. MGV will develop and calibrate a point cloud to be used to extract all above-ground topographic features and create DTM files within the existing right-of-way. MGV will also provide Primary and Secondary Horizontal and Vertical Control for this project and will survey all drainage structures within the project limits, obtaining invert elevations, pipe size, material, and flow direction. All geospatial tasks will be performed in accordance with the current Standards of Practice for Surveying and Mapping in the State of Florida where the project is located.

MGV will set the Terrestrial LiDAR Targets as per the layout prepared for this project. All Targets will be controlled horizontally by performing double occupation RTK/GPS, Base-Rover connection with the base set on the primary control points set for this project. Vertical information for all the Target points will be obtained by performing a digital level closed run from existing Miami Dade County Published Benchmarks. In addition, MGV will perform the following additional activities:

- Set 3 Primary Control Points for this project to establish survey control for the design.
- Provide R/W lines for the corridor using Miami-Dade County GIS lines. R/W lines are for informational purposes only and will not be field verified. MGV is not performing a R/W survey for this project.
- Survey utility marks (designates) for the underground utility lines.
- Survey and show all trees along the project corridor within the right-of-way limits, identifying common name, trunk diameter, canopy, and height.
- Provide Signed and Sealed 11”x17” Topographic Survey for Phase 3.
- Provide Topographic, Existing Drainage, Utility, and DTM files using OpenRoads Designer CONNECT for all of Phase 3 (depicted in the figure below).



Task 1-3 Geotechnical Investigations

Metric Engineering will retain Tierra South Florida, Inc (TSFGeo) to perform geotechnical investigation services to support the design. The purpose of the geotechnical services is to determine site drainage and roadway base characteristics. These services will include field and laboratory testing.

Field and Laboratory Testing:

- Subsurface Exploration: TSFGeo will perform a total of four (4) Standard Penetration Test (SPT) borings to a depth of 10 feet below the existing ground surface.
- TSFGeo will conduct one (1) Borehole Permeability (BHP) Test - Open Hole Method – one test ranging from depths of 10, 15, and 20 feet below the existing ground surface in accordance with South Florida Water Management District (SFWMD) to determine the hydraulic conductivity of the subsoils for drainage improvements.
- TSFGeo will conduct four (4) Borehole Permeability (BHP) Tests - Open Hole Method – three tests at a depth of 15 feet below the existing ground surface in accordance with South Florida Water Management District (SFWMD) to determine the hydraulic conductivity of the subsoils for drainage improvements.
- Approximately four (4) pavement cores will be taken.
- Approximately three (3) environmental tests (PH, sulfates, chlorides, resistivity) will be performed to determine the proper optional material
- MOT operations are anticipated for the geotechnical fieldwork.
- Groundwater levels measured during the fieldwork will be noted in the boring logs.

Refer to **Attachment A** for the Geotechnical Proposal prepared by TSFGeo.

Underground Utilities and Site Access

Items to be provided by the client include the right of entry to conduct the exploration and awareness and location of any subsurface utilities existing in the area, including those privately held and/or not members of Sunshine State One Call of Florida (SSOCOF). Also, if there are any other restrictions or special requirements regarding this site or exploration, these should also be known prior to our commencing fieldwork.

The responsible firm will contact SSOCOF regarding the location of underground utilities at the project site. By state law, the utility locator services are afforded a minimum of 2 full business days to clear or locate and mark utilities prior to commencement of drilling. Please note, however, that the utility locating service can locate utilities within public rights-of-way and easements but generally is not able to locate privately-owned utilities. Therefore, MGCV is not responsible for the extent of any loss, damage, or injury caused by the failure to locate a utility properly or by inaccurate and/or incomplete information provided by others.

Task 1-4 Subsurface Utility Engineering

Metric Engineering will retain M.G. Vera & Associates, Inc. to provide subsurface utility engineering services (SUE) for 4,254 linear feet of roadway to support the design. MGCV will complete a SUE investigation in general accordance with ASCE Standard 38-02: Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data. MGCV will search for the existence and approximate location of subsurface utilities within the project limits except those listed under Utility Exclusions below. The specific work includes:

- A. Records Research through customary means:
 - a. Identify utilities anticipated to exist within the project limits.
 - b. Document responses and compile record information.

- B. Field Investigation using appropriate surface geophysical techniques:
 - a. Documented conductive utilities – designate with the objective of achieving Quality Level B for conductive utilities. Where not possible, lower Quality Levels will be established. Utilities of non-conductive material installed with serviceable tracer wire or tape will be considered conductive. It is important to note, however, that the depicted location of such utilities represents the tracer rather than the actual utility.
 - b. Documented non-conductive utilities – investigate with the objective of achieving Quality Level C. Where not possible, depict at Quality Level D.
 - c. Undocumented utilities – are those utilities that may exist in the project area that have not been previously identified, are not discovered during records research, and for which there is no prior knowledge. MGCV will use standard search protocol to determine the existence and approximate location of undocumented utilities; however, this work cannot guarantee that all utilities will be found and depicted.

- C. Quality Level exceptions – the following utilities will be investigated with the objective of achieving the specific Quality Level stated:
 - a. Gravity sanitary sewers – Quality Level C.
 - b. Non-conductive utilities with ready access allowing sonde, metal tape, or detection rod insertion and tracking – Quality Level B.
 - c. Subaqueous crossings – Quality Level D.

- D. Utility Exclusions – the following utilities and/or components will not be investigated:
 - a. Storm sewers and drains.
 - b. Utility vault or manhole interiors
 - c. Service lines
 - d. Traffic control loops
 - e. Signage wiring
 - f. Irrigation lines
 - g. Cathodic protection
 - h. Thrust blocks.
 - i. Septic systems.

- j. Underground storage tanks, piping, and wiring.
 - k. Overhead utilities
 - l. Accuracy of Geophysical Mapping techniques, although highly reliable, are subject to outside interference. A few examples are: Soil condition, material conductivity, depth of utility, and various other geological anomalies that may distort or hinder electromagnetic and GPR frequencies.
 - m. MGV will make every effort possible utilizing state of the art technology to designate and locate underground utilities; however, there are no guarantees that all underground utilities or structures will be detected.
- E. Vacuum Excavation – Test holes (if needed)
- a. MGV proposes to use vacuum excavation equipment to perform up to nine (9) test holes at locations as directed by Metric Engineering. Vacuum excavation methods will enable MGV to visualize the utility in question for a high degree of certainty. MGV will make every effort to vacuum excavate to a depth of eight (8) feet using high-pressure air methods. However, vacuum excavation will cease when these methods are unable to progress below refusal, such as bedrock or flowable fill. MGV will not employ destructive methods, such as jackhammers or chipping hammers, to break up bedrock or other refusal within a test hole due to the high risk of damage to buried utilities and safety risk to employees. Utilities deeper than eight (8) feet may not be found.
 - b. At the completion of each excavation, MGV will place an iron rod and cap or a nail and disk at the test hole location and further identify the test hole location with paint marks on the ground surface. Each test hole will be backfilled utilizing material removed in natural ground or cold patch within asphalt pavement or concrete in sidewalks for the approximate 1'x1' test hole. If additional restoration is required, MGV will provide an additional proposal to cover the additional expense. We will record the maximum depth of the test hole as well as the vertical depth of any utility encountered. If a utility is encountered, we will also provide utility type, size, shape, material, and orientation to the extent we are able to ascertain this information
 - c. MGV will notify Sunshine 811 two (2) full business days in advance of excavation. MGV will mark the conductive utilities by inductive methods utilizing electromagnetic geophysical prospecting equipment. Known non-conductive utilities will be marked utilizing 2-D Radar (GPR).
 - d. Due to mobilization costs, a minimum of nine (9) test holes can be requested, or mobilization costs will be charged.
 - e. MGV cannot provide vacuum excavation in areas where obstructions, such as unmovable vehicles or storage exist.

Other key assumptions include:

- MGV will have ready access to the project area. Construction or clearing activities required for access to perform field services are not included.
- Standard Maintenance of Traffic (M.O.T) is included. Extraordinary M.O.T such as lane closures, route detouring, crash trucks, off-duty police officers, railroad flagging fees, and other efforts deemed atypical are not included.
- Fieldwork can be completed within normally accepted business hours and without the need for overnight or weekend work.
- Possible delays due to weather conditions will be discussed with the client and may affect the schedule.
- Hazardous material, if encountered, will immediately stop work, and MGV will not be responsible for any disposal.
- Confined space entry is excluded.
- Entry onto private property beyond incidental, or where prohibited, is not included.
- Entry into buildings is not included.
- Permits are not included but can be requested if needed at additional cost.
- The Village will assist with the following activities:
 - Participate in permit applications as needed.
 - Provide all available records depicting owned utilities in the project area.
 - Assist MGV in obtaining records of utilities in the project area owned by others.
 - Provide or facilitate access to the project area for field investigations.

Task 2 – Design Plans and Specifications

Task 2-1 Drainage Analysis and Documentation

The proposed improvements for the entire C100A-W3N basin (Phase 1, Phase 2, and Phase 3) include 8,000 linear feet of exfiltration trench, one outfall, and a backflow preventer. Phase 3 of the project will include the following streets: SW 124th Street between SW 73rd Avenue to SW 72nd Avenue, SW 73rd Avenue between SW 124th Street and SW 125th Street, SW 125th Street between 73rd Avenue and SW 72nd Avenue, SW 72nd Avenue between SW 125th Street and SW 120th Street, and SW 120th Street between SW 72nd Place and SW 72nd Avenue. The proposed backflow preventer and outfall into the canal will be designed during Phase 3. Stormwater pump stations, drainage wells, and raising the existing roadway profile will not be included as part of the analysis.

Metric Engineering will use the data and existing condition information collected in Task 1 to develop a pre-development hydrologic/hydraulic model of the project area using ICPR V4. The ICPR4 model will incorporate the sea-level and groundwater projections used in developing the 2015 Stormwater Master Plan (SWMP). The SWMP utilized the Southeast Florida Climate Compact 2015 sea-level rise projections as well as the USGS 2014 Hydrologic Conditions and Effect of Groundwater Pumpage and Increased Sea Level on Canal Leakage and Regional Groundwater Flow report to predict groundwater projections. The conceptual designs in the SWMP were developed using a 2030 planning horizon with a mid-range sea level and groundwater rise of 5 inches for both.

The conceptual design included in the SWMP will be used to develop a post-development ICRP V4 model. The design from Phase 2 will be incorporated into the Phase 3 model to accurately depict the upstream conditions of the system. The post-development ICRP V4 model will be refined to optimize inlet locations to provide an efficient stormwater system, avoid utility conflicts, and to determine the required exfiltration trench length. The backflow preventer and outfall into the canal will be designed based on the results from the final ICRP V4 model that incorporates the exfiltration trench design from Phases 1-3. The South Florida Water Management District (SFWMD), and the Miami-Dade County Department of Regulatory and Economic Resources (RER) exfiltration trench criteria will be used to calculate the required exfiltration trench length and the most stringent criteria will govern. The proposed exfiltration length may exceed the calculated required length due to the exfiltration trench performance in the ICRP V4 model and to meet the 24-hour drawdown requirement. The proposed drainage system will be designed for the 5-year, 24-hour storm event required by (RER) for residential roads. The proposed drainage system will also be designed to utilize the Village of Pinecrest criteria: the post-development runoff will not exceed the pre-development runoff rate for a 25-year 24-hour storm event. In accordance with SFWMD Environmental Resource Permit Applicant's Handbook Volume II, the proposed drainage system will also be designed for the 10-year 72-hour storm event and must not exceed the allowable discharge rate in order to discharge into the C-100A Canal.

Metric Engineering will prepare a Drainage Report summarizing the data and hydrologic/hydraulic analysis. An electronic copy of the Drainage Report will be provided to the Village for review and comments received from the Village will be implemented in the next submittal. Metric Engineering will submit one electronic copy of the final Drainage Report to the Village. The final Drainage Report will be used as supporting documentation to prepare the required permit applications in Task 3.

Task 2-2 Design Plans and Specifications

Metric Engineering will use the information collected from Task 1 and Task 2 to develop construction contract documents (plans and specifications) for the proposed drainage improvements along the Phase 3 project limits. The plans and specifications will include milling and resurfacing and pavement markings throughout the project limits.

It is assumed that the following drawings will be prepared (approximately 30 sheets):

- Key Sheet – 1 sheet
- Summary of Pay Items – 1 sheet
- Typical Section(s) – 1 sheet
- General Notes/Pay Items – 1 sheet
- Summary of Quantities Sheets – 1 sheet
- Survey Control Plan Sheets – 6 sheets
- Roadway Plan Sheets (1"=40' scale) – 7 sheets
- Drainage Structure Sheets – 6 sheets
- Special Details – 4 sheets
- Stormwater Pollution Details – 1 sheet
- Traffic Control Notes and Details – 1 sheet

All maps, plans, and designs are to be prepared with English Units, and elevations will be based on the North American Vertical Datum of 1988 (NAVD88). OpenRoads Designer CONNECT will be used to produce plans on 11” X 17” size sheets at the scales outlined above. Metric Engineering will provide a CD containing PDFs and all CADD project files to the Village at the conclusion of the project.

To the maximum extent practical, technical specifications will be included within the plans. It is assumed that the drawings will be included with the construction bid documents.

Metric Engineering will prepare 60, 90, and 100 percent construction plans and specifications to the Village. Metric Engineering will also provide a Construction Cost Estimate for the 60, 90, and 100 percent submittals. Metric Engineering will attend a meeting with Village staff after the 60 and 90 percent submittals to receive and discuss comments from the Village review. After the comments from the 90 percent submittal are incorporated, Metric Engineering will provide one set of the final plans and specifications electronically for bidding purposes and one set of the signed and sealed plans and specifications electronically. It is assumed that the Village will provide the contractors the final construction documents during the bidding process.

Task 3 – Permitting

The following permits are anticipated to be a part of this project:

- Environmental Resource Permit (ERP) from the South Florida Water Management District (SFWMD)
- Miami-Dade County Regulatory and Environmental and Economic Resource (RER) Class II Permit

Metric Engineering will attend a pre-application meeting with the SFWMD and one meeting with RER. Metric Engineering will use the information from Tasks 1 and 2 to prepare the permit application and obtain approval from the SFWMD and RER. Metric Engineering understands that the Village will pay for all applicable permit fees. Metric Engineering will review and address requests for additional information (RAI) from SFWMD and RER. Metric Engineering will coordinate with SFWMD during Phase 1 of the project to determine if a SFWMD ROW Permit will be required for the proposed outfall designed in Phase 3 to discharge into the C-100A Canal. If an additional permit is required that was not foreseen during the proposal stage, Metric Engineering will coordinate with the Village to ensure all required permits are acquired and the project schedule remains on track.

Task 4 – Post-design Services

Phase 1 will be designed first, in order to complete the upstream analysis before designing the downstream outfall. Phase 1 and Phase 2 will be constructed after the outfall system has been constructed in Phase 3, in order to have a proper discharge point for the system. The project will be designed consecutively beginning with Phase 1 to Phase 3; however, the project will be constructed beginning with Phase 3 (the outfall), then Phase 2, and lastly Phase 1. As part of this task, Metric Engineering will attend a project pre-construction meeting. Metric Engineering will also review and approve applicable shop drawings and technical submittals required by the Contract Documents. For scoping purposes, Metric Engineering will review and approve shop drawings or technical submittals required by the Contract Documents. The review includes up to one (1) re-submittal review for correction and revision by the Contractor per submittal package. The review will include a comparison of the Contractor's submitted documents to the requirements of the Contract Documents. In addition, any substantial deviation from the project requirements will be documented and returned to the Contractor and the Village with instructions on how to proceed based on the severity and nature of the deficiencies encountered. Once the Contractor has substantially met the project requirements, Metric Engineering will approve the submittal package in writing and provide the results to the Contractor and the Village. This task will not include the review and approval of material substitutions or evaluation of bid alternates, or value engineering.

Metric Engineering will answer and address the contractor's Requests for Information (RFI) which requires interpretation of the plans and specifications. This task includes only RFIs that are directly related to any original products specified by Metric Engineering for the construction of this project and excludes interpretation of any documents originally created by the Village, the Contractor, or their sub-contractors and suppliers. Metric Engineering will prepare and maintain a submittal and RFI log, which will document and track the dates and results of all reviews. The log will be periodically updated and will be reviewed during the construction progress meetings.

At the end of construction, Metric Engineering will prepare and submit to the SWFWMD and RER a letter certifying that construction was completed in compliance with the design plans and close out the permits.

II. SCHEDULE

Metric Engineering shall submit the deliverables and perform the work outlined in the Scope of Work in accordance with the schedule depicted in the table below. Tasks 1 through 3 for Phase 3 will be completed within nine (9) months after receiving notice to proceed (NTP). During Phase 1, Metric Engineering will complete pre-application meetings with SWFWMD and RER. During Phase 2, the permit applications will be updated with the combined analysis from Phase 1 and Phase 2. During Phase 3, Metric Engineering will finalize and submit the permit applications to SWFWMD and RER. Metric Engineering will prepare an anticipated schedule after receiving NTP. Submittal dates may be adjusted accordingly based on the delivery of survey, utility, and geotechnical information and permitting agency review periods. The work associated with Task 4 will be completed in accordance with the bidding, contract award, and construction schedules.

Schedule of Deliverables	
Project Activity Description and Deliverable	Months from NTP
Task 1 – Data Collection and Evaluation	-
Task 1-1 General Data Collection	1
Task 1-2 Surveying and Mapping	2
Task 1-3 Geotechnical Investigations	2
Task 1-4 Subsurface Utility Engineering	2
Task 1-5 Subsurface Utility Engineering (Optional)	3
Task 2 – Design Plans and Specifications	-
Task 2-1 Drainage Analysis and Documentation	4
Task 2-2 Design Plans and Specifications	8
Task 3 – Permitting	9
Task 4 – Post-design Services	TBD

III. COMPENSATION

Metric Engineering will be compensated for the scope of work outlined in Task 1 through Task 3, \$277,148.10, on a lump sum basis. Task 1-5 Subsurface Utility Engineering includes a not-to-exceed optional services amount of \$3,828.60 to perform vacuum excavation services if needed (minimum 9 test holes - \$425.40 per test hole). Task 4 will be compensated on a time and material basis, not to exceed \$63,810.00. The total fee for all tasks is \$340,958.10. The table below outlines the estimated fee schedule for the required deliverables.

Summary of Compensation	
Project Activity Description and Deliverable	Fee Amount
Task 1 – Data Collection and Evaluation	-
Task 1-1 General Data Collection	\$ 17,016.00
Task 1-2 Surveying and Mapping	\$ 30,841.50
Task 1-3 Geotechnical Investigations	\$ 10,635.00
Task 1-4 Subsurface Utility Engineering	\$ 12,762.00
Task 1-5 Subsurface Utility Engineering (Optional)	\$ 3,828.60
Task 2 – Design Plans and Specifications	-
Task 2-1 Drainage Analysis and Documentation	\$ 36,159.00
Task 2-2 Design Plans and Specifications	\$ 131,874.00
Task 3 – Permitting	\$ 34,032.00
Task 4 – Post-design Services	\$ 63,810.00
TOTAL	\$ 340,958.10

Metric Engineering will submit monthly invoices to the Village for the percent of work completed during each month for the lump sum tasks and hours spent each month for the time and material tasks.

IV. SCOPE OF WORK EXCLUSIONS

The services outlined below are not included as part of the scope of work, although additional service orders can be executed to assist the Village with these services if necessary:

1. Water quality modeling
2. Environmental assessment including contamination
3. Title search or ownership determination
4. Prepare a public outreach program
5. Consumptive use or dewatering permits
6. Tree disposition plans or tree permits
7. Irrigation design
8. Stormwater pump station design
9. Utility relocation design
10. Permit fees
11. Attend public workshops or meetings
12. Update the current Stormwater Master Plan
13. Advertise and administer bid and contract award
14. Reproduce construction contract documents for bidding purposes
15. Prepare and distribute Addendums
16. CEI inspection services
17. Attend Commission meetings
18. Prepare as-built plans
19. Any work items not included in the Scope of Work

Metric Engineering looks forward to assisting the Village with this important project to alleviate historical and future flooding concerns. If you have any questions or need additional information, please do not hesitate to contact Robert Linares, PE, at (305) 968-7843.

Sincerely

Metric Engineering, Inc.



Robert Linares, PE

Executive Vice President

Attachment A



Revised February 9, 2023
January 4, 2023

Metric Engineering
13940 SW 136th Street
Miami, Florida

Attn: Ms. Kaitlin Chokshi, E.I.
Email: kaitlin.chokshi@metriceng.com

RE: **Proposal for Geotechnical Services**
Village of Pinecrest Stormwater – Phase 3
Pinecrest, Florida
TSFGEO Proposal No. 2301-005

Dear Kaitlin:

TSFGEO is pleased to transmit our geotechnical services proposal for the above-referenced project. Based on information provided to this office, the first phase of the project will consist of installation of approximately 4,250 L.F. of pipeline in Pinecrest, FL. This proposal includes an outline of our proposed scope of work, an estimate of the total fees, and our anticipated schedule for completion of the work.

PROPOSED SCOPE OF WORK

Based on our understanding of the project, we anticipate that the following services will be required:

Proposed Field Testing	
Location	Proposed Services
Drainage Improvements	Standard Penetration Test (SPT) Borings <ul style="list-style-type: none">- Four (4) SPT borings to a depth of 10 feet Borehole Permeability (BHP) Tests <ul style="list-style-type: none">- One (1) BHP at 10, 15, and 20 feet- Four (4) BHPs at 15 feet Four (4) Asphalt Pavement Cores

Prior to drilling at the project site, TSFGEO will notify the local utility companies and request that underground utilities be marked (Sunshine State One Call). **Our experience, however, is that the utility companies will not mark privately owned utilities. Our proposal assumes that the Client will locate private utility lines, if any, in the field or clear boring locations of utility**

conflicts prior to mobilization of the drill rig. TSFGeo can recommend a utility line locating service upon request.

Maintenance of Traffic (MOT) will be required to perform this work.

Upon completion of the field exploration, some laboratory testing and visual classifications will be performed on selected samples.

The results of all drilling and laboratory testing will be evaluated by a geotechnical engineer. A report will be issued that contains the exploration data and a discussion of site and subsurface conditions, along with a discussion of some construction considerations.

ESTIMATED FEES

It is proposed that the fee for the performance of the services outlined above is determined on a unit fee basis and that the work be performed pursuant to TSFGeo's General Conditions enclosed herewith and incorporated into this proposal. Our fees for the above scope of work will be **\$10,635.00.**

The above estimate assumes that the site is open and accessible to our truck-mounted drill rig. Our estimate covers the work needed to provide drilling services and geotechnical report. Not included are reports, reviews of foundation drawings, preparation of construction specifications, special conferences and any other work requested after submittal of our report.


SCHEDULE AND AUTHORIZATION


TSFGeo will proceed with the work after receipt of a signed copy of this proposal. With our present schedule, we can commence work within a few days of project approval (weather permitting and permit approval) and after utilities have been cleared. The fieldwork is expected to take about 3 to 4 days to complete. The test results can be submitted about 3 weeks after completion of the field exploration. Verbal preliminary recommendations can be made to appropriate parties prior to submittal of the written report.

We at TSFGeo appreciate the opportunity to submit this proposal and look forward to working with you on this project. If you should have any questions concerning our proposal, please contact our office.

Respectfully submitted,

TSFGeo


Ramakumar Vedula, P.E.
Principal Engineer


Sean Tromans, E.I.
Staff Engineer

Attachments:

- General Conditions
- Fee Schedule
- Site Plan – Phase 3

AUTHORIZED BY:	INVOICE TO:
Name:	Firm:
Title:	Name:
Date:	Address:
	Phone :

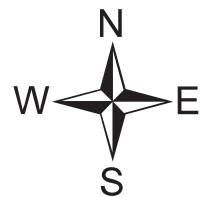
TSFGeo's General Conditions

1. **SCOPE OF WORK:** Work means the specific geotechnical, analytical, testing or other service to be performed by Tierra South Florida, Inc. (TSFGeo) as set forth in TSFGeo's proposal, Client's acceptance of the scope of work and these General Conditions. Additional work ordered by Client shall also be subject to these General Conditions. "Client" refers to the person or business entity ordering the work to be done by TSFGeo. Client shall communicate these General Conditions to each and every third party to whom Client transmits any part of TSFGeo's work. TSFGeo shall have no duty or obligation to any third party greater than that set forth in TSFGeo's proposal, Client's acceptance of TSFGeo's proposal and these General Conditions. The ordering of work from TSFGeo, or the reliance on any of TSFGeo's work, shall represent acceptance of the terms of TSFGeo's proposal and these General Conditions, regardless of the terms of any subsequently issued document.
2. **RIGHT-OF-ENTRY** -The client will provide right-of-entry for TSFGeo and all necessary equipment in order to complete the work. While TSFGeo will take all reasonable precautions to minimize any damage to the property, it is understood by Client that in the normal course of work some damage may occur; the correction of which is not part of this agreement.
3. **DAMAGE TO EXISTING MAN-MADE OBJECTS** -The Client, will provide the location of all underground utilities or obstructions to TSFGeo who, in the prosecution of their work, will take all reasonable precautions to avoid damage or injury to any such subterranean structure or utility. The Owner agrees to hold TSFGeo harmless for any damages to subterranean structures which are not called to TSFGeo's attention and correctly shown on the plans furnished and will reimburse TSFGeo for any expenses in connection with any claims or suits including reasonable attorney fees at the trial and appellate levels.
4. **IN-PLACE MATERIALS TESTING** - TSFGeo will not be responsible for repair or damage to portions of structures designated for in-place materials testing. Repairs can be made for aesthetic reasons if requested in advance of the work to be performed. The cost for labor and materials would be charged.
5. **SAMPLE RETENTION** - TSFGeo will retain all soil and rock samples obtained for geotechnical explorations for 30 days. Samples subjected to Construction Materials and Laboratory testing are disposed of subsequent to testing. Further storage or transfer of samples can be made at Client's expense upon written authorization.
6. **DEFINITION OF RESPONSIBILITY (OBSERVATION SERVICES)** - The presence of our field representative will be for the purpose of providing observation and field testing. Our work does not include supervision or direction of the actual work of the contractor, his employees or agents. The contractor for this project should be so advised.
 - 6.1. The Contractor should also be informed that neither the presence of our field representative or the observation and testing by our firm shall excuse him in any way for defects discovered in his work. It is understood that TSFGeo will not be responsible for the Contractor's job or site safety on his project. That will be the sole responsibility of the contractor.
7. **STANDARD OF CARE** -Service performed by TSFGeo under this Agreement will be conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions. No other warranty, expressed or implied, is made.
 - 7.1. Client recognizes that subsurface conditions may vary from those encountered at the location where borings, surveys or explorations are made by TSFGeo and that the data, interpretations and recommendations of TSFGeo are based solely on the information available to it. TSFGeo shall not be responsible for the interpretation by others of information developed.
8. **ORAL AGREEMENTS** -No oral agreement, guarantee, promise, representation or warranty shall be binding.
9. **OWNERSHIP OF DOCUMENTS** -All reports, boring logs, field data and notes, laboratory test data, calculations, estimates and other documents prepared by TSFGeo, as instruments of service, shall remain the property of TSFGeo until final payment is received and a letter of copyright transfer been executed.
10. **BASIS OF PAYMENT** -Payment is due within 30 days of date of invoice. Payments not made when due shall bear interest at eighteen (18) percent annum or at the maximum rate allowed by law from the date of the invoice until same is paid.
 - 10.1. If the Client fails to make any payment due to TSFGeo for service and/or expenses within 60 days of date of invoice, TSFGeo may, after giving seven days' written notice to Client, suspend services until all outstanding amounts have been paid to TSFGeo in full. Further, TSFGeo may, in addition to withholding services, or singularly, withhold reports, plans and other documents not paid in full by the Client. In the event that final payment for completed work is not made, TSFGeo shall request that all copyrighted documents which were submitted to client be returned and all information used in project plans be removed from project documents.
 - 10.2. In the event it is necessary to take legal action to effect collection, whether or not litigation is commenced, the Client agrees to reimburse TSFGeo for expenses in connection with any claims or suits, including reasonable attorney's fees, including but not limited to the trial and appellate levels.
 - 10.3. This contract shall be governed by the laws of the State of Florida.
11. **CONSTRUCTION REVIEW** - TSFGeo cannot accept responsibility for any design work unless the work includes services for construction review to determine whether or not the work performed is in substantial compliance with TSFGeo's conclusions and recommendations.
12. **INDEMNIFICATION** -TSFGeo agrees to hold harmless and indemnify Client from and against liability arising out of TSFGeo's negligent performance of the work. Client agrees to indemnify and hold TSFGeo harmless from all liability including all costs, attorney's fees and expenses of defense for any claims by any other person or corporation which may arise out of the performance or breach of this contract for which TSFGeo was not solely negligent.
13. **LIMITATION OF LIABILITY** -The Client/Owner agrees to limit TSFGeo's liability for negligent professional acts, errors or omissions, such that the total aggregate liability of TSFGeo shall not exceed \$50,000 or the total fee for the services rendered on this project; whichever is greater. The Owner further agrees to require the contractor and his subcontractors a similar limitation of liability suffered by the contractor or the subcontractors arising from TSFGeo's negligent professional acts, errors or omissions.
 - 13.1. If Client prefers to have higher limits on professional liability, TSFGeo agrees to increase the limits up to a maximum of \$1,000,000 upon Client's written request at the time of accepting our proposal provided that Client agrees to pay an additional consideration of 5 percent of our total fee. The additional charge for the higher liability limits is because of the greater risk assumed and is not strictly a charge for additional professional liability insurance.
14. **INSURANCE** -TSFGeo represents that it and its agents, staff and consultants employed by it are protected by Worker's Compensation insurance and Employer's Liability Insurance in conformance with applicable state laws. TSFGeo has such coverage under public liability and property damage insurance policies that TSFGeo deems to be adequate. A Certificate of Insurance can be supplied evidencing such coverage upon request.
 - 14.1. Within the limits and conditions of such insurance, TSFGeo agrees to indemnify and save client harmless from and against any loss, damage or liability arising from any negligent acts by TSFGeo, its agents, staff and consultants employed by it. TSFGeo shall not be responsible for any loss, damage or liability beyond the amounts, limits and considerations of such insurance. TSFGeo shall not be responsible for any loss, damage or liability arising from any acts by clients, its agents, staff and other consultants employed by it.
 - 14.2. Cost of the above coverage is included in our quoted fees. If additional coverage or increased limits of liability are required, TSFGeo will endeavor to obtain the requested insurance and charge separately for costs associated with additional coverage or increased limits.
15. **TERMINATION** -This agreement may be terminated by either party upon seven days written notice in the event of substantial failure by the other party to perform in accordance with the terms thereof. Such termination shall not be effective if the substantial failure has been remedied before expiration of the period specified in the written notice. In the event of termination, TSFGeo shall be paid for services performed to the termination notice date plus reasonable termination expenses.
 - 15.1. In the event of termination or suspension for more than three months, prior to completion of all reports contemplated by this Agreement, TSFGeo may complete a report on the services performed to the date of notice of termination or suspension. The expenses of termination or suspension shall include all direct costs for TSFGeo in completing such analyses, records and reports.
16. **CLIENT'S OBLIGATION TO NOTIFY TSFGeo** - Client represents and warrants that it has advised TSFGeo of any known or suspected hazardous materials or conditions, utility lines and pollutants at any site at which TSFGeo is to do work hereunder, and unless TSFGeo has assumed in writing the responsibility of locating subsurface objects, structures, lines or conduits, Client agrees to defend, indemnify and save TSFGeo harmless from all claims, suits, losses, costs and expenses, including reasonable attorney's fees as a result of personal injury, death or property damage occurring with respect to TSFGeo's performance of its work and resulting to or caused by contact with subsurface or latent objects, structures, lines or conduits where the actual or potential presence and location thereof were not revealed to TSFGeo by Client.
17. **HAZARDOUS MATERIALS** -This agreement shall not be interpreted as requiring TSFGeo to assume the status of an owner, operator, generator, storer, transporter, treater or disposal facility as those terms appear within RCRA or within any Federal or State statute or regulation governing the generation, transportation, treatment, storage and disposal of pollutants.

Initial _____

TIERRA SOUTH FLORIDA, INC.

	Unit	# of Units	Unit Price	Total
I. FIELD INVESTIGATION				
Mobilization of Men and Equipment Truck-Mounted Equipment	Trip	3	\$ 400.00	\$ 1,200.00
Standard Penetration Test Borings (By Truck-Mounted Equipment) 0 - 50 ft depth	L.F.	40	\$ 23.00	\$ 920.00
Grout-Seal Boreholes (By Truck-Mounted Equipment) 0 - 50 ft depth	L.F.	40	\$ 9.50	\$ 380.00
Casing Allowance (By Truck-Mounted Equipment) 0 - 50 ft depth	L.F.	0	\$ 7.00	\$ 0.00
Maintenance of Traffic (MOT)	Day	1	\$ 1500.00	\$ 1,500.00
Asphalt Pavement Cores	Core	4	\$ 200.00	\$ 800.00
Percolation Test (Open Hole Method, 15 feet)	Test	4	\$ 550.00	\$ 2,200.00
Percolation Test (Open Hole Method, 10, 15, 20 feet)	Test	1	\$ 1000.00	\$ 1,000.00
II. LABORATORY TESTING				
Visual Examination by Staff Engineer	Hour	3	\$ 74.50	\$ 223.50
Natural Moisture Content Tests	Test	0	\$ 20.00	\$ 0.00
Full Grain-Size Analysis - (8 sieves)	Test	0	\$ 75.00	\$ 0.00
Grain-Size Analysis - Single Sieve	Test	0	\$ 45.00	\$ 0.00
Organic Content Tests	Test	0	\$ 50.00	\$ 0.00
Atterberg Limit Tests	Test	0	\$ 80.00	\$ 0.00
Environmental Tests (pH, sulfates, chlorides, resistivity)	Set	3	\$ 195.00	\$ 585.00
III. FIELD ENGINEERING AND TECHNICAL SERVICES				
Site Recon./Utility Coordination/Traffic Control Sr. Engineering Technician	Hour	6	\$ 105.00	\$ 630.00
IIIA. ENGINEERING AND TECHNICAL SERVICES				
Principal Engineer	Hour	2	\$ 225.00	\$ 450.00
Professional Engineer	Hour	3	\$ 135.50	\$ 406.50
CADD	Hour	4	\$ 85.00	\$ 340.00
TOTAL FEE FOR GEOTECHNICAL SERVICES				\$ 10,635.00



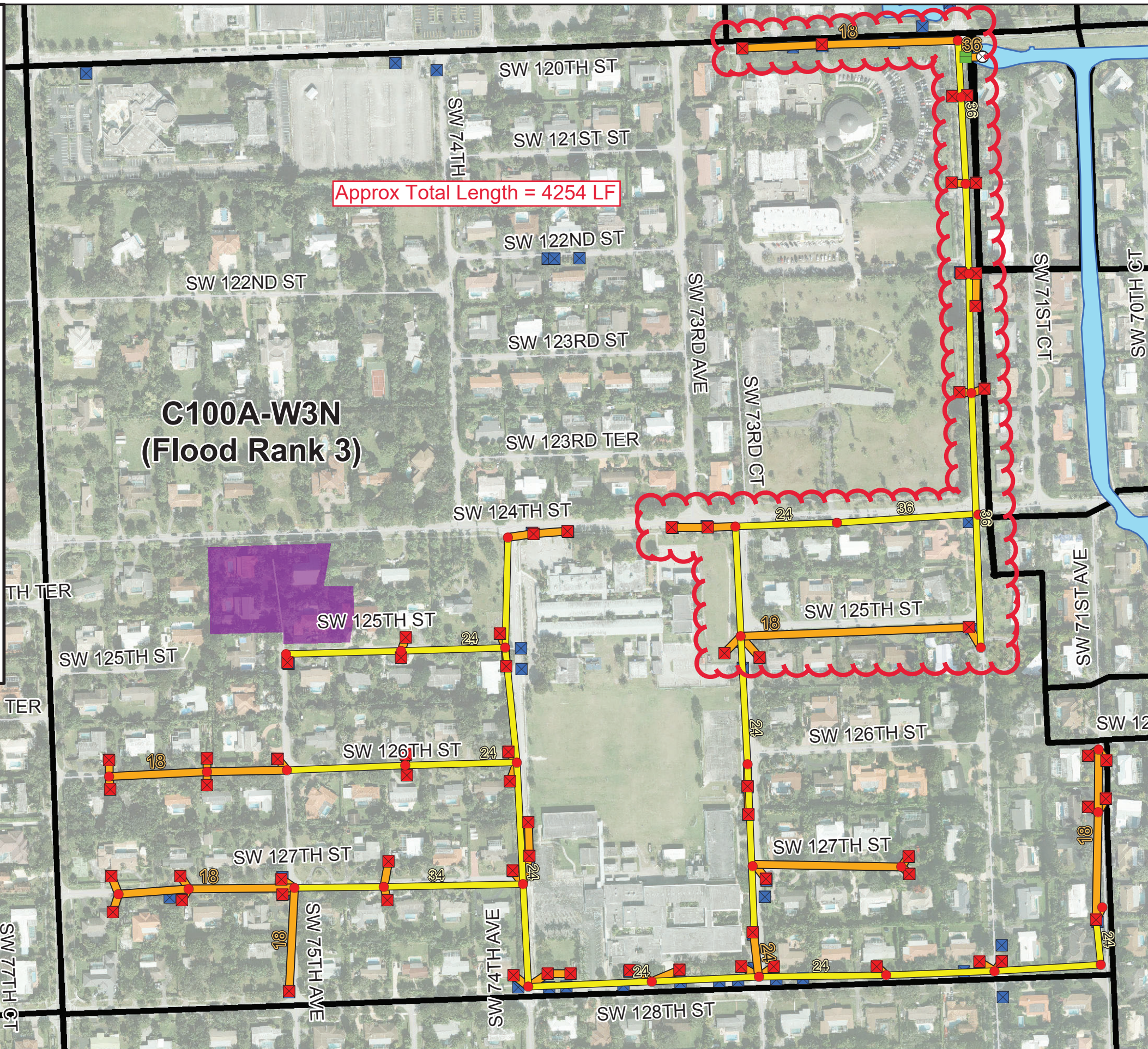
Basin C100A-W3N

- Prop. Control Structure
- Prop. Outfall Backflow Preventer
- Prop. Manhole
- Prop. Catch Basin
- Prop. Exfiltration Trench (Dia.-inch)
- Prop. Solid Pipe (Dia.-inch)
- Exist. Catch Basin
- Body of Water
- Private Roads
- Private/Gated Community
- Village Sub-Basins



Conceptual Design Key Drainage Features

Exfiltration Trench: 8,800 LF
Control Structure with Outfall: 1



Appendix 8C Conceptual Stormwater Improvement Project Schematic for Sub-Basin C100A-W3N (Flood Rank 3)

