

RESOLUTION NO. 19-____

A RESOLUTION OF THE TOWN COUNCIL OF THE TOWN OF MIAMI LAKES, FLORIDA, APPROVING THE AWARD OF A CONTRACT FOR RFP 2019-01, CANAL BANK STABILIZATION PHASE II PROJECT TO ARBOR TREE & LAND, INC. DBA ATL DIVERSIFIED IN AN AMOUNT NOT TO EXCEED \$1,046,000.00; AUTHORIZING THE TOWN MANAGER TO TAKE ALL NECESSARY STEPS TO IMPLEMENT THE TERMS AND CONDITIONS OF THE CONTRACT; AUTHORIZING THE TOWN MANAGER TO EXPEND BUDGETED FUNDS; AUTHORIZING THE TOWN MANAGER TO EXECUTE THE CONTRACT; PROVIDING FOR INCORPORATION OF RECITALS; PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the Golden Glades canal has experienced widespread erosion, which compromises the structural integrity of facilities and properties that are adjacent to the canal; and

WHEREAS, the Town of Miami Lakes (the “Town”) has identified the canal bank stabilization project as a critical endeavor to maintain a safe and effective canal system that reduces the amount of debris and vegetation entering the canals; and

WHEREAS, the Town requires a contractor to stabilize the embankment on the southside of the Golden Glades canal from approximately NW 85th Street to NW 78th Court; and

WHEREAS, Section 5(b) of the Town’s Procurement Ordinance 17-203 provides that procurements in excess of \$15,000 shall require the use of competitive sealed bidding; and

WHEREAS, in accordance with Section 5 of Town Ordinance 17-203, the Town issued a Request for Proposals (“RFP”) No. 2019-01 on November 13, 2018, for the Canal Bank Stabilization Phase II Project; and

WHEREAS, the RFP was advertised in the Miami Daily Business Review, posted online via two public bidding websites, DemandStar and Public Purchase, and was physically posted in the Government Center Lobby; and

WHEREAS, the Town received two (2) proposals by the proposal deadline from Arbor Tree & Land, Inc. dba ATL Diversified (“ATL”) and A Green World Construction Co., Inc. (“Green”); and

WHEREAS, the Town’s Procurement Department performed a due diligence review of the proposals for responsiveness and found that only ATL’s proposal was responsive; and

WHEREAS, the Procurement Department recommended awarding a contract to ATL, but only in the event that the contract price could be negotiated closer to market price; and

WHEREAS, Town staff was able to negotiate a total contract price of \$950,284.00 with ATL, which saved a total of \$102,228.00 from the original bid price; and

WHEREAS, the Town Manager recommends the approval of a contract with ATL for the construction of the Canal Bank Stabilization Phase II Project in an amount not to exceed \$1,046,000.00, which includes ATL’s revised proposal price of \$950,284.00 and a contingency amount of \$95,716.00 for unforeseen circumstances; and

WHEREAS, the Town Council approves the recommendations of the Town Manager and authorizes the Town Manager to enter into a contract with ATL for the construction of the Canal Bank Stabilization Phase II Project in an amount not to exceed \$1,046,000.00.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF MIAMI LAKES, FLORIDA, AS FOLLOWS:

Section 1. **Recitals.** The foregoing Recitals are true and correct and incorporated herein by this reference.

Section 2. **Approval of the Contract.** The Town Council hereby approves the award of a contract to ATL in substantially the form attached hereto as Exhibit “A” for the construction of the Canal Bank Stabilization Phase II Project in an amount not to exceed \$1,046,000.00 (hereinafter referred to as “Contract”).

Section 3. **Authorization of Town Officials.** The Town Manager, his designee and the Town Attorney are authorized to take all steps necessary to implement the terms and conditions of the Contract.

Section 4. **Authorization of Fund Expenditure.** The Town Manager is authorized to expend budgeted funds to implement the terms and conditions of this Resolution and the Contract.

Section 5. **Execution of the Contract.** The Town Manager is authorized to execute the Contract with ATL in an amount not to exceed \$1,046,000.00 and to execute any extension and/or amendments to the Contract, subject to approval as to form and legality by the Town Attorney.

Section 6. **Effective Date.** This Resolution shall take effect immediately upon adoption.

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Passed and adopted this _____ day of _____, 2019.

The foregoing resolution was offered by _____ who moved its adoption. The motion was seconded by _____ and upon being put to a vote, the vote was as follows:

Mayor Manny Cid	_____
Vice Mayor Nelson Rodriguez	_____
Councilmember Carlos Alvarez	_____
Councilmember Luis Collazo	_____
Councilmember Joshua Dieguez	_____
Councilmember Jeffrey Rodriguez	_____
Councilmember Marilyn Ruano	_____

Manny Cid
MAYOR

Attest:

Gina Inguanzo
TOWN CLERK

Approved as to form and legal sufficiency:

Raul Gastesi, Jr.
Gastesi & Associates, P.A.
TOWN ATTORNEY

EXHIBIT A

Agreement
between the
Town of Miami Lakes
and
Arbor Tree & Land, Inc. dba ATL Diversified
for
Canal Bank Stabilization Project, RFP 2019-01

CONTRACT FOR
CANAL BANK STABILIZATION PHASE II

2019-01



The Town of Miami Lakes Council:

Mayor Manny Cid
Vice Mayor Nelson Rodriguez
Councilmember Carlos Alvarez
Councilmember Jeffrey Rodriguez
Councilmember Joshua Dieguez
Councilmember Luis Collazo
Councilmember Marilyn Ruano

Alex Rey, Town Manager
The Town of Miami Lakes
6601 Main Street
Miami Lakes, Florida 33014

TABLE OF CONTENTS

SECTION 1. GENERAL TERMS & CONDITIONS	6
1.01 DEFINITIONS	6
1.02 GENERAL REQUIREMENTS	8
1.02-1 GENERALLY	8
1.02-2 RULES AND REGULATIONS	8
1.02-3 HOURS FOR PERFORMING WORK	9
1.02-4 SUBCONTRACTORS	9
1.02-5 CONSULTANT SERVICES	9
1.02-6 AUTHORITY OF THE PROJECT MANAGER	9
1.02-7 INDEPENDENT CONTRACTOR	10
1.02-8 THIRD-PARTY BENEFICIARIES	10
1.02-9 ASSIGNMENT OR SALE OF CONTRACT	10
1.02-10 TIME FOR COMPLETION	11
1.02-11 APPLICABLE LAW AND VENUE OF LITIGATION	11
1.02-12 NON-EXCLUSIVE CONTRACT	11
1.02-13 SEVERABILITY	11
1.02-14 CONTRACT DOCUMENTS CONTAIN ALL TERMS	11
1.02-15 ENTIRE AGREEMENT	11
1.02-16 INTENTION OF THE TOWN	11
1.02-17 PRIORITY OF PROVISIONS	12
1.02-18 ROYALTIES AND PATENTS	12
1.02-19 PURCHASE AND DELIVERY, STORAGE AND INSTALLATION	12
1.02-20 VEHICLES & EQUIPMENT	13
1.02-21 SUBSTITUTIONS	13
1.02-22 OWNERSHIP OF THE WORK	13
1.02-23 TOWN LICENSES, PERMITS AND FEES	13
1.02-24 TAXES	14
1.02-25 REMOVAL OF UNSATISFACTORY PERSONNEL	14
1.02-26 DEFECTIVE OR NON-COMPLIANT WORK	14
1.02-27 COMPLIANCE WITH APPLICABLE LAWS	15
1.02-28 NONDISCRIMINATION, EQUAL EMPLOYMENT OPPORTUNITY, & ADA	15
1.02-29 NOTICES	15
1.03 INDEMNITY & INSURANCE	16
1.03-1 INDEMNIFICATION	16
1.03-2 CONTRACTOR'S RESPONSIBILITY FOR DAMAGES TO THE WORK	16
1.03-3 DEFENSE OF CLAIMS	16
1.03-4 INSURANCE	16
1.04 PUBLIC RECORDS	19
1.04-1 ACCESS, REVIEW AND RELEASE OF RECORDS	19
1.05 CONTRACT MODIFICATION AND DISPUTE PROCESS	20
1.05-1 CHANGE ORDERS	20
1.05-2 FORCE MAJEURE	21

1.05-3 EXTENSION OF TIME	21
1.05-4 EXCUSABLE DELAY, NON-COMPENSABLE	22
1.05-5 CLAIMS.....	22
1.05-6 DISPUTES AND MEDIATION	23
1.05-7 CONTINUING THE WORK	24
1.05-8 FRAUD AND MISREPRESENTATION.....	25
1.05-9 STOP WORK ORDER	25
1.05-10 MATERIALITY AND WAIVER OF BREACH.....	25
1.05-11 TIME IN WHICH TO BRING ACTION AGAINST THE TOWN.....	25
1.05-12 CONTRACT EXTENSION	26
1.06 EARLY TERMINATION & DEFAULT	26
1.06-1 SET-OFFS, WITHHOLDING, AND DEDUCTIONS	26
1.06-2 CONTRACTOR DEFAULT	26
1.06-3 TERMINATION FOR CONVENIENCE.....	27
1.06-4 REMEDIES AVAILABLE TO THE TOWN.....	28
1.06-5 FUNDS AVAILABILITY	28
1.07 PAYMENT PROCESS	28
1.07-1 COMPENSATION	28
1.07-2 ESTIMATED QUANTITIES.....	28
1.07-3 LINE-ITEM PRICING	28
1.07-4 LINE-ITEM QUANTITIES.....	29
1.07-5 ADDITIONAL LINE ITEM PRICING	29
1.07-6 REIMBURSIBLE EXPENSES	29
SECTION 2. SPECIAL TERMS & CONDITIONS	30
2.01 SCOPE OF WORK.....	30
2.02 CONSTRUCTION LOCATION AND SEQUENCING	30
2.03 REFERENCE STANDARDS	30
2.04 CONTRACT TERM	30
2.05 COMPENSATION.....	30
2.06 HOURS FOR PERFORMING WORK	31
2.07 ENVIRONMENTAL REGULATIONS.....	31
2.08 EASEMENT AGREEMENTS	31
2.09 PUBLIC NOTICE	31
2.10 BOND REQUIREMENTS	32
2.10-1 PERFORMANCE/PAYMENT BOND.....	32
2.10-2 SURETY QUALIFICATIONS	32
2.11 PRELIMINARY STEPS	33
2.11-1 CONTRACTOR'S PRE-START REPRESENTATION.....	33
2.11-2 PRE-CONSTRUCTION CONFERENCE	33

2.11-3 PROJECT SCHEDULE	33
2.11-4 CONSTRUCTION PHOTOGRAPHS	33
2.11-5 STAGING SITE	34
2.11-6 PROJECT SIGNAGE	34
2.12 FIELD DIRECTIVES	34
2.13 INSPECTION OF THE WORK	35
2.14 UNCOVERING FINISHED WORK	35
2.15 SITE ISSUES	35
2.15-1 SITE INVESTIGATION AND REPRESENTATION	35
2.15-2 METHOD OF PERFORMING THE WORK	36
2.15-3 DIFFERING SITE CONDITIONS	37
2.15-4 PROTECTION OF PROPERTY, UTILITIES, AND THE PUBLIC	38
2.15-5 CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTIES AND SERVICE	38
2.15-6 ACCESS TO WATER AND UTILITIES	39
2.15-7 COORDINATION OF THE WORK	39
2.15-8 ACCESS TO THE PROJECT SITE(S)	39
2.15-9 CLEANING UP; TOWN'S RIGHT TO CLEAN UP	39
2.15-10 MAINTENANCE OF TRAFFIC	40
2.15-11 HURRICANE PREPAREDNESS	40
2.16 SAFETY ISSUES	40
2.16-1 SAFETY PRECAUTIONS	40
2.16-2 TRENCH SAFETY ACT	41
2.16-3 MATERIAL SAFETY DATA SHEETS	41
2.17 PROGRESS MEETINGS	42
2.18 PLANS, DOCUMENTS, & RECORDS	42
2.18-1 CONTRACTOR TO CHECK PLANS, SPECIFICATIONS, & DATA	42
2.18-2 SHOP DRAWINGS AND SUBMITTALS	42
2.18-3 TOWN FURNISHED DRAWINGS, SUPPLEMENTAL DRAWINGS, & INSTRUCTIONS	43
2.18-4 AS-BUILT DRAWINGS	43
2.18-5 RECORD SET	44
2.19 CONTRACTOR RESPONSIBILITIES	44
2.19-1 LABOR & MATERIALS	44
2.19-2 SUPERVISIONS OF THE WORK	45
2.19-3 RELEASE OF LIENS/SUBCONTRACTOR'S STATEMENT OF SATISFACTION	45
2.19-4 PROGRESS PAYMENTS	45
2.19-5 RETAINAGE & RELEASE	46
2.19-6 OWNERSHIP OF THE WORK	47
2.19-7 PRODUCT DATA AND SAMPLES	47
2.20 LIQUIDATED DAMAGES	47
2.21 REQUESTS FOR INFORMATION	47
2.22 WARRANTY	48

2.23 PROJECT SITE FACILITIES	48
2.24 SUBSTANTIAL COMPLETION, PUNCHLIST & FINAL COMPLETION	49
2.25 ACCEPTANCE AND FINAL PAYMENT	49
2.26 NDPES REQUIREMENTS	50
<i>FORM OF PERFORMANCE BOND (Page 1of 2)</i>	<i>51</i>
<i>EXHIBIT A – CONTRACTOR’S PROPOSAL.....</i>	<i>55</i>
<i>EXHIBIT B – PLANS.....</i>	<i>56</i>
<i>EXHIBIT C – TECHNICAL SPECIFICATIONS.....</i>	<i>57</i>
<i>EXHIBIT D –GEO-DATA REPORT.....</i>	<i>58</i>

SECTION 1. GENERAL TERMS & CONDITIONS

1.01 DEFINITIONS

1. **Award** means that the Town Manager or Town Council, as applicable, has approved the award of a contract.
2. **Basis of Design** means a specific manufacturer's product that is named; including the make or model number or other designation, establishing the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other manufacturers.
3. **Bid/Proposal/Submittal** means any offer, documents the Submittal tendered by a Bidder in response to this solicitation, which includes the price, authorized signature and all other information or documentation required by the Invitation to Bid ("ITB") at the time of submittal.
4. **Bid Form** means the form that contains the goods or services to be purchased and that must be completed and submitted with the Bid.
5. **Bidder** means any person, firm or corporation, or its duly authorized representative tendering a Submittal in response to this solicitation.
6. **Change Order** means a written document ordering a change in the Contract price or Contract time or a material change in the Work.
7. **Completed Projects** means that the applicable regulatory authority has issued a Certificate of Completion.
8. **Completion Time** means the number of calendar days specified for Final Completion of the Project.
9. **Cone of Silence** means the time period and method of communications as required by Section 2-11.1 of the Miami-Dade County Code, which state that the Cone of Silence shall be in effect from the date the ITB is issued until the Town Manager issues a written recommendation.
10. **Construction Change Directive** means a written directive to effect changes to the Work issued by the Consultant or the Project Manager that may affect the Contract price or time.
11. **Construction Schedule** means a schedule, as defined and required by the Contract Documents.
12. **Consultant** means a firm that has entered into a separate agreement with the Town for the provision of professional services.
13. **Contract** means the ITB, the addendum, and the Bid documents that have been executed by the Bidder and the Town subsequent to approval of award by the Town.
14. **Contract Documents** means the Contract as may be amended from time to time, and plans, specifications, addendum, clarifications, directives, Change Orders, payments and other such documents issued under or relating to the Contract.
15. **Contractor** means the Successful Bidder who is issued a Purchase Order, Contract, Blanket Purchase Order agreement, or Term Contract to provide goods or services to the Town and who will be responsible for the acceptable performance of any Work and for the payment of all legal debts pertaining to the Work under the Contract.
16. **Cure** means the action taken by the Contractor promptly, after receipt of written notice from the Town of a breach of the Contract Documents, which must be performed at no cost to the Town, to repair, replace, correct, or remedy all material, equipment, or other elements of the Work or

the Contract Documents affected by such breach, or to otherwise make good and eliminate such breach.

17. **Cure Period** means the period of time in which the Contractor is required to remedy deficiencies in the Work or compliance with the Contract Documents after receipt of a written Notice to Cure from the Town identifying the deficiencies and the time to Cure.
18. **Days** mean calendar days unless otherwise specifically stated in the Contract Documents.
19. **Defective Work** means (a) Work that is unsatisfactory, deficient, or damaged, does not conform to the Contract Documents, or does not meet the requirements of any inspection, test or approval, or (b) Work associated with punch list items that the Contractor fails to complete within a reasonable time after issuance of the punch list by the Project Manager.
20. **Design Documents, Plans or Sketch** means any construction plans and specifications, or graphic representation included as part of the Contract.
21. **Field Directive** means a written directive to effect changes to the Work, issued by the Project Manager, Consultant or the Town Department Director that may affect the ITB Contract price or time.
22. **Final Completion** means the date the Contractor has completed all the Work and submitted all documentation required by the Contract Documents.
23. **Inspector** means an authorized representative of the Town assigned to make necessary inspections of materials furnished by Design-Build Firm and of the Work performed by the Contractor. The Town, at its sole discretion may hire a professional consultant to perform the inspections.
24. **Materials** mean goods or equipment incorporated into the Work or used or consumed in the performance of the Work.
25. **Notice of Award** means any correspondence from the Town that informs the successful bidder of a contract award for this ITB.
26. **Notice to Proceed** means a written letter or directive issued by the Town Manager or designee acknowledging that all conditions precedent to award have been met and directing that the Contractor may begin Work.
27. **Project** means a task or series of tasks that the Contractor must complete in accordance with the Contract Documents.
28. **Project Manager** means the individual assigned by the Town Manager or designee to manage a Project.
29. **Request for Information (RFI)** means a request from the Contractor seeking an interpretation or clarification relative to the Contract Documents. The RFI, which must be clearly marked RFI, must clearly and concisely set forth the issue(s) or item(s) requiring clarification or interpretation and why the response is required. The RFI must set forth the Contractor's interpretation or understanding of the document(s) in question, along with the reason for such understanding.
30. **Subcontractor** means a person, firm or corporation having a direct contract with Contractor, including one who furnishes material, equipment or services necessary to perform the Work.
31. **Submittal** means the documents prepared and submitted by the Bidder in response to this ITB.
32. **Substantial Completion** means that point at which the Project is at a level of completion in substantial compliance with the Contract Documents and is fit for use in its intended purpose.

Substantial Compliance will not be deemed to have occurred until any and all governmental entities, with regulatory authority or which have jurisdiction over the Work, have conducted all final inspections, and approved the Work. Beneficial use or occupancy will not be the sole factor in determining whether Substantial Completion has been achieved, unless a temporary certificate of completion has been issued.

- 33. **Town** means the Town Council of the Town of Miami Lakes or the Town Manager, as applicable.
- 34. **Town Manager** means the duly appointed chief administrative officer of the Town of Miami Lakes or designee.
- 35. **Work** as used herein refers to all reasonably necessary and inferable labor, material, equipment, and services, whether or not specifically stated, to be provided by the Contractor to fulfill its obligations under the Contract Documents.

1.02 GENERAL REQUIREMENTS

1.02-1 GENERALLY

The employee(s) of the Contractor will be considered to be at all times its employee(s), and not employee(s) or agent(s) of the Town or any of its departments.

The Contractor agrees that the Contractor will at all times employ, maintain, and assign to the performance of the Contract a sufficient number of competent and qualified professionals and other personnel to meet the requirements of the Work to be performed.

The Contractor agrees to adjust staffing levels or to replace any staff personnel if so requested by the Town Manager or designee, should the Town Manager or designee make a determination that said staffing is unacceptable or that any individual is not performing in a manner consistent with the requirements for such a position.

The Contractor represents that its staff personnel have the proper skills, training, background, knowledge, experience, rights, authorizations, integrity, character, and licenses necessary to perform the Work in a competent and professional manner.

The Contractor must at all times cooperate with the Town or the Consultant (if any) and coordinate its respective Work efforts to most effectively and efficiently progress the performance of the Work.

The Town, the Consultant (if any) and other agencies authorized by the Town must have full access to the Project site at all times.

The apparent silence of the Contract Documents as to any detail or the apparent omission from them of a detailed description concerning any Work to be done and materials to be furnished will be regarded as meaning that only best practices are to prevail and only materials and workmanship of the best quality are to be used in the performance of the Work.

1.02-2 RULES AND REGULATIONS

The Contractor must comply with all laws and regulations applicable to provision of services specified in the Contract Documents. The Contractor must be familiar with all federal, state and local laws, rules, regulations, codes, and ordinances that affect the Work.

Where portions of the Work traverse or cross federal, state, county or local highways, roads, streets, or waterways, and the agency in control of such property has established standard specifications, rules or regulations governing items of Work that differ from these specifications, the most stringent specifications, rules and regulations will apply.

1.02-3 HOURS FOR PERFORMING WORK

All Work must be performed in accordance with the Town's Noise Ordinance No. 04-50 unless specifically stated otherwise herein or in a Work Order. Work to be performed outside these hours will require the prior written approval of the Project Manager.

1.02-4 SUBCONTRACTORS

Contractor is solely responsible for all acts and omissions of its Subcontractors. Nothing in the Contract Documents creates any contractual relationship between any Subcontractor and the Town. Contractor is responsible for the timely payment of its Subcontractors and suppliers as required by Florida Statute Chapter 218.735. Failure to comply with these payment requirements will place the Contractor in default of the Contract.

Contractor must not employ any subcontractor against whom Town may have a reasonable objection.

Contractor must utilize the Subcontractors identified in its Bid submission. The replacement, addition, or deletion of any Subcontractor(s) will be subject to the prior written approval of the Project Manager.

Bidders that will be using a temporary labor company to provide staffing for the Project must complete the Leased Employees Affidavit Form and include it with their Bid. Failure include this form may result in the Bid being rejected as non-responsive.

1.02-5 CONSULTANT SERVICES

The Town, at its sole discretion, may hire a Consultant who may serve as the Town's representative for the Contract. Where a Consultant has been identified, the Consultant and the Project Manager will both have authority to act on behalf of the Town to the extent provided for in the Contract Documents, and where such authority has been delegated in writing by the Town Manager.

1.02-6 AUTHORITY OF THE PROJECT MANAGER

The Town Manager hereby authorizes the Project Manager to determine, all questions of any nature whatsoever arising out of, under or in connection with, or in any way relating to or on account of the Work, and questions as to the interpretation of the Work to be performed under the Contract Documents. The Project Manager may delegate some of the authority contained in this Article to a designee.

The Contractor is bound by all determinations or orders of the Project Manager and must promptly respond to requests of the Project Manager, including the withdrawal or modification of any previous order, and regardless of whether the Contractor agrees with the Project Manager's determination or requests. Where requests are made orally, the Project Manager will follow up in writing, as soon thereafter as is practicable.

The Project Manager and/or designee shall have authority to act on behalf of the Town to the extent provided for by the Contract Documents, unless otherwise modified in writing by the Town. All instructions to the Contractor will be issued in writing through the Town Manager, Project Manager or designee.

The Project Manager will not be responsible for the means, methods, techniques, sequences or procedures employed, or for safety precautions and programs in connection with the Work and will not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents.

All interpretations and recommendations of the Project Manager and Consultant will be consistent with the intent of the Contract Documents.

Interpretation of the Contract terms and conditions will be issued by the Town's Procurement Manager.

The Project Manager and/or designee will have authority to reject Work that does not conform to the Contract Documents. Whenever, in their opinion, it is considered necessary or advisable to ensure the proper completion of the Work the Project Manager or Consultant have authority to require special inspections or testing of the Work, whether or not such Work is fabricated, installed or completed.

The Project Manager's authority to act under this paragraph, or any decision made in good faith either to exercise or not to exercise such authority, shall not give rise to any duty or responsibility of the Project Manager owed to the Contractor, any subcontractor, supplier or any of their agents, employees, or any other person performing any of the Work.

The Project Manager is not responsible for the acts or omissions of the Contractor, any Subcontractor, or any of their agents or employees, or any other persons performing any of the Work.

1.02-7 INDEPENDENT CONTRACTOR

The Contractor is engaged as an independent business and agrees to perform Work as an independent contractor. In accordance with the status of an independent contractor, the Contractor covenants and agrees that the Contractor will conduct business in a manner consistent with that status, that the Contractor will not claim to be an officer or employee of the Town for any right or privilege applicable to an officer or employee of the Town, including, but not limited to: worker's compensation coverage; unemployment insurance benefits; social security coverage; retirement membership, or credit.

1.02-8 THIRD-PARTY BENEFICIARIES

Neither Contractor nor Town intends to directly or substantially benefit a third party by this Contract. Therefore, the parties agree that there are no third-party beneficiaries to this Contract and that no third party will be entitled to assert a claim against either of them based upon this Contract.

1.02-9 ASSIGNMENT OR SALE OF CONTRACT

The performance of this Contract will not be transferred pledged, sold, delegated or assigned, in whole or in part, by the Contractor without the prior written consent of the Town. It is understood that a sale of the majority of the stock or partnership shares of the Contractor, a merger or bulk sale, an assignment for the benefit of creditors will each be deemed transactions that would constitute an assignment or sale hereunder. The Town may request any information it deems necessary to review any request for assignment or sale of the Contract.

The Contractor must notify the Project Manager prior to any Assignment of the Contract, which must be approved by the Town for the transfer of the Contract. The Town may, at its sole discretion, elect not to approve the transfer of the Contract, which will result in the Contract being terminated in accordance with the Termination for Convenience provision of the Contract. Any transfer without Town approval will be cause for the Town to terminate this Contract for default and the Contractor will have no recourse from such termination.

Nothing herein will either restrict the right of the Contractor to assign monies due to, or to become due or be construed to hinder, prevent or affect any assignment by the Contractor for the benefit of its creditors, made pursuant to applicable law.

1.02-10 TIME FOR COMPLETION

Time is of the essence with regard to completion of the Work to be performed under the Contract. Delays and extensions of time may be allowed only in accordance with the provisions of the Contract. The time allowed for completion is provided for in the Special Terms & Conditions.

1.02-11 APPLICABLE LAW AND VENUE OF LITIGATION

This Contract will be enforceable in Miami-Dade County, Florida, and if legal action is necessary by either party with respect to the enforcement of any or all of the terms or conditions the sole venue will be Miami-Dade County, Florida.

1.02-12 NON-EXCLUSIVE CONTRACT

This Contract shall not be deemed to create an exclusive relationship between the Town and the Contractor(s). The Town, in its sole discretion, reserves the right to perform, solicit or employ other parties or its own staff to perform Work or Services comparable to those covered herein.

1.02-13 SEVERABILITY

In the event any provision of the Contract Documents is determined by a Court of competent jurisdiction to be illegal or unenforceable, then such unenforceable or unlawful provision will be excised from this Contract, and the remainder of the Contract Documents will continue in full force and effect. Notwithstanding the foregoing, if the result of the deletion of such provision will materially and adversely affect the rights of either party, such party may elect, at its option, to terminate the Contract in its entirety. An election to terminate the Contract based upon this provision must be made within seven (7) calendar days after the finding by the Court becomes final.

1.02-14 CONTRACT DOCUMENTS CONTAIN ALL TERMS

The Contract Documents and all documents incorporated herein by reference contain all the terms and conditions agreed upon by the parties hereto, and no other agreement, oral or otherwise, regarding the subject matter of the Contract Documents will be deemed to exist or to bind any of the parties hereto, or to vary any of the terms contained herein.

1.02-15 ENTIRE AGREEMENT

The Contract Documents, as they may be amended from time to time, represent the entire and integrated Contract between the Town and the Contractor and supersede all prior negotiations, representations or agreements, written or oral. This Contract may not be amended, changed, modified, or otherwise altered in any respect, at any time after the execution hereof, except by a written document executed with the same formality and equal dignity herewith. Waiver by either party of a breach of any provision of the Contract Documents will not be deemed to be a waiver of any other breach of any provision of the Contract Documents.

1.02-16 INTENTION OF THE TOWN

It is the intent of the Town to describe in the ITB the Work to be completed in accordance with all codes and regulations governing all the Work to be performed under this Contract. Any work, labor, materials and/or equipment that may reasonably be inferred from the Contract as being required to produce the intended results must be supplied by Contractor whether or not specifically called for in the Contract Documents. Where words, which have well-known technical

or trade meanings are used to describe Work, materials or equipment, such words will be interpreted in accordance with that meaning. Reference to standard specifications, manuals, or codes of any technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, will mean the latest standard specification, manual, code or laws or regulations in effect at the time of opening of Bids and Contractor must comply therewith. Town will have no duties other than those duties and obligations expressly set forth within the Contract Documents.

1.02-17 PRIORITY OF PROVISIONS

If there is a conflict or inconsistency between any term, statement requirement, or provision of any exhibit attached hereto, any document or events referred to herein, or any document incorporated into the Contract Documents by reference and a term, statement, requirement, the specifications or any plans, or provision of the Contract Documents the following order of precedence will apply:

1. In the event of conflicts in the Contract Documents the priorities stated below will govern;
2. Revisions and Change Orders to the Contract will govern over the Contract;
3. The Contract Documents will govern over the Contract;
4. The Special Conditions will govern over the General Conditions of the Contract; and
5. Addendum to an ITB will govern over the ITB.

In the event that Drawings and specifications are provided with the Contract the priorities stated below will govern:

1. Scope of Work and Specifications will govern over Plans and Drawings;
2. Schedules, when identified as such will govern over all other portions of the Plans;
3. Specific notes will govern over all other notes, and all other portions of the Plans, unless specifically stated otherwise;
4. Larger scale drawings will govern over smaller scale drawings;
5. Figured or numerical dimensions will govern over dimensions obtained by scaling; and
6. Where provisions of codes, manufacturer's specifications or industry standards are in conflict, the more restrictive, strict, or higher quality will govern.

1.02-18 ROYALTIES AND PATENTS

All fees, royalties, and claims for any invention, or pretended inventions, or patent of any article, material, arrangement, appliance, or method that may be used upon or in any manner be connected with the Work or appurtenances, are hereby included in the prices stipulated in the Contract for said Work.

1.02-19 PURCHASE AND DELIVERY, STORAGE AND INSTALLATION

All materials must be F.O.B. delivered and included in the cost of the Work. The Contractor is solely responsible for the purchase, delivery, off-loading and installation of all equipment and material(s). Contractor must make all arrangement for delivery. Contractor is liable for replacing and damaged equipment or material(s) and filing any and all claims with suppliers. All transportation must comply with all federal, FDOT, Miami-Dade County, and Town rules and regulations.

No materials will be stored on site without the prior written approval, using the appropriate Town form, by the Project Manager. The Town's Forms are available on the Town's website.

1.02-20 VEHICLES & EQUIPMENT

Contractor must have on hand at all times clean and in good working order such vehicles, machinery, tools, accessories, and other items necessary to perform the Work under this Contract. The Town may require the repair or replacement of equipment as reasonably necessary.

1.02-21 SUBSTITUTIONS

Substitution of any specified material or equipment requires the prior written acceptance of the Project Manager. It is the sole responsibility of the Contractor to provide sufficient information and documentation to the Project Manager to allow for a thorough review and determination on the acceptability of the substitution. Approval of a substitution does not waive or mitigate the Contractor's sole responsibility to meet the requirements of the Contract Documents. The Town may require an adjustment in price based on any proposed substitution.

The Contractor may request the Town to approve substitution where the specified materials are not available. Such requests must be submitted in writing to the Project Manager in advance with sufficient information to evaluate the substitution. The Contractor must provide the substitute materials plant designation, type, grade, quality, and size. Acceptance of substitutions will be at the sole discretion of the Town. The Town may require an adjustment in price based on any proposed substitution.

1.02-22 OWNERSHIP OF THE WORK

The Contractor is solely responsible for all Work, until Final Completion of the Work. Contractor is liable for all damage, theft, maintenance, and safety until such time as the Town issues a notice of Final Completion of the Work.

1.02-23 TOWN LICENSES, PERMITS AND FEES

In accordance with the Public Bid Disclosure Act, 218.80, Florida Statutes, each license, permit, or fee the Contractor will have to pay the Town before or during the Work or the percentage method or unit method of all licenses, permits and fees required by the Town and payable to the Town by virtue of the Work as part of the Contract are as follows:

1. Contractor must have and maintain during the term of this Contract all appropriate Town licenses. Fees for which must be paid in full in accordance with the Town's Fee structure for such licenses. THERE WILL NOT BE ANY PERCENTAGE REDUCTION OR WAIVING OF TOWN LICENSE FEES.
2. During the performance of this Contract there may be times when the Contractor will be required to obtain a Town permit for such Work. It is the responsibility of the Contractor to ensure that he has the appropriate Town permits to perform such work as may become necessary during the performance of the Work. Any fees related to Town required permits in connection with this Contract will be the responsibility of the Contractor and will be reimbursed by the Town.

Licenses, permits, and fees that may be required by County, State or Federal entities are not included in the above list.

1.02-24 TAXES

Contractor must pay all applicable sales, consumer, use and other taxes required by law. Contractor is responsible for reviewing the pertinent state statutes involving state taxes and complying with all requirements.

Contractor shall include all sales and other taxes for which it is liable in its Bid price.

1.02-25 REMOVAL OF UNSATISFACTORY PERSONNEL

Contractor must at all times enforce strict discipline and good order among its employees and subcontractors at the Project(s) site(s) and must not employ on any Work any unfit person or anyone not skilled in the Work to which they are assigned.

The Town may make written request to the Contractor for the prompt removal and replacement of any personnel employed or retained by the Contractor, or any or Subcontractor engaged by the Contractor to provide and perform services or Work pursuant to the requirements of the Contract Documents. The Contractor must respond to the Town within five (5) calendar days of receipt of such request with either the removal and replacement of such personnel or written justification as to why that may not occur. The Town will make the final determination as to the removal of unsatisfactory personnel from the Work. The Contractor agrees that the removal of any of such individual(s) does not require the termination or demotion of said individual(s).

1.02-26 DEFECTIVE OR NON-COMPLIANT WORK

The Project Manager has the authority to reject or disapprove Work that is found to be defective or not in compliance with the requirements of the Contract. If required, the Contractor will promptly either correct all defective or non-compliant Work or remove such defective Work and replace it with non-defective/non-compliant Work. Contractor will bear all direct, indirect and consequential costs of such removal or corrections.

Re-examination of any of the Work may be ordered by the Project Manager and if so ordered, the Work must be uncovered by Contractor. If such Work is found to be in accordance with the Contract Documents, the Town will pay the cost of reexamination and replacement by means of a Change Order. If such Work is not in accordance with the Contract Documents, Contractor will pay such cost.

Should Contractor fail or refuse to remove or correct any defective or non-compliant Work or to make any necessary repairs in accordance with the requirements of the Contract Documents within the time indicated in writing by the Project Manager, the Project Manager has the authority to cause the defective/non-compliant Work to be removed or corrected, or make such repairs or corrections as may be necessary at Contractor's expense. Any expense incurred by the Town in making such removals, corrections or repairs, will be paid for out of any monies due or which may become due the Contractor. In the event of failure of the Contractor to make all necessary repairs promptly and fully, the Town Manager or designee may declare the Contractor in default.

If, within the warranty period required by the Contract Documents, or by any specific provision of the Contract, any of the Work is found to be defective or not in accordance with the Contract Documents, Contractor, after receipt of written notice from Town, must promptly correct such defective or nonconforming Work within the time specified by Town, without cost to Town. Should the Contractor fail to take such action the Town may take any necessary and appropriate action and hold the Contractor liable and responsible for all costs. The Town may take any action

allowed under this Contract or in law to recover all such costs. Nothing contained herein will be construed to establish a period of limitation with respect to any other obligation which Contractor might have under the Contract Documents, including but not limited to, any claim regarding latent defects.

Failure to reject any defective Work or material does not, in any way, prevent later rejection when such defect is discovered, or obligate the Town to accept the defective Work.

1.02-27 COMPLIANCE WITH APPLICABLE LAWS

The Contractor must comply with the most recent editions and requirements of all applicable laws, rule, regulations, codes, and ordinances of the Federal government, the State of Florida, Miami-Dade County, and the Town.

1.02-28 NONDISCRIMINATION, EQUAL EMPLOYMENT OPPORTUNITY, & ADA

Contractor will not unlawfully discriminate against any person, will provide equal opportunities for employment, and comply with all applicable provisions of the Americans with Disabilities Act in its performance of the Work under the Contract. Contractor will comply with all applicable federal, State of Florida, Miami-Dade County, and Town rules regulations, laws, and ordinance as applicable.

1.02-29 NOTICES

Whenever either party desires to give written notice to the other relating to the Contract, such must be addressed to the party for whom it is intended at the place specified below; and the place for giving the notice will remain until it has been changed by written notice in compliance with the provisions of this Article. Notice will be deemed given on the date received or within 3 days of mailing, if mailed through the United States Postal Service. Notice will be deemed given on the date sent via e-mail or facsimile. Notice will be deemed given via courier/delivery service upon the initial delivery date by the courier/delivery service. For the present, the parties designate the following as the respective places for giving of notice:

For Town:

Mr. Alex Rey
Town Manager
Town of Miami Lakes
6601 Main Street
Miami Lakes, Florida 33014
reya@miamilakes-fl.gov

Raul Gastesi
Town Attorney
Town of Miami Lakes
6601 Main Street
Miami Lakes, Florida 33014
rgastesi@miamilakes-fl.gov

For Contractor:

William D. Hodges
President
Arbor Tree and Land, Inc.
7153 Southern Blvd, A5
West Palm Beach, Florida 33413
chodges@atldiversified.com

Space intentionally left blank

During the Work the Contractor must maintain continuing communications with designated Town representative(s). The Contractor must keep the Town fully informed as to the progress of the Work under the Contract.

1.03 INDEMNITY & INSURANCE

1.03-1 INDEMNIFICATION

The Contractor must indemnify and hold harmless the Town, its officers, agents and employees from and against all liability, claims, damages, losses and expenses, including reasonable attorney's fees and costs at both trial and appellate levels arising out of or resulting from the performance of the Work under this Contract, caused by negligence, recklessness, intentional misconduct, or any act or omission of the Contractor or anyone directly or indirectly employed by Contractor or anyone for whose acts Contractor may be liable. The Contractor expressly understands and agrees that any insurance protection required by this Contract or otherwise provided by Contractor will in no way limit the responsibility to indemnify, keep and save harmless and defend the Town or its officers, employees, agents and instrumentalities as herein provided.

The Contractor agrees and recognizes that the Town will not be held liable or responsible for any claims which may result from any actions or omissions of the Contractor in which the Town participated either through review or concurrence of the Contractor's actions. In reviewing, approving or rejecting any submissions by the Contractor or other acts of the Contractor, the Town in no way assumes or shares any responsibility or liability of the Contractor or Subcontractor, under this Contract. The Contractor will defend the Town or provide for such defense at its own expense, at the Town's option.

This indemnification obligation will survive the expiration or termination of this Contract.

The Town has provided specific consideration for the indemnification of \$10.00 from the sums due to the Contractor under this Contract.

1.03-2 CONTRACTOR'S RESPONSIBILITY FOR DAMAGES TO THE WORK

Contractor accepts full responsibility for Work against all losses or damages of whatever nature sustained until acceptance by Town Manager or designee, and must promptly repair or replace, at no additional cost to the Town any Work, materials, equipment, or supplies damaged, lost, stolen, or destroyed from any cause whatsoever.

Contractor is full responsible for Work against all losses or damages of whatever nature sustained until acceptance by Town, and must promptly repair or replace, at no additional cost to the Town any Work, materials, equipment, or supplies damaged, lost, stolen, or destroyed from any cause whatsoever.

1.03-3 DEFENSE OF CLAIMS

Should any claim be made, or any legal action brought in any way relating to the Work under the Contract, the Contractor will diligently render to the Town all assistance which the Town may require of the Contractor.

1.03-4 INSURANCE

Without limiting any of the other obligations or liabilities of Contractor, the Contractor must secure and maintain throughout the duration of this Contract, insurance of such type and in such amounts necessary to protect its interest and the interest of the Town against hazards or risks of loss as specified below. The underwriter of such insurance must be qualified to do

business in the State of Florida, be rated "B" as to management and "Class V" as to strength or better as rated by the latest edition of Best's Insurance Guide, published by A.M. Best Company, Oldwick, New Jersey, or its equivalent, The insurance carrier must have agents upon whom service of process may be made in the State of Florida. The insurance coverage will be primary insurance with respect to the Town, its officials, employees, agents and volunteers. Any insurance maintained by the Town will be in excess of the Contractor's insurance and will not contribute to the Contractor's insurance. The insurance coverages must include a minimum of:

a. *Worker's Compensation and Employer's Liability Insurance:*

Coverage to apply for all employees for statutory limits as required by the State of Florida's Statutory Workers' Compensation Law and all applicable Federal laws. The policy(ies) must include Employer's Liability with minimum limits of \$1,000,000 each accident and a waiver of subrogation.

b. *Comprehensive Business Automobile and Vehicle Liability Insurance:*

This insurance must be written in comprehensive form and must protect the Contractor and the Town against claims for injuries to members of the public and/or damages to property of others arising from the Contractor's use of motor vehicles or any other equipment and must cover operation with respect to onsite and offsite operations and insurance coverage must extend to any motor vehicles or other equipment irrespective of whether the same is owned, non-owned, or hired. The limit of liability must not be less than \$3,000,000 per occurrence, combined single limit for Bodily Injury Liability and Property Damage Liability. Coverage must be afforded on a form no more restrictive than the latest edition of the Business Automobile Liability Policy, without restrictive endorsement, as filed by the Insurance Services Office.

c. *Commercial General Liability ("CGL"):*

This insurance must be written in comprehensive form and must protect the Contractor and the Town against claims arising from injuries to members of the public or damage to property of others arising out of any act or omission to act of the Contractor or any of its agents, employees, or subcontractors. The limit of liability must not be less than \$3,000,000 per occurrence, combined single limit for Bodily Injury Liability and Property Damage Liability. Coverage must be afforded on a primary and non-contributory basis and with a coverage form no more restrictive than the latest edition of the Commercial General Liability Policy, without restrictive endorsements, as filed by the Insurance Services Office, and must include: (1) Premises and/or Operations; (2) Independent contractors and Products and/or completed Operations; (3) Broad Form Property Damage, Personal Injury and a Contractual Liability Endorsement, including any hold harmless and/or indemnification agreement.

(i) Products and/or Completed Operations for contracts with an Aggregate Limit of **One Million Dollars (\$1,000,000)** per project. Contractor must maintain in force until at least

three years after completion of all Work required under the Contract, coverage for Products and Completed Operations, including Broad Form Property Damage.

(ii) Personal and Advertising Injury with an aggregate limit of **One Million Dollars (\$1,000,000)**.

(iii) CGL Required Endorsements:

- (1st) Employees included as insured
- (2nd) Contingent Liability/Independent Contractors Coverage
- (3rd) Contractual Liability
- (4th) Waiver of Subrogation
- (5th) Premises and/or Operations
- (6th) Explosion, Collapse and Underground Hazards (if not specifically covered under the policy)
- (7th) Loading and Unloading
- (8th) Mobile Equipment (Contractor's Equipment) whether owned, leased, borrowed or rented by Contractor or employees of the Contractor.

d. Certificate of Insurance

Contractor must provide the Town Manager or designee with Certificates of Insurance for all required policies within fifteen (15) days of notification of a conditional award by the Town. The Certificates of Insurance must not only name the types of policy(ies) provided, but also must specifically cite this Contract and must state that such insurance is as required by this Contract. The Town reserves the right to require the Contractor to provide a certified copy of such policies, upon written request by the Town. Each policy certificate must be endorsed with a provision that not less than thirty (30) calendar days' written notice must be provided to the Town before any policy or coverage is cancelled, restricted, or a material change is made. Acceptance of the Certificate(s) is subject to approval of the Town Manager or designee.

e. Umbrella Policy

Contractor must provide a \$3,000,000, per occurrence, coverage with a \$3,000,000 aggregate limit. The policy must provide excess coverage on CGL, Business Automobile, Marine, and Employer's liability.

f. Additional Insured

The Town is to be specifically included as an Additional Insured for the liability of the Town resulting from operations performed by or on behalf of Contractor in performance of this Contract. The Town must be named as additional insured under the CGL, business automobile insurance and umbrella policies. Town must be named as an additional insured under Contractor's insurance, including that applicable to the Town as an Additional Insured, must apply on a primary basis and any other insurance maintained by the Town will be in excess of and will not contribute to Contractor's insurance. Contractor's insurance must contain a severability of interest provision providing that, except with respect to the total limits of liability, the insurance must

apply to each Insured or Additional Insured in the same manner as if separate policies had been issued to each.

All deductibles or self-insured retentions must be declared to and be approved by the Town Manager. The Contractor will be responsible for the payment of any deductible or self-insured retention in the event of any claim.

1.04 PUBLIC RECORDS

1.04-1 ACCESS, REVIEW AND RELEASE OF RECORDS

Town will have the right to inspect and copy, at Town's expense, the books, records, and accounts of Contractor which relate in any way to the Contract. The Contractor agrees to maintain an accounting system that provides for accounting records that are supported with adequate documentation and adequate procedures for determining allowable costs.

g. Public Records

Bidder affirms, by virtue of bidding, that its Bid is a public record, and the public will have access to all documents and information pertaining to the bid and the solicitation, subject to the provisions of Chapter 119, Florida Statutes. Bidder acknowledges that the Town may provide public access to or provide copies of all documents subject to disclosure under applicable law. If the Project is funded by grants, either partially or fully, records will be made available to the granting agency in accordance with that agency's requirements, when necessary.

Bidder is responsible for claiming applicable exemptions to disclosure as provided by Chapter 119, Florida Statutes, in its Bid by identifying the materials to be protected and providing a reason for why such exclusion from public disclosure is necessary and legal.

h. Retention and Transfer of Public Records

Upon termination by the Town or final completion of the Contract the Contractor must, in accordance with Section 119.0701 of the Florida Statutes, transfer to the Town, at no cost, all public records in possession of the Contractor and destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. All public record stored electronically must be provided in .pdf format or another format acceptable to the Town. Any payments due the Contractor will not be made until the Town receives the public records. Failure to return such documents will result in the documents being subject Chapter 119 of the Florida Statutes

The Contractor must comply with the applicable provisions of Chapter 119, Florida Statutes and Town will have the right to immediately terminate this Contract for the refusal by the Contractor to comply with Chapter 119, Florida Statutes. The Contractor must retain all other records associated with this Contract for a period of five (5) years from the date of termination.

Should the Contractor have any questions related to the application of Chapter 119, Florida Statutes, to the Contractor's duty to provide public records relating to this Contract, contact the Town's custodian of public records at the Office of the Town Clerk 6601 Main Street, Miami Lakes, Florida 33014 either in writing to by telephone at (305) 364-6100 or clerk@miamilakes-fl.gov.

1.05 CONTRACT MODIFICATION AND DISPUTE PROCESS

1.05-1 CHANGE ORDERS

Without invalidating the Contract Documents, and without notice to any Surety, the Town reserves the right to make increases, decreases or other changes in the character or quantity of the Work under the Contract Documents as may be considered necessary or desirable to complete the Work in a manner satisfactory to the Town. The Town reserves the right to order changes which may result in additions to or reductions from the amount, type or value of the Work shown in the Contract, and which are within the general scope of the Contract Documents, and all such changes will be authorized only by a Change Order approved in advance, and issued in accordance with provisions of the Town.

The Contractor is required to provide the Project Manager with a detailed Change Proposal Request ("CPR") or Request for Change Order ("RCO"), utilizing the Town's standard form, which must include requested revisions to the Contract, including but not limited to adjustments in this Contract Price and Contract Time. The Contractor is required to provide sufficient data in support of the cost proposal demonstrating its reasonableness. In furtherance of this obligation, the Town may require that the Contractor submit any or all of the following: a cost breakdown of material costs, labor costs, labor rates by trade, and Work classification and overhead rates in support of Contractor's CPR/RCO. The Contractor's CPR/RCO must include any schedule revisions and an explanation of the cost and schedule impact of the proposed change on the Project. If the Contractor fails to notify the Project Manager of any schedule changes associated with the proposed change, it will be deemed to be an acknowledgment by Contractor that the proposed work will not have any scheduling consequences.

Any changes to the Contract must be contained in a written Change order, using the Town's Change Order Form, executed by the both parties. However, under circumstances determined necessary by the Town, a Change Order may be issued unilaterally by Town.

In the event a satisfactory adjustment cannot be reached, and a Change Order has not been issued or time is of the essence, the Town reserves the right, at its sole option to direct the Contractor to proceed on a time and materials basis or make such arrangements as may be deemed necessary to complete the proposed additional Work.

Where the Town directs the Contractor to proceed on a time and materials basis, Contractor must maintain detailed records of all labor and material costs for review by the Town.

For all Change Orders the Contractor will be entitled to a combined profit and overhead rate for Change Orders that will not be in excess of ten (10%) percent inclusive of all direct/indirect costs including labor, material, and equipment costs, unless the Procurement Manager determines that the complexity and risk of the Change Order work is such that an additional factor is appropriate.

The final amount to be paid to the Contractor for Change Order Work is subject to negotiation between the Town and the Contractor.

Failure by the Contractor to proceed with Change Order Work when so directed by the Town Manager or designee may result in the Contractor being found in default of the Contract.

Contractor must utilize the Town's standard requests for change orders and change order forms unless otherwise specifically approved by the Town's Procurement Manager. The Town's Forms are available on the Town's website.

1.05-2 FORCE MAJEURE

Should any failure to perform on the part of Contractor be due to a condition of Force Majeure as that term is interpreted under Florida law, then, the Town may allow an extension of time reasonably commensurate with the cause of such failure to perform or cure.

If the Contractor is delayed in performing any obligation under the Contract Documents due to a force majeure condition, the Contractor must request a time extension from the Town within two (2) working days of said Force Majeure occurrence. Any time extension will be subject to mutual agreement and will not be cause for any claim by the Contractor for extra compensation unless additional services are required by the Town. A Force Majeure event **does not include** inclement weather except for significant weather events that adversely impact the critical path of the Project Schedule, if required, or completion of the work, and **does not include** the acts or omissions of Subcontractors or suppliers.

1.05-3 EXTENSION OF TIME

Any reference in this Article to the Contractor will be deemed to include suppliers, and permitted Subcontractors, whether or not in privity of contract with the Contractor for the purpose of this Article.

If the Contractor is delayed at any time during the progress of the Work beyond the time frame or date provided for Final Completion by the neglect or failure of the Town or by a Force Majeure, then the Contract Time set forth in the Contract will be extended by the Town subject to the following conditions:

1. The cause of the delay arises after issuance of the NTP and could not have been anticipated by the Contractor by reasonable investigation before proceeding with the Work;
2. The Contractor demonstrates that the completion of the Work will be actually and necessarily delayed;
3. The effect of such cause cannot be avoided or mitigated by the exercise of all reasonable precautions, efforts and measures whether before or after the occurrence of the cause of delay.

A delay meeting all the conditions of the above, will be deemed an Excusable Delay.

The Town reserves the right to rescind or shorten any extension previously granted if subsequently, the Project Manager determines that any information provided by the Contractor in support of a request for an extension of time was erroneous; provided however, that such information or facts, if known, would have resulted in a denial of the request for an Excusable Delay. Notwithstanding the above, the Project Manager will not rescind or shorten any extension previously granted if the Contractor acted in reliance upon the granting of such extension and such extension was based on information which, although later found to have been erroneous, was submitted in good faith by the Contractor.

The request for an Excusable Delay must be made within five (5) calendar days after the time when the Contractor knows or should have known of any cause for a specific event, for which it may claim an extension of time and must provide any actual or potential basis for an extension of time, identifying such causes and describing, as fully as practicable at that time, the nature and expected duration of the delay and its effect on the completion of that part of the Work identified in the request. The Project Manager may require the Contractor to furnish such additional information or documentation, as the Project Manager will reasonably deem necessary or helpful in considering the requested extension.

The Contractor will not be entitled to an extension of time unless the Contractor affirmatively demonstrates that it is entitled to such extension.

The Project Manager will endeavor to review and respond to the Contractor's request for Excusable Delays in a reasonable period of time; however, the Contractor is obligated to continue to perform the Work required regardless of whether the Project Manager has issued a decision or whether the Contractor agrees or disagrees with that decision.

With regard to an injunction, strike or interference of public origin which may delay the Project, the Contractor must promptly give the Project Manager a copy of the injunction or other orders and copies of the papers upon which the same was granted. The Town must be afforded the right to intervene and become a party to any suit or proceeding in which any such injunction has been obtained and move to dissolve the same or otherwise, as the Town may deem proper.

Where the Contractor is delayed for any period of time by two or more of the causes mentioned in Article C4.04, Excusable Delay, Non-Compensable, the Contractor will not be entitled to a separate extension for each one of the causes, only one period of extension will be granted for the delay.

Any extension of time granted by the Town will be processed through the Change Order provisions of the Contract.

The permitting of the Contractor to proceed with the Work subsequent to the date specified in the Contract (as such date may have been extended by a change order), the making of any payment to the Contractor, the issuance of any Change Order, will not waive the Town's rights under the Contract, including but not limited to the assessment of liquidated damages or declaring Contractor in default.

1.05-4 EXCUSABLE DELAY, NON-COMPENSABLE

Excusable Delay is delay caused by either of the following: (i) circumstances that could not be foreseen and are beyond the reasonable control of Contractor, its subcontractors, or suppliers; or (ii) joint or concurrent action by Contractor, its subcontractors, suppliers or vendors and the Town. Then Contractor will be entitled only to a time extension and no compensation for the delay.

Contractor is entitled to a time extension of the Contract time for each day the Work is delayed due to Excusable Delay. Contractor must document its claim for any time extension as provided in Article C4.05.

Failure of Contractor to comply with Article C4.05, as to any particular event of delay will be deemed conclusively to constitute a waiver, abandonment or relinquishment of any and all claims resulting from that particular event of delay.

1.05-5 CLAIMS

Contractor will only be entitled to submit a claim after submitting its request for additional compensation or time in accordance with Articles C4.03 and C4.04 of the Contract and the request(s) have been denied or the Contractor does not agree with the decision of the Town.

Any claim for a change in the Contract time for completion of any Work, the Contract Term, or Contract price must be made by written notice by Contractor to the Town representatives identified in Article C1.26 within the timeframe established in Article C4.04, effective with the commencement of the event giving rise to the claim stating the general nature and cause of the claim. Thereafter, within twenty (20) calendar days of the termination of the event giving rise to

the claim, written notice of the extent of the claim with supporting information and documentation must be provided unless the Procurement Manager allows an additional period of time to ascertain more accurate data in support of the claim. The written notice must be accompanied by Contractor's written notarized statement that the adjustment(s) claimed is the entire adjustment to which the Contractor has reason to believe it is entitled as a result of the occurrence of said event. All claims and disputes will be determined in accordance with the Contract. It is expressly and specifically agreed that any and all claims for changes to the Contract will be waived if not submitted in strict accordance with the requirements of this Article.

The Town may require the Contractor to submit its claim utilizing a specific format or forms to facilitate the Town's evaluation of the claim. The Town at its sole discretion may require that additional documentation or information be provided by the Contractor to assist in its review and evaluation of the claim.

The Contract time will be extended in an amount equal to time lost on critical Work items due to delays beyond the control of and through no fault or negligence of Contractor if a claim is made as provided in this Article. Such delays include, but are not be limited to, acts or neglect by any separate contractor employed by Town, fires, floods, labor disputes beyond the control of the Contractor, epidemics, abnormal weather conditions (if applicable), or acts of God.

The Contractor will not be entitled to an increase in the Contract price or payment or compensation of any kind from the Town for direct, indirect, consequential, impact or other costs, expenses or damages, including but not limited to costs of acceleration or inefficiency, arising because of delay, disruption, interference or hindrance from any cause whatsoever, whether such delay, disruption, interference or hindrance be it reasonable or unreasonable, foreseeable or unforeseeable, avoidable or unavoidable. Contractor will only be entitled to an extension of the Contract Time for completion of the Work, as the sole and exclusive remedy for such resulting excusable delay.

The Contractor agrees to make no claim for damages for delay of any kind in the performance of the Contract Documents whether occasioned by any act or omission of the Town or any of its representatives and the Contractor agrees that any such claim will be compensated solely by an extension of time to complete performance of the Work due to an Excusable Delay as defined in Articles C4.03, and Article C4.04. The Contractor alone specifically assumes the risk of such delays, including, without limitation: delays in processing or approving any submittals to the Town or by the Town, or the failure to render determinations, approvals, replies, inspections, in a timely manner. Contractor will not receive monetary compensation for Town delay(s).

Failure of Contractor to comply with this Article as to any particular event of claim will be deemed conclusively to constitute a waiver of any and all claims resulting from that particular event.

1.05-6 DISPUTES AND MEDIATION

Contractor understands and agrees that all disputes between it and the Town upon an alleged violation of the terms of this Contract by the Town must be submitted for resolution in the following manner.

Initial effort(s) should be made by the Contractor to resolve any issues with the Project Manager or other Town representative(s) it works within the coordination and performance of the Work.

Should the initial efforts at resolution not end in a mutual resolution then the Contractor notify in writing the Procurement Manager identified in Article 1.3, Notices, of the claim or dispute

The Contractor must submit its dispute in writing, with all supporting documentation, to the Procurement Manager, as identified in Article 1.3, Notices. Upon receipt of said notification the Procurement Manager will review the issues relative to the claim or dispute and issue a written finding.

Should the Contractor and the Procurement Manager fail to resolve the claim or dispute the Contractor must submit their dispute in writing within five (5) calendar days of the written finding being issued by the Procurement Manager to the Town Manager. Failure to submit such appeal in the stated timeframe of the written finding will constitute acceptance of the finding by the Contractor. Upon receipt of said notification the Town Manager will review the issues relative to the claim or dispute and issue a written finding.

Appeal to the Town Manager for resolution is required prior to Contractor being entitled to seek judicial relief in connection therewith. Should the Contractor be entitled to compensation hereunder, the Town Manager's decision may be subject to approval by the Town Council. Contractor will not be entitled to seek judicial relief unless:

- (i) it has first received Town Manager's written decision, approved by the Town Council if applicable, or
- (ii) a period of sixty (60) days has expired after submitting to the Town Manager a detailed statement of the dispute, accompanied by all supporting documentation, or a period of (90) days has expired in an instance where Town Manager's decision is subject to Town Council for approval; or
- (iii) Town has waived compliance with the procedure set forth in this Article by written instrument(s) signed by the Town Manager.

In the event the determination of a dispute under this Article is unacceptable to either party hereto, the party objecting to the determination must notify the other party in writing within fourteen (14) calendar days of receipt of the written determination. The notice must state the basis of the objection and must be accompanied by a statement that any Contract price or Contract time adjustment claimed is the entire adjustment to which the objecting party has reason to believe it is entitled to as a result of the determination. Within sixty (60) calendar days after completion of the Work or expiration of the Contract Term, the parties will participate in mediation to address all objections to any determinations hereunder and to attempt to prevent litigation. A certified Mediator, who the parties find mutually acceptable, will conduct any mediation proceedings in Miami-Dade County, State of Florida. The costs of a certified Mediator will be shared on a 50/50 basis. Should claim or dispute not be resolved in mediation, the parties retain all their legal rights and remedies provided under State law. A party objecting to a determination specifically waives all of its rights provided hereunder, including its rights and remedies under State law, if said party fails to comply in strict accordance with the requirements of this Article.

1.05-7 CONTINUING THE WORK

Contractor must continue to perform all Work under the Contract Documents during all disputes or disagreements with Town, including disputes or disagreements concerning a request for a Change Order and no Work must not be delayed or postponed pending resolution of any disputes or disagreements.

1.05-8 FRAUD AND MISREPRESENTATION

The Town may terminate this Contract or any other contracts with the Town with any person, individual, corporation, entity, or affiliate that attempts to meet its contractual obligations with the Town through fraud, misrepresentation or material misstatement. Such person, individual, corporation, entity, or affiliate will be responsible for all direct or indirect costs associated with termination or cancellation.

1.05-9 STOP WORK ORDER

The Town may, at any time, by written order to the Contractor, require the Contractor to stop all, or any part, of the Work for a period of up to ninety (90) days (or any lesser period), commencing no sooner than the date the order is delivered to the Contractor, and for any further period to which the parties may agree. Any such order will be specifically identified as a "Stop Work Order" issued pursuant to this paragraph. Within the period of ninety (90) days (or the lesser period specified) after a Stop Work Order is delivered to the Contractor, or within any extension to which the parties have agreed the Town will either:

1. Cancel the Stop Work Order; or
2. Terminate the Work covered by such order as provided in Article C5.03, Termination for Convenience.

If a Stop Work Order issued under this Article is canceled or the period of the order or any extension thereof expires, the Contractor must resume the Work without compensation to the Contractor for such suspension other than extending the time to complete any Work under the Contract or extending the Contract Term to the extent that, in the opinion of the Project Manager, the Contractor may have been delayed by such suspension. In the event the Project Manager determines that the suspension of Work was necessary due to Contractor's defective or incorrect Work, unsafe Work conditions caused by the Contractor, or any other reason caused by Contractor's fault or omission, the Contractor will not be entitled to an extension of time or Contract Term or (Time) as a result of the issuance of a Stop Work Order.

Suspension of the Work caused by a threatened or actual storm event, regardless of whether the Town has directed such suspension, will entitle the Contractor to additional Contract time as non-compensable, Excusable Delay, and will not give rise to a claim for compensable delay.

1.05-10 MATERIALITY AND WAIVER OF BREACH

Town and Contractor agree that each requirement, duty, and obligation set forth in the Contract Documents is substantial and important to the formation of the Contract Documents and, therefore, is a material term hereof. The Town's failure to enforce any provision of the Contract Documents will not be deemed a waiver of such provision or modification of the Contract Documents. A waiver of any breach of a provision of the Contract Documents will not be deemed a waiver of any subsequent breach and will not be construed to be a modification of the terms of the Contract Documents.

1.05-11 TIME IN WHICH TO BRING ACTION AGAINST THE TOWN

In the event the Contractor may be deemed to have a cause of action against the Town, no action will lie or be maintained by the Contractor against the Town upon any claim arising out of or based upon the Contract Documents by reason of any act or omission or requirement of the Town or its agents, unless such action is commenced within six (6) months after the date of issuance of a final payment under the Contract, or if the Contract is terminated under the provisions of the Contract, unless such action is commenced within six (6) months after the date of such termination by the Town.

1.05-12 CONTRACT EXTENSION

The Town reserves the right to extend the Contract for up to ninety (90) calendar days beyond the original Contract period, inclusive of any Options to Renew exercised by the Town. In such event, the Town will notify the Contractor in writing of such extensions.

1.06 EARLY TERMINATION & DEFAULT

1.06-1 SET-OFFS, WITHOLDING, AND DEDUCTIONS

The Town may set-off, deduct or withhold from any payment due the Contractor, such sums as may be specifically allowed in the Contract or by applicable law including, without limitation, the following:

1. Any amount of any claim by a third party;
2. Any Liquidated Damages, and/or;
3. Any unpaid legally enforceable debt owed by the Contractor to the Town.

The Town will notify the Contractor in writing of any such withholdings.

Any withholding, which is ultimately held to have been wrongful, will be paid to the Contractor in accordance with the Local Government Prompt Payment Act

1.06-2 CONTRACTOR DEFAULT

a. Event of Default

An event of default means a breach of the Contract by the Contractor. Without limiting the generality of the foregoing and in addition to those instances referred to herein as a breach, an Event of Default, includes but is not limited to, the following:

1. The Contractor has not performed the Work in a timely manner;
2. The Contractor has refused or failed to supply properly skilled staff or provided sufficient quantities of staff to perform the Work;
3. The Contractor has failed to make prompt payment to Subcontractors or suppliers for any services, materials, or supplies provided to Contractor;
4. The Contractor has become insolvent or has assigned the proceeds received for the benefit of the Contractor's creditors, or the Contractor has taken advantage of any insolvency statute or debtor/creditor law or if the Contractor's affairs have been put in the hands of a receiver;
5. The Contractor has failed to obtain the approval of the Town where required by the Contract Documents;
6. The Contractor has failed in the representation of any warranties stated herein;
7. When, in the opinion of the Town, reasonable grounds for uncertainty exist with respect to the Contractor's ability to perform the Work.

b. Notice of Default – Opportunity to Cure

Where an Event of Default ("Default") occurs under the Contract, the Town may at its sole discretion notify the Contractor, specifying the basis for such Default, and advising the Contractor that such Default must be cured within a time frame specified by the Town; or, the Contract with the Town may be terminated. The Town is under no obligation to issue such notification. The Town may grant an extension to the cure period if the Town deems it appropriate and in the best interest of the Town, without waiver of any of the Town's rights hereunder. The Town, at its sole discretion, may have a default corrected by its own forces or another contractor and any such

costs incurred will be deducted from any sums due the Contractor under any contract with the Town.

The Town Manager or designee may also suspend any payment or part thereof or order a Work stoppage until such time as the issue(s) concerning compliance are resolved.

c. *Termination for Default*

Where a Default is not cured within the time specified to cure the Default, the Town Manager in addition to all remedies available by law, may immediately, upon written notice to Contractor, terminate this Contract. Contractor understands and agrees that termination of this Contract under this Article will not release Contractor from any obligation accruing prior to the effective date of termination.

In the event of termination by the Town Manager or designee, the Town Manager or designee may immediately take possession of all applicable documentation and data, material, equipment, and supplies to which it is entitled to under the Contract or by law.

Where the Town erroneously terminates the Contract for default, the terminations will be converted to a Termination for Convenience, and the Contractor will have no further recourse of any nature for wrongful termination.

1.06-3 TERMINATION FOR CONVENIENCE

In addition to cancellation or termination as otherwise provided for in the Contract, the Town may at any time, in its sole discretion, with or without cause, terminate the Contract by written notice to the Contractor. Such Written Notice will state the date upon which Contractor must cease all Work under the Contract, and if applicable vacate the Project(s) site(s).

Upon receipt of such notice, unless otherwise directed by the Town, the Contractor must Stop all Work on the date specified in the notice ("the Effective Date");

1. Take such action as may be necessary for the protection and preservation of the Town's materials and property;
2. Cancel all cancelable orders for materials and equipment;
3. Remove all materials, supplies or equipment that may be used by the Contractor on other work;
4. Assign to the Town and deliver to the Town, at a site(s) specified by the Town, any non-cancelable orders for materials and equipment that can not otherwise be used by the Contractor on other work;
5. Take no action that will increase the amounts payable by the Town under the Contract Documents; and take reasonable measures to mitigate the Town's liability under the Contract Documents; and
6. All documents, including electronic documents, related to Work authorized under the Contract, whether finished or not, must be turned over to the Town. Failure to timely deliver the documentation will be cause to withhold any payments due without recourse by Contractor until all documentation is delivered to the Town.

In the event that the Town exercises its right to terminate the Contract pursuant to the Contract Documents, the Town will pay the Contractor for the actual cost, or the fair and reasonable value, as substantiated by invoice documentation, of any non-cancelable material(s) and equipment that cannot be used elsewhere by the Contractor in the performance of its work.

In no event, will any payments under this Paragraph exceed the maximum cost set forth in the Contract and the amount due hereunder may be offset by payments made to the Contractor or

any claims made against the Contractor. Contractor will not be entitled to lost profits, overhead or consequential damages as a result of a Termination for Convenience.

1.06-4 REMEDIES AVAILABLE TO THE TOWN

The Town may avail itself of each and every remedy stated in the Contract Documents or existing at law or in equity. The exercise or the beginning of the exercise, of one remedy will not be deemed a waiver of the right to exercise, at the same time or thereafter, of any other remedy.

1.06-5 FUNDS AVAILABILITY

Funding for this Contract is contingent on the availability of funds and the Contract is subject to amendment or termination due to lack of funds, reduction of funds and/or change in regulations, upon thirty (30) days' notice.

1.07 PAYMENT PROCESS

1.07-1 COMPENSATION

Contractor can submit an invoice for payment for Work performed once per month for work completed and acceptance by the Project Manager. Contractor may not invoice more than once per month.

Contractor must use the Town's Contractor Payment Application ("Invoice") for all payment requests. Failure to use the Invoice form and full complete the required information will delay payment. Payments will not be made based on statements of accounts.

The Invoice Form is available on the Town's website at http://www.miamilakes-fl.gov/index.php?option=com_content&view=article&id=149&Itemid=358.

The Town will take action to pay, reject or make partial payment on an Invoice in accordance with the Florida Local Government Prompt Payment Act. No payments will be due or payable for Work not performed or materials not furnished or where the Work has not been accepted by the Town. If there is a dispute with regard to an invoice, the Town will pay the amount not in dispute and reject the remainder that is in dispute. Contractor is responsible for paying its Subcontractors and suppliers in accordance with the Florida Local Government Prompt Payment Act.

The Contractor will be compensated based on actual Work performed at the prices specified in the Contract.

The acceptance of final payment for a Project constitutes a waiver of all claims by Contractor related to that Project, except those previously made in strict accordance with the provisions of the Contract and identified by Contractor as unsettled at the time of the application for payment.

1.07-2 ESTIMATED QUANTITIES

The stated quantities do not reflect the actual quantities to be ordered and the Town has not established any minimum quantities and no guarantee is expressed or implied as to the total quantity of Work to be issued to a Contractor. The Town reserves the right, at its sole discretion, to make adjustment to the number and/or location of the Bid items. The failure of the Town to order any minimum quantities does not form any basis for a claim by the Contractor for lost work or profits.

1.07-3 LINE-ITEM PRICING

Line item pricing must include all costs, both direct and indirect to perform the Work except for those costs specifically identified as reimbursable costs as stated in Article B9.06. This includes

any incidental costs associated with the Work not specifically stated, i.e., the installation of drainage may require backfill and patching, whether permanent or temporary.

The Bid Form contains line item prices and the Bidder is required to Bid on all line items. Where a Bidder fails to provide line item prices for all line items the Bid will be rejected as non-responsive.

1.07-4 LINE-ITEM QUANTITIES

The estimated quantities will be used solely for bid comparison purposes for the to determine the lowest responsive and responsible. No guarantee is expressed or implied as to the total quantity of Work to be issued to a Contractor.

1.07-5 ADDITIONAL LINE ITEM PRICING

The Town reserves the right to request price quotes for additional items not contained in the initial award. Should the Town add any additional line items the Town will do so through the Change Order process.

1.07-6 REIMBURSIBLE EXPENSES

Certain Project expenses may or will not be known at the time of award of a Project. The Town will reimburse the Contractor for such costs, which includes:

1. Permits
2. Police Officer costs when not provided by the Town
3. WASD fees
4. DERM fees

Where a permit or the Town requires the Contractor to use a police officer(s) during the performance of the Work the Town will make every effort to furnish police officers at no cost to the Contractor. Where the Town is not able to provide the required police officers the Town will reimburse the Contractor based on the actual cost to the Contractor and the cost is not include in the unit price per item. To be reimbursed the Contractor must submit a copy of documentation substantiating both the cost as well as proof of payment.

Contractor will only be reimbursed for the actual direct cost, without any mark-up.

END OF SECTION

SECTION 2. SPECIAL TERMS & CONDITIONS

2.01 SCOPE OF WORK

The Work consists of furnishing all labor, materials, machinery, tools, means of transportation, supplies, equipment and services necessary for stabilizing the south side of the Golden Glades canal (which runs parallel to NW 170th Street) using stacked canal bank stabilization (CBS) system. The Technical Specifications, Exhibit C, provide more detailed requirements of the Work to be performed by the Contractor.

Demolition of some structures may be required to be able to install the stacked CBS system in certain areas, as per plans and technical specifications. Cost for such demolition shall be provided as specified on Section 02050 of the Technical Specifications and shall include the demolition, removal, and disposal of such structures. As the Contractor approaches this area of Work, the Contractor will need to receive approval from the Project Manager prior to removal. Payment for demolition will be made after demolition work is completed.

Further requirements for the performance of the Work are contained in the Specification and Drawings, which were included as part of the Request for Proposal and are hereby incorporated into this Contract.

2.02 CONSTRUCTION LOCATION AND SEQUENCING

The Work will be performed along the South side of the Golden Glades bank, starting at Baseline A Sta. 48+11.72. It is anticipated that the Work will end at Baseline A Sta. 81+65.50, however, the actual locations for the end of the Work shall depend on available funding and the total compensation to be paid under the Contract.

It is anticipated that Contractor shall perform the Work at the starting point and continue the Work in a continual sequence from property to the next. However, the Town may, as its sole discretion, require the Contractor to alter the sequencing of the Work without any additional compensation to the Contract.

2.03 REFERENCE STANDARDS

Reference to the standards of any technical society, organization, or body will be construed to mean the latest standard adopted and published at the date of the award of the Contract, even though reference may have been made to an earlier standard. Such reference is hereby made a part of the Contract the same as if herein repeated in full and in the event of any conflict between any of these standards and those specified, the most stringent will govern unless otherwise stated.

2.04 CONTRACT TERM

This Agreement will be effective upon execution by both parties and will continue until the expiration of the warranties.

The Contractor shall obtain Substantial Completion of the Work within one hundred sixty (160) days of the Notice to Proceed being issued by the Town. Final Completion must obtain Final Completion within thirty (30) days after obtaining Substantial Completion. The Contract shall remain in effect until the expiration of the Warranty period(s).

2.05 COMPENSATION

For work completed, the Town shall pay to Contractor the amounts identified in its Proposal Price, which is attached hereto as Exhibit A and incorporated into and made a part of this

Agreement. Contractor shall make applications for payment, and the Town shall disburse payments, in accordance with the procedures specified in Section 1.07, Payment Process.

2.06 HOURS FOR PERFORMING WORK

All Work must be performed in accordance with the hours set forth in the Town's noise Ordinance No. 04-50.

Any Work to be performed outside these hours will required the prior written approval of the Town Manager. A Work Order may establish different working hours than those stated herein.

2.07 ENVIRONMENTAL REGULATIONS

The Contractor shall take all actions required by law, rules, regulations, or ordinances to protect the canals during the performance of the Work in addition to the requirements stated in the Specifications for the protection of the canals.

While the Work does not include the removal of sediment or vegetative matter from the canal or canal banks should such action be required the removal, storage, and disposal of the sediment of vegetative matter. Such Work will be compensated in accordance with the Change Order provision of the Contract.

Should the Work result in the Town or the Contractor be fined by Miami-Dade County Regulatory Economic Resources Department (formally known as DERM) or any other regulatory agency assess fines resulting from the actions or inactions of the Contractor, the payment of such fines shall be the sole responsibility of the Contractor. Where the Town receives a fine, if may deduct any payments made to the regulatory agency from any payments due the Contractor. Should the amount exceed the amount due the Contractor, the Contractor must reimburse the Town within thirty (3) days or the Town may determine that the Contractor is in default of the Contract.

2.08 EASEMENT AGREEMENTS

If Contractor deems temporary construction easements necessary to perform the Work, the Contractor will work with the Town Project Manager to obtain necessary easements.

While the Town has made significant efforts to arrange for the removal of any structures placed on the properties that will impact them, some structures may remain, which are either within the easement or the public right-of-way. Should any structures remain, the Town may have the Contractor remove the structures and the Contractor will be compensated in accordance with the Change Order provision of the Contract.

2.09 PUBLIC NOTICE

Contractor must notify in writing, each property owner of Work to be performed in front of or adjacent to the owner's property at least one week prior to the commencement of the Work. The notice must contain the approximate date the Work is to commence and how long the Work is anticipated to take to complete. The notice must be approved by the Project Manager prior to issuance.

2.10 BOND REQUIREMENTS

2.10-1 PERFORMANCE/PAYMENT BOND

Contractor must within fourteen (14) calendar days of being notified of award, furnish a Performance/Payment containing all the provisions of the attached Performance/Payment forms.

The Performance and Payment Bonds ("Bonds") must be in the amount of one hundred percent (100%) of the Contract value guaranteeing to Town the completion and performance of the Work covered in the Contract as well as full payment of all suppliers, laborers, or subcontractors employed pursuant to this Project(s).

Each Bond must continue in effect for one year after Final Completion and acceptance of the Work with liability equal to one hundred percent (100%) of the Contract value, or an additional bond must be conditioned that Contractor will, upon notification by Town, correct any defective or faulty work or materials which appear within one year after Final Completion of the Project.

The Town must be listed as an Obligee.

Pursuant to the requirements of Section 255.05(1)(a), Florida Statutes, as may be amended from time to time, Contractor must ensure that the bond(s) referenced above must be recorded in the public records and provide Town with evidence of such recording.

Alternate Form of Security:

In lieu of the Bonds, Contractor may furnish alternate forms of security, which may be in the form of cash, money order, certified check, cashier's check or an unconditional letter of credit. Such alternate forms of security will be subject to the prior approval of Town and for same purpose and will be subject to the same conditions as those applicable above and will be held by Town for one year after completion and acceptance of the Work.

2.10-2 SURETY QUALIFICATIONS

Each required Bond must be executed by a surety company of recognized standing, authorized to do business in the State of Florida as surety, having a resident agent in the State of Florida and having been in business with a record of successful continuous operation for at least five (5) years.

The Surety must hold a current certificate of authority as acceptable surety on federal bonds in accordance with United States Department of Treasury Circular 570, Current Revisions. If the amount of the Bond exceeds the underwriting limitation set forth in the circular, in order to qualify, the net retention of the Surety must not exceed the underwriting limitation in the circular, and the excess risks must be protected by coinsurance, reinsurance, or other methods in accordance with Treasury Circular 297, revised September 1, 1978 (31 DFR Section 223.10, Section 223.111). Further, the Surety must provide Town with evidence satisfactory to Town, that such excess risk has been protected in an acceptable manner.

The Town will accept a surety bond from a company with a rating of "B+" or better and a Financial Size Category of "Class II", provided, however, that if any surety company appears on the watch list that is published quarterly by Intercom of the Office of the Florida Insurance Commissioner, the Town will review and either accept or reject the surety company based on the financial information available to the Town. A surety company that is rejected by the Town may be substituted by the Bidder with a surety company acceptable to the Town, only if the Bid amount does not increase.

2.11 PRELIMINARY STEPS

2.11-1 CONTRACTOR'S PRE-START REPRESENTATION

Contractor represents that it has familiarized itself with and assumes full responsibility for having familiarized itself with the nature and extent of the Contract Documents, Work, location of the Work, all local conditions, and any federal, state, county, and local laws, ordinances, rules and regulations that may, in any manner, affect performance of the Work, and represents that it has combined its inspections and observations with the requirements of the Contract Documents. Contractor further represents that it has studied all surveys, document, and reports of including those of any subsurface and latent physical conditions referred to in the specifications and made such additional inspections and investigations as it deems necessary for the performance of the Work and that he has coordinated the results of all such data, inspections, and investigations with the requirements of the Contract Documents.

2.11-2 PRE-CONSTRUCTION CONFERENCE

Within fourteen (14) calendar days after Contractor execution of the Contract by the Town, and before any Work is performed at the Project site, a pre-construction conference will be held. Prior to this meeting the Contractor should have submitted its Project Schedule and Schedule of Values (if applicable), so they and other details of the project can be discussed.

2.11-3 PROJECT SCHEDULE

Contractor must submit a proposed Project schedule as follows:

1. Schedule identifying the schedule for each location. The proposed Project schedule must be submitted within ten (10) calendar days of the Notice of Award and such submittal will be subject to the Project Manager's review. Subsequent to such review of said schedule the Contractor will establish said schedule as the baseline schedule.
2. All updates of schedules must be tracked against the baseline schedule and must be at a minimum submitted with each pay application. An updated schedule against the baseline must also be submitted upon execution of each change order that impacts the Contract Documents Time for completion. Failure to submit such schedules will result in the rejection of any submitted payment application.
3. All Project Schedules must be prepared in Microsoft Project 2007 or earlier unless otherwise approved by the Project Manager. At the time of submission of schedules, Contractor must submit a hard copy as well as an electronic version. Electronic versions must not be submitted in a .pdf format.

In addition to the Project Schedule the Contractor must provide a two (2) week look-ahead schedule that reflects the Work to be performed during the two (2) week period. The look-ahead schedule must be provided to the Project Manager and Consultant every other Thursday prior to the start of the two-week period. This schedule will, at a minimum, include the area(s) where Work is to be performed and the Work to be performed in the area(s).

2.11-4 CONSTRUCTION PHOTOGRAPHS

Prior to commencement of the Work the Contractor must take digital photographs and color audio-video recording to document existing conditions and submit copies in an acceptable format to the Town prior to commencement of the Work. Contractor must submit with each application for payment photographs that accurately reflect the progress of all aspects of the Work. The number of photographs to be taken will be based on the magnitude of the Work being performed.

Contractor must submit one copy of each photograph in print and digitally. The photographs must be printed on 8" X 10" high resolution glossy commercial grade and weight color photographic print paper or in a format acceptable to the Town. Each photograph must be imprinted on its face with the title of the Project, the date, and time the picture was taken. Digital photographs must be taken using .jpeg format and will be submitted on a CD-ROM or flash drive clearly identifying the name of the Project, the name of the Contractor, and the timeframe in which the pictures were taken. Initial set up prints will be submitted in a three-ring binder with each picture protected by a clear plastic sleeve. Subsequent prints are to be submitted in clear plastic sleeves that can be added to the binder. The three-ring binder must be of such size to be able to hold all print pictures.

2.11-5 STAGING SITE

The Contractor is solely responsible for making all arrangements for any staging site(s) that may be necessary for the performance of the Work and the Contractor is responsible for all site security, including any fencing of the site, and any loss, damage or theft to its equipment and materials. Any fencing of the Staging Site is subject to the prior written approval of the Project Manager.

The Town at its sole discretion may make a staging site available for use by the Contractor. If such site is made available by the Town, the Town assumes no responsibility or liability, and the Contractor will be responsible for any loss, damage or theft to its equipment and materials. The Contractor is also responsible for restoring the site to its pre-existing condition prior to the Contractor's use of the site.

The Contractor may be required to provide or may choose to use an office trailer for the duration of the Project. The Project Manager will authorize the use of any office trailer and the placement location for the office trailer. The Contractor must obtain all required permits from the appropriate regulatory agencies.

No parking is permitted in the Staging Site without the prior written approval of the Project Manager.

2.11-6 PROJECT SIGNAGE

Contractor must furnish and install two (2) Project sign at the Project Site in accordance with the requirements provided by the Project Manager.

2.12 FIELD DIRECTIVES

The Project Manager or Consultant may at times issue Field Directives to the Contractor based on visits to the Project Site. Such Field Directive(s) will be issued in writing and the Contractor is required to comply with the directive. Where the Contractor believes that the directive is outside the scope of the Work, the Contractor must, within 48 hours, notify the Project Manager that the work covered by the Field Directive is outside the scope of the Work. At that time the Field Directive may be rescinded, or the Contractor may be required to submit a request for a change to the Contract. Where the Contractor is notified of the Town's position that the Work is within the scope and the Contractor disagrees, the Contractor must notify the Project Manager that the Contractor reserves the right to make a claim for the time and monies based on the Field Directive, in accordance with the requirements of Section 1.05-5. At no time must the Contractor refuse to comply with the Field Directive. Failure to comply with the Field Directive may result in a determination that the Contractor is in default of the Contract.

2.13 INSPECTION OF THE WORK

The Project Manager, other Town representatives, and inspectors representing the Town and other public entities having jurisdiction over the Work must at all times have access to the Work

Should the Contract Documents, or any laws, ordinances, or any public authority require any of the Work to be tested, Contractor must provide timely notice of readiness of the Work for testing and timely notice must be given of the date fixed for such testing so that the appropriate representatives of the Town, DERM, or other entities can be present for such testing. Contractor will be responsible for making arrangements for all tests and for all associated costs for all required testing. The original copies of all testing reports are to be sent directly to the Project Manager by the testing firm, with a copy to the Contractor.

The Town, at its sole discretion may conduct testing in addition to the required testing. In such instances the Town will pay all testing costs unless the tests determine that the material, Work, or equipment is not compliant with the requirements of the Contract Documents. In such instances the Contractor must reimburse the Town for all incurred testing costs and the Contractor will be responsible for any costs associated with re-testing to ensure compliance.

Inspectors have no authority to permit deviations from, or to relax any of the provisions of the Contract Documents or to delay the Work by failure to inspect the materials and Work with reasonable promptness without the written permission or instruction of Project Manager

2.14 UNCOVERING FINISHED WORK

The Project Manager's right to make inspections includes the right to order the Contractor to uncover or take down portions of finished Work. The Project Manager will notify the Contractor in writing concerning all uncovered finished Work. Should the Work prove to be in accordance with the Contract, the uncovering or taking down and the replacing and the restoration of the parts removed will be treated as additional Work for the purpose of computing additional compensation and an extension of time. Should the Work examined prove unsatisfactory, such uncovering, taking down, replacing and restoration will be at the expense of the Contractor. Such expenses will also include repayment to the Town for any and all expenses or costs incurred by it, including employee salaries or related cost, in connection with such uncovering, taking down, replacing and restoration at the Project site.

2.15 SITE ISSUES

2.15-1 SITE INVESTIGATION AND REPRESENTATION

It is the responsibility of the Contractor to satisfy itself as to the nature and location(s) of the Work prior to commencement of Work on the site, the general and local conditions, particularly those bearing upon availability of installation, transportation, disposal, handling and storage of materials, and all other matters which can in any way affect the Work or the cost thereof under the Contract Documents.

Work site(s) may have existing utilities, such as, but not limited to, irrigation, phone, water and sewer, CATV, traffic signals, electrical, and storm sewer. Known utilities and structures adjacent to or encountered in the Work will be shown on the Drawings. The locations shown are taken from existing records and the best information available from existing plans and utility investigations; however, it is expected that there may be some discrepancies and omissions in the locations and quantities of utilities and structures shown. Those shown are for the convenience of the Contractor only, and no responsibility is assumed by the Town for their accuracy or completeness. No request for additional compensation or Contract time resulting from encountering utilities not shown will be considered.

It is the responsibility of the Contractor to verify the location of all such utilities, structures, etc., by hand excavation or other appropriate measures before performing any Work. The Contractor must call Sunshine State One Call of Florida, Inc. and other appropriate agencies, as applicable, prior to the commencement of any excavation or digging to determine the locations of existing utilities prior to the commencement of any Work. The Contractor is responsible for any and all claims resulting from the damage caused to any utilities, identified or not.

Should the Contractor identify any utilities, structures, etc., which will or may be encountered during the performance of the Work, the Town must be consulted immediately in order for a decision to be made on the potential relocation or other action(s) to be taken as it relates to the work.

Should the Town direct the Contractor to relocate any utilities that would be impacted by any Work then the Town will compensate the Contractor for such relocation in accordance with the Change Order provisions of the Contract.

The Contractor will not purposefully disrupt or disconnect any type of utility whatsoever without first obtaining the prior written approval of the Town or applicable utility owner. Requests for any disconnection, including those required of other utilities must be in writing and received by the Town at least seventy-two (72) hours prior to the time of the requested interruption. The Town may require that the Contractor notify, in writing, any property owners to be impacted by service interruptions to their utilities.

Any failure by the Contractor to familiarize itself with any utilities that may impact the performance of the Work will not relieve Contractor from responsibility for properly estimating the difficulty or cost of performing the Work and will not entitle the Contractor to any additional compensation.

2.15-2 METHOD OF PERFORMING THE WORK

The apparent silence of the Contract Documents as to any detail, or the apparent omission from them of a detailed description concerning any Work to be done and materials to be furnished, will be regarded as meaning that only the best general practice is to prevail and that only material and workmanship of the best quality is to be used, and interpretation of the Contract Documents will be made upon that basis.

The Contractor must comply with the manufacturer's requirements for the handling, delivery and storage of all equipment and materials. Contractor must inspect all equipment and materials immediately prior to installation and must not install any damaged or defective items.

Contractor must comply with the manufacturer's applicable instructions and recommendations for the performance of the Work, to the extent that these instructions and recommendations are more explicit or more stringent than requirements indicated in the Contract Documents.

The Contractor must familiarize itself with normal Town operations where the Work is to be performed so that it can conduct the Work in the best possible manner to the complete satisfaction of the Project Manager.

The Work to be performed must be done in such a manner so as not to interfere with the normal Town operations. The manner in which the Work is performed will be subject to the approval of the Project Manager, whom if necessary, will have the authority to require changes in the manner in which the Work is performed. There must be no obstruction of Town services without the prior written approval of the Project Manager. All requests for such interruption or obstruction must

be given in writing to the Project Manager twenty-four (24) hours in advance of the interruption of Town operations.

If the Project Manager or Consultant reasonably determines the rate of progress of the Work is not such as to ensure its completion within the designated completion time, or if, in the opinion of the Project Manager, the Contractor is not proceeding with the Work diligently or expeditiously or is not performing all or any part of the Work according to the Project schedule accepted by or determined by the Project Manager, the Project Manager will have the right to order the Contractor to do either or both of the following: (1) improve its work force; and/or (2) improve its performance in accordance with the schedule to ensure completion of the Project within the specified time. The Contractor must immediately comply with such orders at no additional cost to the Town. (3) The Town at its sole option may also have Work performed by a third-party contractor and deduct such cost from any monies due the Contractor.

Where materials are transported in the performance of the Work, vehicles must not be loaded beyond the capacity recommended by the vehicle manufacturer or permitted by Federal, State or local law(s). When it is necessary to cross curbing or sidewalks, protection against damage must be provided by the Contractor and any damaged curbing, drainage, grass areas, sidewalks or other areas must be repaired at the expense of the Contractor to the satisfaction of the Project Manager.

Contractor is responsible to control dust and prevent it from becoming a public nuisance or causing off-site damage. Contractor must take all necessary and prudent measure to control dust.

Depending on the nature of the Work the Project Manager may require a staging plan be submitted to and approved by the Project Manager prior to the start of construction and issuance of the Notice to Proceed. Such staging plan must be revised and resubmitted as necessary during construction.

2.15-3 DIFFERING SITE CONDITIONS

In the event that during the course of the Work on a Project the Contractor encounters subsurface or concealed conditions at the Project site which differ materially from those shown in the Contract Documents, and from those ordinarily encountered and generally recognized as inherent in work of the character called for in the Contract Documents, Contractor, without disturbing the conditions and before performing any Work affected by such conditions, must, within twenty-four (24) hours of its discovery, notify the Project Manager and/or Consultant in writing of the existence of the aforesaid conditions. Project Manager or the Consultant must, within two (2) business days after receipt of Contractor's written notice, investigate the site conditions identified by Contractor. If, in the sole opinion of Project Manager or the Consultant, the conditions do materially so differ and cause an increase or decrease in Contractor's cost of, or the time required for, the performance of any part of the Work, whether or not charged as a result of the conditions, Project Manager or Consultant will recommend an equitable adjustment to cost of the Work or the time to complete the Work, or both. If the Project Manager and Contractor cannot agree on an adjustment in the Contract Price and/or Contract Time, the adjustment will be referred to the Town's Procurement Manager for determination. Should the Town's Procurement Manager determine that the conditions of the Project site are not so materially different to justify a change in the terms of the Contract Documents, the Procurement Manager will so notify the Project Manager, Consultant, and Contractor in writing, stating the reasons, and such determination will be final and binding upon the parties hereto.

No request by Contractor for an equitable adjustment to the Contract Documents under this provision will be allowed unless Contractor has given written notice in strict accordance with the

provisions of this Article. No request for an equitable adjustment or change to the Contract Price or Contract Time for differing site conditions will be allowed if made after the date certified by Consultant or Project Manager as the date of substantial completion.

2.15-4 PROTECTION OF PROPERTY, UTILITIES, AND THE PUBLIC

The Contractor must continuously maintain adequate protection of all its Work from all losses or damage and must protect public and private property, and utilities from injury or loss arising in connection with the Work, and take all necessary precautions to prevent accidents, injuries, or damage to persons or property on or near the Work.

Contractor is solely responsible to restore all areas impacted by the Work, including but not limited to swale areas, existing structures, driveways and approaches, landscaping, drainage, and lighting to pre-existing conditions to the satisfaction of the Project Manager.

2.15-5 CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTIES AND SERVICE

Where the Contractor's operations could cause damage or inconvenience to telephone, fiber optic, television, electrical power, oil, gas, water, sewer, or irrigation systems, the Contractor must make all arrangements necessary for the protection of these utilities and services or any other known utilities.

Notify all utility companies that are affected by the construction operation at least forty-eight (48) hours in advance. Under no circumstance expose any utility without first obtaining permission from the appropriate agency. Once permission has been granted, locate, expose, and provide temporary support for all existing underground utilities and utility poles where necessary.

The Contractor and its Subcontractors will be solely and directly responsible to the owner and operators of such properties for any damage, injury, expense, loss, inconvenience, delay, suits, actions, or claims of any character brought because of any injuries or damage which may result from the construction operations under the Contract Documents.

Neither the Town nor its officers or agents will be responsible to the Contractor for damages as a result of the Contractor's failure to protect property encountered in the Work.

In the event of interruption to domestic water, sewer, storm drain, or other utility services as a result of accidental breakage due to construction operations, Contractor must promptly notify the owner, any required regulatory authority, and the Project Manager. Cooperate with said authority in restoration of service as promptly as possible and bear all costs of repair and any required interim measures to ensure safety. In no event will interruption of any utility service be allowed unless granted by the owner of the utility.

In the event water service lines that interfere with trenching are encountered, the Contractor may, by obtaining prior approval of the water utility, cut the service, dig through, and restore the service with similar and equal materials at the Contractor's expense and as approved by the Project Manager.

Replace, with material approved by the Project Manager or Consultant, at Contractor's expense, any and all other laterals, existing utilities or structures removed or damaged during construction, unless otherwise provided for in the Contract Documents and as approved by the Project Manager or Consultant.

Replace with material approved by the Project Manager or Consultant, at Contractor's expense, any existing utilities damaged during the Work.

2.15-6 ACCESS TO WATER AND UTILITIES

The Contractor is responsible for providing all water and power required for the performance of the Work, including the use of a generator. The use of a generator may be subject to the prior approval of the Town's representative should the Work be in a primarily residential neighborhood. Electrical power required during construction shall be installed by a qualified electrical contractor approved by the Project Manager.

The Town may at its sole discretion provide access to Town utilities or water should such be available at the Work site. However, the Contractor is responsible to ascertain the location and accessibility of any utilities and potable water sources necessary to perform the Work.

2.15-7 COORDINATION OF THE WORK

Prior to the commencement of the Work, the Project Manager will make every effort, based on available information, to notify the Contractor of any ongoing or scheduled project(s) that will be ongoing or commence during the Work on a Project that may require coordination. The Contractor will be solely responsible for coordinating the Work with any other project(s) to minimize any potential adverse impact. Contractor will not be entitled to any days of delay for failure to properly coordinate the Work. The Project Manager may assist the Contractor in coordinating the Work. However, any such assistance, or lack thereof will not form the basis for any claim for delay or increased cost.

If any part of Contractor's Work depends for proper execution or results upon the work of any other persons, Contractor must inspect and promptly report to Project Manager any defects in such work that render it unsuitable for such proper execution and results. Contractor's failure to so inspect and report will constitute an acceptance of the other person's work as fit and proper for the reception of Contractor's Work, except as to defects which may develop in other contractor's work after the execution of Contractor's Work.

Contractor must conduct its operations and take all reasonable steps to coordinate the prosecution of the Work so as to create no interference or impact on any other contractor on the site. Should such interference or impact occur, Contractor will be liable to the affected contractor for the cost of such interference or impact.

To ensure the proper execution of subsequent Work, Contractor must inspect the Work already in place and must at once report to Project Manager any discrepancy between the executed Work and the requirements of the Contract Documents.

2.15-8 ACCESS TO THE PROJECT SITE(S)

Town will provide the lands upon which the Work is to be performed, rights-of-way and easements for access thereto and such other lands as are designated by Town for the use of Contractor.

Contractor must provide, at Contractor's own expense and without liability to the Town, any additional land and access thereto that may be required for temporary construction facilities, or for storage of materials. Contractor must furnish to the Town copies of written permission obtained by Contractor from the owners of such facilities.

2.15-9 CLEANING UP; TOWN'S RIGHT TO CLEAN UP

Contractor must at all times keep the Work site(s) free from accumulation of excess materials, waste materials or rubbish caused by its operations. At the completion of Work at a work site(s), Contractor must remove all its excess materials, waste materials and rubbish from and about the Project(s) as well as any tools, equipment, machinery and surplus materials or supplies. If

Contractor fails to clean up during the performance of the Work or at the completion of the Work, Town may do so and the cost incurred will be charged to the Contractor. Any combustible waste materials must be removed from the work site(s) at the end of each day.

Should the Contractor leave any open trenches at any time that Work is not being performed, the Town may have the open trenches covered and deduct any cost incurred from any outstanding payments due or to become due to the Contractor. The Town may also invoice the Contractor for all costs incurred in mitigating any open trenches.

2.15-10 MAINTENANCE OF TRAFFIC

Maintenance of Traffic ("MOT") must be performed in accordance with the applicable FDOT Index Numbers (600 Series) and as further stated herein. The manual on Uniform Traffic Control Devices for Streets and Highways (U.S. Department of Transportation, FHWA), must be followed in the design, application, installation, maintenance and removal of all traffic control devices, warning devices and barriers necessary to protect the public and workmen from hazards with the Project limits. Pedestrian and vehicular traffic must be maintained and protected at all times.

Prior to commencement of the Work Contractor must provide the Project Manager the proposed MOT plan for review. The Project Manager may require revisions to the proposed MOT plan. The MOT plan must be updated by the Contractor every two weeks.

Failure by the Contractor to comply with the Maintenance of Traffic requirements will result in the Town issuing a stop work order until corrective action is taken. The Contractor will not be entitled to any additional time resulting in any delays due to issuance of a stop work order.

2.15-11 HURRICANE PREPAREDNESS

During such periods of time as are designated by the United States Weather Bureau or Miami Dade County as being a severe weather event, including a hurricane watch or warning, the Contractor, at no cost to the Town, must take all precautions necessary to secure any Work in response to all threatened storm events, regardless of whether the Contractor has given notice of same, in accordance with the Miami-Dade County Code.

Compliance with any specific severe weather event or alert precautions will not constitute additional work.

Suspension of the Work caused by a threatened or actual storm event, regardless of whether the Town has directed such suspension, will entitle the Contractor to additional Contract time as non-compensable, Excusable Delay, and will not give rise to a claim for compensable delay.

2.16 SAFETY ISSUES

2.16-1 SAFETY PRECAUTIONS

Contractor is solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor must take all necessary precautions for the safety of, and must provide the necessary protection to prevent damage, injury or loss to:

1. All employees on the Project site and other persons who may be affected thereby;
2. All the Work and all materials or equipment to be incorporated therein, whether in storage on or off the Project site; and
3. Other property at the Project site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

The Contractor must take all necessary precautions for the safety of employees in the performance of the Work on, about or adjacent to the premises, and must comply with all applicable provisions of Federal, State, and local laws, including, but not limited to the requirements of the Occupational Safety and Health Act of 1970, and amendments thereto, to prevent accidents or injury to persons on, about or adjacent to the premises where the Work is being performed. Contractor must notify owners of adjacent property and utilities when prosecution of the Work may affect them.

The Contractor must comply with the OSHA "Federal Right to Know" Regulation, 29 CFR 1910, 1915, 1917, 1918, and 1926, regarding informing employees of toxic substances in the workplace, providing training, and emergency procedures.

Contractor must adhere to applicable environmental protection guidelines for the duration of the Work. The Contractor must comply with all codes, ordinances, rules, orders and other legal requirements of public authorities (including OSHA, EPA, DERM, the Town, Miami-Dade County, State of Florida), which bear on the performance of the Work

All open trenches or holes must be properly marked and barricaded to assure the safety of both vehicular and pedestrian traffic. No open trenches or holes are to be left open during nighttime or non-working hours without the prior written approval of the Project Manager.

The Contractor must provide such equipment and facilities as are necessary or required, in the case of accidents, for first aid service to person who may be injured during the Project(s) duration.

Contractor's duties and responsibilities for the safety and protection of the Work must continue until such time as all the completion of the Contract.

2.16-2 TRENCH SAFETY ACT

Pursuant to Chapter 90-96 (CS/SB 2626), Laws of Florida, "Trench Safety Act", any person submitting a Bid is required to comply with the requirements of the FLORIDA TRENCH SAFETY ACT (90-96, LAWS OF FLORIDA), Where a Project requires trenching the Contractor must complete the Trench Safety Act Form ("Form") and return the Form to the Project Manager before commencing any Work. Failure to submit said Form will result in the Contractor not being able to proceed with the Work and be potentially be in default of its Contract.

Any costs identified on the Form are not a pay item. The purpose of this form is to gather information on the costs associated with trench safety measures and to ensure that the Bidder has considered these costs and included them in its Bid prices. Failure to complete this form may result in the Bid being declared non-responsive.

2.16-3 MATERIAL SAFETY DATA SHEETS

In compliance with Chapter 442, Florida Statutes, any toxic substance listed in Section 38F-41.03 of the Florida Administrative Code delivered as a part of the Project must be accompanied by a Material Safety Data Sheet (MSDS) which must be obtained from the manufacturer. The MSDS must include the following information:

1. The chemical name and the common name of the substance.
2. The hazards or other risks in the use of the substance, including:
 - a. The potential for fire, explosion, corrosion, and reaction;

- b. The known acute and chronic health effects of risks from exposure, including the medical conditions which are generally recognized as being aggravated by exposure to the substance; and
 - c. The primary routes of entry and symptoms of overexposure.
3. The proper precautions, handling practices, necessary personal protective equipment, and other safety precautions in the use of or exposure to the substances, including appropriate emergency treatment in case of overexposure.
4. The emergency procedure for spills, fire, disposal, and first aid.
5. A description in lay terms of the known specific potential health risks posed by the substance intended to alert any person reading this information.

The year and month, if available, that the information was compiled and the name, address, and emergency telephone number of the manufacturer responsible for preparing the information.

2.17 PROGRESS MEETINGS

The Town will conduct a pre-construction conference prior to the commencement of the Work. Contractor must hold progress and coordination meetings as required by the Project Manager or Consultant, to provide for the timely completion of the Work.

2.18 PLANS, DOCUMENTS, & RECORDS

2.18-1 CONTRACTOR TO CHECK PLANS, SPECIFICATIONS, & DATA

Contractor must verify all dimensions, quantities and details shown on any plans, specifications or other data received from Project Manager and must notify the Project Manager of all errors, omissions and discrepancies found therein within three (3) calendar days of discovery. Contractor will not be allowed to take advantage of any error, omission or discrepancy, as full instructions will be furnished to the Project Manager. Contractor will not be liable for damages resulting from errors, omissions or discrepancies in the Contract Documents unless Contractor recognized such error, omission or discrepancy and knowingly failed to report it to Project Manager.

2.18-2 SHOP DRAWINGS AND SUBMITTALS

Contractor is required to submit shop drawings, sketches, samples or product data as required by the Contract Documents.

Contractor is responsible to submit such documents or samples in a timely manner for review by the Project Manager or Consultant. Shop Drawings are to be complete in every detail and clearly identify any deviation from what is required by the Contract Documents. It is the responsibility of the Contractor to submit sufficient information to allow the Project Manager and/or Consultant to properly evaluate and accept the submittal or shop drawing. Receipt of the shop drawings or submittals does not constitute acceptance

Incomplete or partial submittals will not be reviewed. All shop drawings for components of a system must be submitted together for them to be reviewed.

Where professional calculations or certification of performance criteria of materials, systems, and or equipment are required, the Project Manager or Consultant are entitled to rely upon the accuracy and completeness of such calculations and certifications submitted by the Contractor. Calculations, when required, must be submitted in a neat clear and easy format to follow.

Contractor is solely responsible for the accuracy of all shop drawings and submittals and any approval by Project Manager will in no way relieve the Contractor from said responsibility for full compliance with the Contract Documents.

2.18-3 TOWN FURNISHED DRAWINGS, SUPPLEMENTAL DRAWINGS, & INSTRUCTIONS

The Town, in its sole discretion, may furnish design drawings. It is the sole responsibility of the Contractor to bring to the immediate attention of the Project Manager any discrepancies between the drawings and existing conditions, excluding hidden or unforeseen conditions, discovered prior to commencing and during the Work. The Contractor is solely responsible for verifying the accuracy of the drawings prior to commencing the Work and is responsible for any errors or revisions of the Work, which might have been avoided by notifying the Town prior to commencement. This also applies to any revisions or omissions identified by the Contractor. The Contractor must submit all requests for information entitled Request for Information (RFI).

During the performance of the Work, should any errors, omissions, conflicts, ambiguities or discrepancies be found in the drawings and/or specifications, the Project Manager or the Consultant will clarify in writing the intent of the drawings and the Contractor agrees to abide by the Project Manager's interpretation and perform the Work in accordance with the decision of the Project Manager. In such event, the Contractor will be held to have included in its Contract Price the best materials suitable for the purpose and methods of construction.

The Contractor will have no basis for any claim for additional costs resulting from their failure to identify any required revisions, omissions or errors, not identified in writing to the Project Manager prior to commencing the Work.

The Project Manager and Consultant has the right to approve and issue supplemental drawings and instructions setting forth written orders, instructions, or interpretations, provided such Supplemental drawings or instructions involve no change in the Contract price or this Contract time, unless a Change Order is issued in accordance with the Contract Documents.

2.18-4 AS-BUILT DRAWINGS

During the Work, Contractor must maintain records of all deviations from the Drawings as approved by the Project Manager or Consultant and prepare two copies of As-Built Record Drawings showing correctly and accurately all changes and deviations made during construction to reflect the Work as it was actually constructed. It is the responsibility of the Contractor to check the As-Built Drawings for errors and omissions prior to submittal to the Town and to certify in writing that the As-Built Record Drawings are correct and accurate, including the actual location of all internal piping, electrical/signal conduits in or below the concrete floor. Indicate the size, depth and voltage in each conduit.

To record actual construction, Contractor must legibly mark on-site structures and site Work as follows:

1. Depths of various elements of foundation in relation to finish first floor datum.
2. All underground piping and ductwork with elevations and dimensions and locations of valves, pull boxes, etc. Changes in location. Horizontal and vertical locations of underground utilities and appurtenances referenced to permanent surface improvements. Actual installed pipe material, class, etc.
3. Location of internal utilities and appurtenances concealed in the construction, referenced to visible and accessible features of the structure. Air conditioning ducts with locations of dampers, access doors, fans and other items needing periodic maintenance.
4. Field changes in dimensions and details.
5. Changes made by Project Manager's or Consultant's written instructions or by Change Order.
6. Details not on original Contract Drawings.
7. Equipment, conduit, electrical panel locations.

8. Project Manager's or Consultant's schedule changes according to Contractor's records and shop drawings.

Specifications and Addenda: Legibly mark each section to record:

1. Manufacturer, trade name, catalog number and Supplier of each product and item of equipment actually installed.
2. Changes made by Project Manager's or Consultant's written instructions or by Change Order.

Approved Shop Drawings: Provide record copies for each process, equipment, piping, electrical system and instrumentation system.

As-built documents must be updated monthly as a condition precedent to payment. A final survey signed and sealed by a surveyor must be provided to the Town at no additional cost, including digital I (CAD and PDF) versions.

For construction of new building, or building additions, field improvements, and or roadway improvements as-built drawings must be signed and sealed by a Florida Licensed Registered Land Surveyor.

2.18-5 RECORD SET

Contractor must maintain in a safe place one record copy and one permit set of the Contract Documents, including, but not limited to, all Drawings, Specifications, amendments, Change Orders, RFIs, and Field Directives, as well as all written interpretations and clarifications issued by the Project Manager, in good order and annotated to show all changes made during construction. The record documents must be continuously updated by Contractor throughout the prosecution of the Work to accurately reflect all field changes that are made to adapt the Work to field conditions, changes resulting from Change Orders, Construction Change Directives, and Field Directives as well as all written interpretations and clarifications, and all concealed and buried installations of piping, conduit and utility services. Contractor must certify the accuracy of the updated record documents. The record documents must be clean, and all changes, corrections and dimensions must be given in a neat and legible manner in red. Upon Final Completion and as a condition precedent to Contractor's entitlement to final payment, the Record Set must be delivered to the Project Manager by the Contractor. The Record Set of Drawing must be submitted in both hard copy and as electronic plot files.

2.19 CONTRACTOR RESPONSIBILITIES

2.19-1 LABOR & MATERIALS

Unless otherwise provided herein, Contractor must provide and pay for all materials, labor, water, tools, equipment, light, power, transportation and other facilities and services necessary for the proper execution and completion of the Work. All materials must be new unless otherwise specified in the Contract Documents.

The Contractor will provide competent, suitably qualified personnel to lay out the work and perform construction as required by the Contract Documents. He will at all times maintain good discipline and order at the site.

Minimal Disturbance

All Work done by the Contractor or any Subcontractor must be done with minimal disturbance to the residents of the Town. The noise level must be kept at reasonable levels. All Contractor personnel and Subcontractors must demonstrate and maintain a courteous and responsible

demeanor toward all persons while conducting business in the Town. The Town reserves the right to require the Contractor to permanently remove personnel from Work under the Contract that fail to comply with the requirements of this section.

2.19-2 SUPERVISIONS OF THE WORK

Contractor is responsible for all Project management, including any and all subcontracts necessary to ensure that the Work is performed in accordance with the Contract. Project Management includes, but is not limited to: obtaining bids from subcontractors and suppliers; coordinating the securing of all permits; obtaining licenses and inspections; ensuring that subcontractors comply with the requirements of the Contract; performing the Work in accordance with the Contract to the satisfaction of the Project Manager; paying all subcontractors; obtaining release of liens/claims fees; and obtaining temporary and final Certificates of Occupancy or Completion, as applicable.

Contractor must have a competent English-speaking supervisor ("Supervisor") who will represent the Contractor in the field and all directions given to the Supervisor will be as binding as if given to Contractor. Contractor will provide properly licensed personnel where such personnel are required by any rule, regulations, or law. Contractor and the Supervisor will give efficient and sufficient supervision to the Work, using their best skill and attention to ensure the Work is performed in accordance with the Contract Documents.

The Project Manager and the Contractor as necessary during the course of the Work to review and agree upon the Work performed and outstanding issues. The Contractor must publish, keep, and distribute minutes and any comments thereto of each such meeting.

2.19-3 RELEASE OF LIENS/SUBCONTRACTOR'S STATEMENT OF SATISFACTION

The Contractor warrants and guarantees that title to all Work, materials and equipment covered by an Invoice, whether incorporated in the Project or not, will pass to the Town upon the receipt of payment by the Contractor, free and clear of all liens, claims, security interests or encumbrances and that no Work, materials or equipment will have been acquired by the Contractor or by any other person performing Work at the site or furnishing materials and equipment for the Project, subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or otherwise imposed by the Contractor by a Subcontractor or supplier or any other interested party.

The Contractor must, starting with the second (2nd) Invoice, provide the Project Manager completed Partial or Final Releases of Lien/Subcontractor's Statement of Satisfaction Form for the Project. As an option the Contractor may also submit a Consent of Surety if a payment bond has been provided, authorizing the release of payment by the Surety. Failure to submit such documentation will result in rejection of the Invoice. The Contractor must use the Town's forms, which are available at the hyperlink provided in Article B9.01.

Conditional Release of Liens are not accepted by the Town.

2.19-4 PROGRESS PAYMENTS

Contractor may make application for payment for Work completed during the Project at intervals of not more than one invoice per month or upon completion and Final Acceptance of the Work. Contractor will be paid based on the line item breakdown, contained in the Bid Form, with payments based on actual Work performed. All applications shall be submitted in triplicate and the Contractor shall only use the Town's Contractor Payment Application Form or an invoice format approved by the Town. Supporting evidence to be included with any application for

payment shall include, but is not limited to, an updated Project Schedule as required by Article B2.03 and a partial or final release of liens or consent of Surety relative to the Work, which is the subject of the application for payment and any other information required by the Project Manager. Each application for payment shall be submitted in duplicate for approval.

Ten percent (10%) of all monies earned by Contractor shall be retained by Town until Final Acceptance by the Town. Any interest earned on retainage shall accrue to the benefit of Town. All requests for retainage reduction shall be in writing in a separate stand-alone document.

The Town shall not pay more than five (5%) of the Total Contract price as mobilization should a schedule of values be required of the contractor

Town may withhold, in whole or in part, payment to such extent as may be necessary to protect itself from loss on account of:

1. Defective Work not remedied.
2. Claims filed or reasonable evidence indicating probable filing of claims by other parties against Contractor or Town because of Contractor's performance.
3. Failure of Contractor to make payments properly to Subcontractors or for material or labor.
4. Damage to another contractor not remedied.
5. Liquidated damages and costs incurred by Town and/or Consultant for extended construction administration.
6. Failure of Contractor to provide any and all documents required by the Contract Documents.

Contractor may be paid for materials or equipment purchased and stored at the Project(s) Site(s) or another location, subject to the sole discretion and approval of the Project Manager. Where a payment request is made for materials or equipment not incorporated in the Project but delivered and suitably stored at the site or at some other location agreed upon in writing, the written documentation must be submitted at the time of request for payment. Payment shall be conditioned upon submission by the Contractor of paid invoices and an executed Material Purchased/Stored On-Premises form to establish the Town's title to such materials or equipment, or otherwise protect the Town's interest, including applicable insurance in the name of Town and transportation to the Project site.

Contractor retains sole liability to replace such stored materials or equipment as a result of damage or loss for any reason.

2.19-5 RETAINAGE & RELEASE

Subsequent to the Project Manager determining that fifty (50%) percent of the Work has been completed, the Contractor may submit a separate invoice requesting the release of 5% of the retainage withheld and submit a written request that future retainage be reduced to 5%. The Town at its sole discretion may determine that the request for release or reduction of the retainage should not occur.

Subsequent to Final Completion of the Project the Contractor may submit a separate invoice for the release of the retainage. The Town may withhold payment or any portion thereof to offset any fees or costs owed to the Town

2.19-6 OWNERSHIP OF THE WORK

The Contractor is solely responsible for all Work, until Final Completion of the Work. Contractor is liable for all damage, theft, maintenance, and safety until such time as the Town issues a notice of Final Completion.

2.19-7 PRODUCT DATA AND SAMPLES

Contractor must submit four (4) copies of product data, warranty information and operating and maintenance manuals. Each copy must be marked to identify applicable products, models, options and other data. Contractor must supplement manufacturer's standard data to provide information unique to the Work.

Contractor must only submit pages that are pertinent. Submittals must be marked to identify pertinent products, with references to the specifications and the Contract. Identify reference standards, performance characteristics and capacities, wiring and piping diagrams and controls, component parts, finishes, dimensions and required clearances.

Contractor must submit a draft of all product data, warranty information and operating and maintenance manuals at 50% completion of construction.

Contractor must submit samples to illustrate the functional characteristics of the product(s). Submittals must be coordinated for different categories of interfacing Work. Contractor must include identification on each sample and provide full information.

2.20 LIQUIDATED DAMAGES

The Contractor is obligated and guarantees to obtain Substantial and Final Completions of the Project within the timeframes established in the Contract or any approved extension of time the Contractor may be granted by the Town. In the event of a delay in completion beyond the date established in the Contract, the Contractor must pay to the Town for each and every calendar day of unexcused delay, the sum of five hundred dollars (\$500), which is hereby agreed upon not as a penalty but as liquidated damages. The Contractor will be notified of any exceptions. The total amount of liquidated damages will not exceed the value of the Contract.

The Town has the right to deduct liquidated damages assessments from any payment due or which may thereafter become due to the Contractor under any contract the Contractor has with the Town. In case the amount available under contracts the Contractor has with the Town is less than the amount of liquidated damages due the Town, the Contractor must pay the difference upon demand by the Town. Should the Contractor fail to compensate the Town for any liquidated damages, the Town will consider this as a form of indebtedness and may deny any future Work under the Contract or any other Town contract until such indebtedness is paid in full to the Town.

The Town will notify the Contractor in writing that it is incurring liquidated damages.

2.21 REQUESTS FOR INFORMATION

The Contractor must submit a Request for Information ("RFI") where the Contractor believes that the Contract Document's specifications are unclear or conflict. All requests must be submitted in a manner that clearly identifies the specification section or drawing detail, if furnished, where clarification or interpretation is being requested. As part of the RFI, Contractor must include its recommendation for resolution. The Town must respond in writing.

The RFI process is not intended to be used to correct defective Work performed by the Contractor. Solutions to correct defective Work, including means and methods are the sole responsibility of the Contractor. Should the RFI process be utilized to correct defective Work, the Contractor may

be required to reimburse the Town for any costs incurred by the Town in responding to the RFI. Such reimbursements will be taken as a deduction against any payments due the Contractor.

2.22 WARRANTY

Contractor warrants to the Town that all materials and equipment furnished under the Contract will be new unless otherwise specified and that all of the Work will be of good quality, free from faults and defects and in conformance with the Contract Documents. All Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. If required by the Project Manager, the Contractor must furnish satisfactory evidence as to the kind and quality of materials and equipment. This warranty is not limited by any other provisions within the Contract Documents.

All Work must have a one (1) year warranty on labor from the date of acceptance of the Work by the Town. Contractor must provide a minimum written warranty of one (1) year on all equipment, parts, or material unless the manufacturer provides a longer warranty. Where the manufacturer of the equipment, parts, or material provides a warranty greater than one (1) year or the time frame stipulated then the manufacturer's warranty term will take precedence. Contractor will be required to provide the Project Manager a copy of the manufacturer's warranty prior to the Town issuing final payment. Manufacturer's warranties will become effective upon Final Completion of the Project.

All material and equipment furnished must be fully guaranteed by the Contractor against factory defects and workmanship. At no expense to the Town, the Contractor will correct any and all apparent and latent defects that may occur within the manufacturer's standard warranty. The Contract Documents may supersede the manufacturer's standard warranty. Manufacturer's warranties will become effective upon Final Completion of the Project.

Should the Contractor fail to perform any required warranty work the Town, at its sole discretion, may have the work performed by others, and deduct such costs from any monies due the Contractor from the Town. Where such funds are not available, the Town will bill the Contractor and Contractor will reimburse the Town within thirty (30) calendar days. The Town may take any necessary and appropriate action provided under this Contract or with law to collect such payment due the Town.

2.23 PROJECT SITE FACILITIES

The Contractor must arrange for all Project site facilities as may be necessary to perform the Work.

The Contractor must provide and maintain at its own expense, in a sanitary condition, such accommodations for the use of his employees as is necessary to comply with the requirements including Chapter 46 of the Building Code and regulations of the State of Florida Department of Health and Rehabilitative Services or Dade County Health Department. The Contractor, his employees, or his Subcontractors must commit no public nuisance or use any facilities that have not been specifically provided for use by the Contractor.

The Contractor must furnish an adequate supply of drinking water for its employees and Subcontractors' employees.

There must be adequate provisions made by the Contractor to ensure all disposable materials are properly disposed of and do not create a nuisance to the Town or the public. The location of the temporary facilities will be subject to the approval of the Project Manager.

Contractor is required to provide any necessary temporary utilities to the site, such as electric, water, and sanity services to the site for new construction or additions to a facility. The Project Manager may authorize the use of existing utilities. Such decision will be made at the sole discretion of the Project Manager.

The Contractor is required to obtain all necessary permits required for any Project site facilities. Contractor will also be responsible to maintain such facilities in a safe and working condition.

All such facilities remain the property of the Contractor and the Contractor will be responsible for removal and disposal of such facilities prior to Final Acceptance.

2.24 SUBSTANTIAL COMPLETION, PUNCHLIST & FINAL COMPLETION

The Work will be substantially complete when the Project Manager, in the reasonable exercise of his/her discretion determines that the Work is complete and there are no material or substantial variations from the Contract and the Work is fit for its intended purpose. Upon Substantial Completion, the Project Manager and the Contractor will sign the Substantial Completion Inspection Form. The signing of this form does not relieve the Contractor from its obligation to complete the Project.

When the Contractor believes that the Work is substantially complete, the Contractor must request in writing that the Project Manager or Consultant inspect the Work to determine if Substantial Completion has been achieved. Where the Work requires the Contractor to obtain a Certificate of Completion no request for Substantial Completion inspection is to be submitted until the Contractor has obtained the Certificate(s) of Completion. The Project Manager or Consultant will schedule the date and time for any inspection and notify the Contractor and any other parties deemed necessary. During this inspection, the Project Substantial Completion Inspection Form will be completed as necessary. Any remaining Construction Work must be identified on this form and it will be known as Punch List Work. The Punch List must be signed by the Project Manager and the Contractor confirming that the Punch List contains the item(s) necessary to complete the Work. The failure or refusal of the Contractor to sign the Project Substantial Completion Inspection Form or Punch List will not relieve the Contractor from complying with the findings of the Project Substantial Completion Inspection and completing the Project to the satisfaction of the Town.

The Project Manager or Consultant, and the Contractor will agree on the time reasonably required to complete all remaining Work included in the Punch List.

Upon Substantial Completion and the receipt and acceptance of any required documentation, including warranty documents, the Project Manager will determine that a Project has achieved Final Completion and authorize final payment.

The acceptance of final payment will constitute a waiver of all claims by Contractor, except those previously made in strict accordance with the provisions of the Contract and identified by Contractor as unsettled at the time of the application for final payment.

2.25 ACCEPTANCE AND FINAL PAYMENT

Upon receipt of written notice from Contractor that the Work is ready for final inspection and acceptance, Project Manager will, within ten (10) calendar days, make an inspection thereof. If Project Manager find the Work acceptable, the requisite documents have been submitted and the requirements of the Contract fully satisfied, and all conditions of the permits and regulatory agencies have been met, a Final Certificate for Payment will be issued by Project Manager, stating

that the requirements of the Contract have been performed and the Work is ready for acceptance under the terms and conditions thereof.

Before issuance of the Final Certificate for Payment, Contractor must deliver to the Project Manager a final release of all liens arising out of the Contract, receipts in full in lieu thereof; an affidavit certifying that all suppliers and subcontractors have been paid in full and that all other indebtedness connected with the Work has been paid, and a consent of the surety to final payment; the final corrected as-built drawings; operations and maintenance data, and the final bill of materials, if required, and payment application. Contractor must deliver the written Contractor's and all Manufacturer's warranties prior to issuance of the final invoice.

If, after the Work has been substantially completed, full completion thereof is materially delayed through no fault of Contractor, and Project Manager so certifies, Town will, upon such certification of Consultant, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. Such payment will be made under the terms and conditions governing final payment, except that it will not constitute a waiver of claims.

The acceptance of final payment will constitute a waiver of all claims by Contractor, except those previously made in strict accordance with the provisions of the Contract and identified by Contractor as unsettled at the time of the application for final payment.

2.26 NPDES REQUIREMENTS

Contractor must comply with the State of Florida rules and regulations for the National Pollutant Discharge Elimination System (NPDES) including but not limited to all permitting, Notices of Intent, and the Storm Water Pollution Prevention Plan (SWPPP). All costs for NPDES and SWPPP must be included in the Bid price. For further information on compliance requirements for NPDES and SWPPP visit the State of Florida website at <http://www.dep.state.fl.us/water/stormwater/npdes/>. Contractor is responsible for obtaining, completing and paying for any required NPDES application or permits that may be required.

SIGNATURE PAGE FOLLOWS

CONTRACT EXECUTION FORM

This Contract 2019-01 made this ____ day of _____ in the year ____ in an amount not to exceed \$_____ by and between the Town of Miami Lakes, Florida, hereinafter called the "Town," and Arbor Tree and Land, Inc., hereinafter called the "Contractor."

IN WITNESS WHEREOF, the parties have executed this Agreement as of the day and year first above written.

Attest:

TOWN OF MIAMI LAKES

By: _____
Gina Inguanzo, Town Clerk

By: _____
Alex Rey, Town Manager

Legal Sufficiency:

By: _____
Raul Gastesi, Town Attorney

Date: _____

Signed, sealed and witnessed in the presence of:

CONTRACTOR

ATL Diversified (Arbor Tree and Land, Ind.)

(Contractor's Name)

By: Kalee Assu

By: William D. Hodges

Name: William D. Hodges

Title: President

Date: 1/7/2019

(*) In the event that the Contractor is a corporation, there shall be attached the original of the corporate resolution in the form contained in this Section, of the board of the corporation, authorizing the officer who signs the Contract to do so in its behalf.

EXHIBIT A – CONTRACTOR’S PROPOSAL



Company Profile and Declaration

Solicitation Name: Canal Bank Stabilization Phase II

Solicitation Number: 2019-01

Submitted By: Arbor Tree and Land, Inc.
 (Respondent Firms' Legal Name)
ATL Diversified
 (Respondent D/B/A Name, if used for this Project)
William D. Hodges, President
 (Name and Title of Officer Signing the Submittal for the Respondent)
Clinton S. Hodges
 (Contact Name, if different from Officer)
7153 Southern Blvd, A5
 (Street Address)
West Palm Beach, FL 33413
 (City/State/Zip Code)
chodges@atldiversified.com 561-722-5630
 (Email Address) (Phone Number)

Declaration

I, William D. Hodges hereby declare that I am the
 Print Name
President of Arbor Tree & Land, Inc.
 Title Name of Company

the ("Respondent") submitting the Company Profile and Declaration, and that I am duly authorized to sign this Company Profile and Declaration on behalf of the above-named company; and that all information in this Company Profile and Declaration and other information and documents submitted in response to this RFP are, to the best of my knowledge, true, accurate, and complete as of the submission date.



The Respondent further certifies as follows:

1. This Company Profile and Declaration is submitted as part of the Respondent's submittal ("Submittal") in response to the above stated RFP issued by the Town of Miami Lakes;
2. Respondent has carefully examined all the documents contained in the RFP and understands all instructions, requirements, specifications, terms and conditions, and hereby offers and proposes to furnish the products and/or services described herein at the prices, fees and/or rates quoted in the Respondent's Submittal, and in accordance with the requirements, specifications, terms and conditions, and any other requirements of the RFP Documents;
3. This Submittal is a valid and irrevocable offer that will not be revoked and shall remain open for the Town's acceptance for a minimum of 120 days from the date Submittals are due to the Town, to allow for evaluation, selection, negotiation, and any unforeseen delays, and Respondent acknowledges that if its Submittal is accepted, Respondent is bound by all statements, representations, warranties, and guarantees made in its Submittal, including but not limited to, representation to price, fees, and/or rates, performance and financial terms;
4. Respondent has the necessary experience, knowledge, abilities, skills, and resources to satisfactorily perform the requirements under this RFP;
5. Respondent certifies that it meets the minimum qualification requirements set forth in the RFP.
6. Respondent is in full compliance with all applicable Federal, State, and local laws, rules, regulations and ordinances governing its business practices;
7. All statements, information and representations prepared and submitted in response to the RFP are current, complete, true, and accurate. Respondent acknowledges that the Town will rely on such statements, information, and representations in selecting a Respondent, and hereby grants the Town permission to contact any persons identify in this RFP to independently verify the information provided in the Submittal;
8. Submission of a Submittal indicates the Respondent's acceptance of the evaluation criteria and technique and the Respondent's recognition that some subjective judgments may be made by the Town as part of the evaluation process;
9. No attempt has or will be made by the Respondent to induce any other person or firm to not submit a response to this RFP;
10. No personnel currently employed by the Town participated, directly or indirectly, in any activities related to the preparation of the Respondent's Submittal;
11. Respondent has had no contact with Town personnel regarding the RFP, the Project or evaluation of Submittals in response to this RFP. If contact has occurred, except as permitted under the Cone of Silence, so state and include a statement identifying in detail the nature and extent of such contacts and personnel involved;
12. The pricing, rates or fees proposed by the Respondent have been arrived at independently, without consultation, communication, or agreement, for the purpose of restriction of competition, as to any other Respondent or competitor; and unless otherwise required by law,

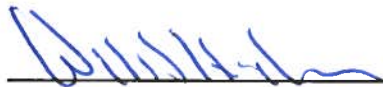


the prices quoted have not been disclosed by the Respondent prior to submission of the Submittal, either directly or indirectly, to any other Respondent or competitor;

13. Respondent has reviewed a copy of the Contract, included as an Exhibit to the RFP; and

14. Respondent is not currently disqualified, de-listed or debarred from doing business with any public entity, including federal, state, county or local public entities, or if so, Respondent has provided a detailed explanation of such disqualification, de-listing or debarment, including the reasons and timeframe.

This declaration was executed in 12/15/2018 County, State of FL on 20¹⁸.


Signature

William D. Hodges

Print Name

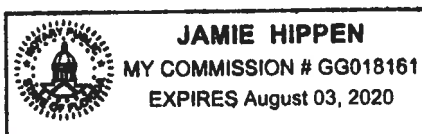
Subscribed and sworn to before me this 15 day of December, 2018.


Signature

Jamie Hippen
Print Name

08:03:20


(Notary Seal/Stamp)





Company Qualification Questionnaire

Part 1 - Qualifications

Some responses may require the inclusion of separate attachments. Separate attachments should be as concise as possible, while including the requested information. In no event should the total page count of all attachments to this Form exceed six (6) pages.

1. How many years has your company been in business under its current name and ownership?

39

- a. Professional Licenses/Certifications (include name and license #)*

Issuance Date

General Contractor, Eric Collins

6/26/2018

Pesticide Applicator

4/15/2018

(*include active certifications of small or disadvantage business & name of certifying entity)

2. Type of Company: ☐ Individual ☐ Partnership ☒ Corporation ☐ LLC ☐ Other

If other, please describe the type of company: _____

- a. FEIN/EIN Number: 59-2384451

- b. Dept. of Business Professional Regulation Category (DBPR): _____

- i. Date Licensed by DBPR: NA

- ii. License Number: _____

- c. Date registered to conduct business in the State of Florida: _____

- i. Date filed: 06/06/1983

- ii. Document Number: G42744

- d. Primary Office Location: West Palm Beach, FL

- e. What is your primary business? waterway, marine construction

(This answer should be specific)



f. Name of Qualifier, license number, and relationship to company:

Eric Collins, 1525226, employee

g. Names of previous Qualifiers during the past five (5) years including, license numbers, relationship to company and years as qualifier for the company:

Robert Benford, 1520515, employee, 2

h. Name and Licenses of any prior companies

Name of Company

License Name & No.

Issuance Date

N/A

3. Company Ownership

a. Identify all owners or partners of the company:

Name

Title

% of ownership

William D. Hodges President

100

b. Is any owner identified above have an ownership interest in another company?

☐ Yes ☒ No



If yes, identify the name of the owner, other company names, and % ownership

N/A

- c. Identify all individuals authorized to sign for the company, indicating the level of their signing authority (use additional pages/attachments if necessary)

Name	Title	Signatory Authority (All, Cost Up to \$Amount, No-Cost, Other)
William Hodges	President	All
Zachariah Hodges	Controller	All
Frank Fernandez	Operation Manager	All
Clinton Hodges	Estimator/PM	All

4. Employee Information

- a. Total No. of Employees: 28
- b. Total No. of Managerial/Admin. Employees: 7
- c. Total No. of Trades Employees by Trade (Ex. 20 Electricians; 5 Laborers; 2 Mechanics, etc.):
- | | |
|-------------------------------------|----------------------|
| <u>4 project managers</u> | <u>3 supervisors</u> |
| <u>12 operators</u> | <u>5 Laborers</u> |
| <u>4 cutters/arborist standards</u> | |

5. Recent Contracts

- a. Identify the five (5) most recent contracts in which your company has provided services and provide contact information for the project owner (use additional pages/attachments if necessary)

See attached "similiar projects tab"



6. Insurance & Bond Information:

a. Insurance Carrier name & address:

Brown and Brown Insurance, 14900 NW 79th court, Suite 200, Miami Lakes, FL 33016

b. Insurance Contact Name, telephone, & e-mail:

Madelys Morales, 305-364-7873, mmorales@bbmia.com

c. Insurance Experience Modification Rating (EMR):

1.61
(if no EMR rating please explain in attachment)

d. Number of Insurance Claims paid out in last 5 years & value:

0

e. Bond Carrier name & address:

Brown & Brown, 1201 W. Cypress Creek, Rd Fort Lauderdale, FL 33309

f. Bond Carrier Contact Name, telephone, & email:

Amanda Graveline, 954-331-1427, agraveline@bbflaud.com

g. Number of Bond Claims paid out in last 5 years & value:

Zero

7. Have any lawsuits been file against your company in the past 5 years? ☐ Yes ☒ No

If yes, in a separate attachment, identify each lawsuit and its current disposition. For each lawsuit provide its case number, venue, the year the suit was filed, the basis for the claim or judgment, its current disposition and, if applicable, the settlement unless the value of the settlement is covered by a written confidentiality agreement.

8. To the best of your knowledge, is your company or any officers of your company currently under investigation by any law enforcement agency or public entity. ☐ Yes ☒ No

If yes, in a separate attachment, provide details including the identity of the officer and the nature of the investigation.



9. Have any Key Staff or Principals (including stockholders with over 10% ownership) of the company been convicted by a Federal, State, County or Municipal Court of or do any Key Staff or Principals have any pending violations of law, other than traffic violations? ☐ Yes ☒ No

If yes, in a separate attachment, provide an explanation of any convictions or pending action including the name of the Key Staff member or Principal involved and the nature of the offense.

10. Has your company been assessed liquidated damages or defaulted on a project in the past five (5) years? ☐ Yes ☒ No

If yes, in a separate attachment provide an explanation including the name of the project, the circumstances of default or assessed damages, and the ultimate disposition of the issue.

11. Has the Proposer/Bidder or any of its principals failed to qualify as a responsible proposer/bidder, refused to enter into a contract after an award has been made, failed to complete a contract during the past five (5) years, or been declared to be in default in any contract in the last five (5) years? ☐ Yes ☒ No

If yes, in a separate attachment provide an explanation including the year, the name of the awarding agency, and the circumstances leading to default.

12. Has the proposer or any of its principals ever been declared bankrupt or reorganized under Chapter 11 or put into receivership? ☐ Yes ☒ No

If yes, in a separate attachment provide the date, court jurisdiction, action taken, and any other explanation deemed necessary.

13. In the space below, describe any other experience, not covered by any of the stated submittal requirements of the RFP, related to the Work to be performed under the Contract that Proposer believes is unique to its organization and would benefit the Town.

ATL owns all necessary equipment to complete this project. ATL custom builds unique equipment such as barge to complete work in South Florida Canals. ATL has been completing work

of this nature for over 30 years and currently has 4 projects underway consisting of bank stabilization, sediment removal and dredging. ATL is very familiar with this concept of stabilization.



Company Qualification Questionnaire Part 2 - Safety Qualifications

Solicitation Number: 2019-01

Project Name: Canal Bank Stabilization Phase II

Please provide the following information concerning your company's safety performance and record.

Company's Name: Arbor Tree and Land, Inc.

Address: 7153 Southern Blvd. Bay A5

Phone No.: 561-965-2198 Email Address: info@atldiversified.com

Web Page (if existing): atldiversified.com

Name of company representative completing this form: Clinton Hodges

Title of company representative completing this form: Estimator

Date questionnaire completed: 12/19/2018

Previous calendar year total employee hours worked: 45,000+

Previous calendar year OSHA 300 logs:

- Attach latest updated annual recordable injury/illness OSHA 300 log
- Attach OSHA 300 log from the previous three (3) calendar years.

Previous calendar year OSHA Lost Work Day Incident Rate: = 0

Lost Work Day Incident Rate = Total number of recordable injuries or illnesses with days away from work x 200,000 divided by the total number of hours worked by all employees.

Previous Calendar Year OSHA Recordable Incident Rate: = 0

Recordable Incident Rate = Total number of OSHA recordable injuries and illnesses x 200,000 divided by the total number of hours worked by all employees.

Previous Calendar Year Severity Rate: = 0

Severity Rate = Total number of lost work days x 200,000 divided by the total number of hours worked by all employees.

EMR: Experience Modification Rate: List your company's EMR for the last three (3) years and attach documentation from your insurance company on their letterhead with their representative's signature and title. If your company does not have an EMR enter "N/A".

Year	EMR
<u>n/A</u>	<u></u>



Citations: Has your company received any citations in the past three (3) years from any government

agency? ☐ yes ☒ no If yes, include copy of citation(s) and abatement action(s).

Safety Program: Does your company have a written Safety and/or Health Program, including a mission statement, policies, and procedures

☒ yes ☐ no If yes, check the following that your safety program includes:

Accident Reduction Program X
Safety Committee _____
Asbestos Abatement Program _____
Drug Free/Substance Abuse Program X

If checked, attach a brief description of the Program (not to exceed ½ page per Program)

SEE
Safety Plan

Please check the following that your training program includes:

Asbestos abatement	☐	Hot Work	☐
Asbestos awareness	☒	Injury/Illness Record Keeping	☒
Asbestos training	☐	Lockout/Tagout	☐
Company safety policy	☒	New Hire Orientation	☒
Company safety rules	☒	OSHA 10-hour certification	☐
Confined spaces	☐	OSHA 30-hour certification	☐
CPR/First aid training	☐	Pre-job safety inspection	☒
Electrical safety	☐	Respiratory protection	☐
Fall Protection	☒	Scaffold training	☐
Fire Prevention	☐		

Is your Project Manager certified in accredited "OHS 10-hour or "30-hour construction industry federal course: ☒ yes ☐ no If yes, which course: 30 hr

Is your Project Manager certified in CPR/First Aid? ☒ yes ☐ no



Is your Construction Superintendent certified in accredited "OHS 10-hour or "30-hour construction industry federal course: ☐ yes ☒ no If yes, which course: _____

Is your Construction Superintendent certified in CPR/First Aid? ☐ yes ☒ no

By signing below, Proposer certifies that the information contained herein is complete and accurate to the best of Proposer's knowledge.

By: _____

Signature of Authorized Officer

12/20/18

Date

Clinton S. Hodges

Printed Name



Company Qualification Questionnaire
Part 3 – Team Member Table

This form is to identify the Key member of the Project Team, which includes the Project Manager, Construction Manager, Estimator, and similar staff. Additional Key Staff are to be added as applicable. Only employees of the Proposer are to be listed on this form.

Name of Person	Title	% of Time Devoted to Project	Years in Industry	Years with Proposer	Years in Position with Proposer	Licenses & Certifications (name)
Clinton Hodges	Project Manager	100	7	7	7	
William Gonzolez	Construction Superintendent	100	10	7	5	
Clinton Hodges	Estimator	100	7	7	7	
Tony Ornelas	Construction Manager	75	25	25	25	
Greg Santangalo	waterway construction coordinator	100	10	3	3	
William Hodges	President	75	39	39	39	
Frank Fernandez	Operations Manager	75	20	3	3	
Zach Hodges	Controller	75	10	10	10	



**STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION**

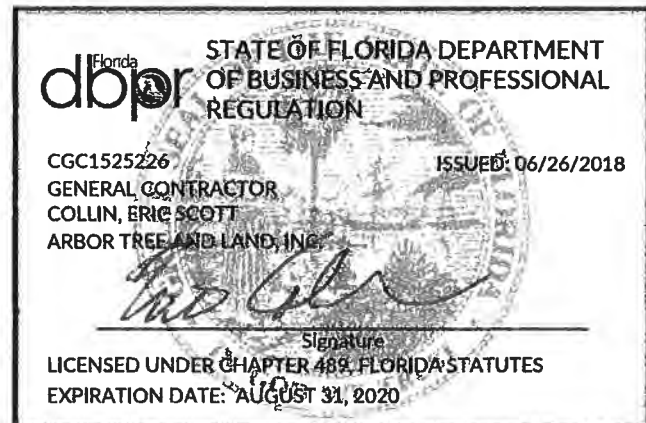
CONSTRUCTION INDUSTRY LICENSING BOARD
2601 BLAIR STONE ROAD
TALLAHASSEE FL 32399-0783

(850) 487-1395

Congratulations! With this license you become one of the nearly one million Floridians licensed by the Department of Business and Professional Regulation. Our professionals and businesses range from architects to yacht brokers, from boxers to barbeque restaurants, and they keep Florida's economy strong.

Every day we work to improve the way we do business in order to serve you better. For information about our services, please log onto www.myfloridalicense.com. There you can find more information about our divisions and the regulations that impact you, subscribe to department newsletters and learn more about the Department's initiatives.

Our mission at the Department is: License Efficiently, Regulate Fairly. We constantly strive to serve you better so that you can serve your customers. Thank you for doing business in Florida, and congratulations on your new license!





Experience of Proposer Questionnaire

Proposers must have successfully completed at least three (3) projects of similar scope with project within the last five (5) years, where the value of each project is over \$750,000. **The Proposer is to utilize its three most recently completed projects that are of the same size, scope, and complexity.** Listed projects must have been managed and performed by the business entity submitting the Response. One Data sheet must be completed for each project. Projects completed by present employees, officers, or owners of the Proposer for former employers or companies are not acceptable. Construction Manager at Risk and Design-Build projects are not to be included. **Do not list projects performed for the Town of Miami Lakes.**



(A separate data sheet is to be used for each project)

1. Project Name: Hillisboro Canal Bank Stabilization Project
2. Project Location: Boca Roton, FL
3. Project Title: _____
4. Project Number, if applicable: 6000000625
5. Type of Construction: Canal Bank Stabilization
 (i.e.: New, Renovation, Addition, Repair, Sidewalk/Curb/Gutter, Roadway reconstruction, Roadway resurfacing, Drainage, etc. Use all that apply.)
6. Size: (i.e.: Capacity, Tonnage, linear feet, square feet, etc.): 46,464 LF
7. Scope of Work: 9 miles of bank stabilization. Major Scopes of work consisted of Clearing and grubbing, channel excavation and installation of bank stabilization.
8. How many bid/proposal submissions did the owner receive for the project? 5
9. Business name that performed & managed this project: South Florida Water Management District
10. How is this project similar to the Town's project? The objective of this project was to stabilize failing canal banks. ATL used machine based barges and shore based longsticks to complete clearing and grubbing, slope preparation and installation of bank stabilization
11. Cost of the project at time of bid: \$7,914,500
12. Cost of work at completion: \$7,914,500
13. LEED Certification
 - a. Was this a LEED Certified Project: Yes _____ No X
 - b. Minimum LEED Certification required: n/a
 - c. LEED Certification obtained: n/a
14. Describe the sources and/or causes of the above differences in costs with reference to the following categories as determined by written change order, the public entity or the Architect/Engineer of Record (whichever had final authority):

a. Errors or omissions:	<u>0</u> % \$ _____
b. Unforeseen/Hidden conditions:	<u>0</u> % \$ _____
c. Owner generated changes:	<u>0</u> % \$ _____
d. Regulatory agency changes:	<u>0</u> % \$ _____
e. Contractor recommended changes:	<u>0</u> % \$ _____



f. Other: 0 % \$ _____

Explain other: _____

15. How many RFIs did your company submit with respect to the plans and specifications for the project? 2

16. What was the primary reasons for the RFIs: Project Drainage

17. What year did the project start construction? 2014

18. What year did the project complete construction? 2016

19. Project Timeframe for completion (number of calendar days):

- a. 730 Contract timeframe at time of bid/proposal date for Substantial Completion
- b. 800 Contract timeframe at time of bid/proposal date for Final Completion (if different from Substantial Completion)
- c. n/a Formally adjusted contract timeframe based on change orders (if none state N/A)
- d. n/a Timeframe not covered under approved change orders (if none state N/A)
- e. 700 Actual time between issuance of Notice to Proceed and date of Substantial Completion
- f. 30 Actual time between date of Substantial Completion and Final Completion
- g. 30 Total number of days between original contract timeframe and Substantial Completion
- h. 70 Total number of days between original contract timeframe and Final Completion (if different from Substantial Completion)

20. If completion did not occur within the contract time established at bid/proposal date or within the formally adjusted contract time (as identified in item 17c above, explain the reason(s) for the delay:

n/a

21. Total number of task on the punch list? 9

22. If punch list items were not completed/performed explain the reason(s):

n/a

23. Were liquidated damages or actual damages for delay assessed on this project?

Yes _____ No X If yes, state the amount: \$ _____



24. Name of the Project Manager: Ashie Akpoji
25. Name of the Construction Superintendent: Chris Medford
26. Total amount of the work self-performed: 90 % \$ 7,123,050

a. If yes, specify the trade, percentage, and value (add additional pages if necessary)

_____	_____ %	\$ _____
_____	_____ %	\$ _____
_____	_____ %	\$ _____
_____	_____ %	\$ _____

27. Were subcontractors used on the project? X yes _____ no

a. If yes, specify the trade, percentage, and value (add additional pages if necessary)

<u>material suppliers</u>	_____ %	\$ _____
_____	_____ %	\$ _____
_____	_____ %	\$ _____

28. Were any Claims*or Dispute filed on the project? X yes _____ no

*A Claim means a demand or assertion by your firm seeking as matter of right, adjustment or interpretation of contract terms, compensation, extension of time or other relief with respect to the terms of the contract or other disputes between the owner and your firm.

29. If a Claim(s) was filed on the project, provide the following details for each Claim*:

- a. Dollar amount for Initial Claim: n/a
- b. Source of Claim: (e.g. contractor, subcontractor, supplier, etc.) home owner, cracked concrete
- c. Method of resolution (e.g. negotiation, mediation, arbitration, litigation): negotiation
- d. Final amount of Claim settlement: n/a

30. If a formal Dispute(s) was filed on the project, provide the following details for each Dispute. Identify the reason for the Dispute and the resolution (use additional pages if necessary):

n/a

31. Did your company fail/refuse to perform or complete any of work it was obligated to complete?

_____ yes X _____ no

If yes, explain what work was not performed/completed and reasons why:



32. Was your company required to perform any work under a directive to proceed pending the resolution of an interpretation of the contract or dispute?

_____ yes X _____ no

33. Identify up to four (4) constructability issues encountered by your company on the project and briefly describe how your company resolve each issue:

1) In channel excavation, ATL encountered large boulders at a higher elevation than anticipated effecting final grade depth. ATL submitted an RFI and requested a field meeting to view and discuss possible resolutions. It was agreed upon by ATL and the District to raise the final grade elevation to stay above encountered boulders. 2) Drainage on top of bank was holding excess water and not able to drain. ATL met with district officials to adjust slope of final grade to assure proper drainage. 3) While installing bank stabilization, SFWMD raised water levels to cover portions of work area. ATL used in-house dive teams to install and secure under water bank stabilization.

34. Did your company perform any value engineering or other cost savings measures, which improved the quality of the project or saved cost? If yes, provide details and any cost savings.

no

Project Owner's Name: South Florida Water Management District

Is the Project Owner a public entity? X _____ yes _____ no

Contact Name for Project Owner: Oshie Akpoji

Contact Name's Title: Principle Engineer

Project Owner's Address: 3301 gun Club Road

Project Owner's City, State, and Zip Code: West Palm Bach, FL 33406

Contact Name's Telephone Number: 561-682-2571

Contact Name's Email Address: oakpoji@sfwmd.gov

Architect/Engineer of Record: _____

Architect/Engineer of Record Contact Name: Vijay Mishra

Architect/Engineer of Record Contact Name's Telephone No. 561-284-5336

Architect/Engineer of Record Contact Name Email Address: vijaymishra.s08@gmail.com



(A separate data sheet is to be used for each project)

1. Project Name: East Coast Projective Levee- Phase I
2. Project Location: South Florida
3. Project Title: _____
4. Project Number, if applicable: 4600002665
5. Type of Construction: Canal Bank Stabilization
(i.e.: New, Renovation, Addition, Repair, Sidewalk/Curb/Gutter, Roadway reconstruction, Roadway resurfacing, Drainage, etc. Use all that apply.)
6. Size: (i.e.: Capacity, Tonnage, linear feet, square feet, etc.): 14 miles
7. Scope of Work: Placement of sand filter berm and bentonite for approximately 14 miles.

8. How many bid/proposal submissions did the owner receive for the project? 4
9. Business name that performed & managed this project: South Florida Water Management District
10. How is this project similar to the Town's project? The objective of this project was to repair failing levees bordering the everglades. ATL used heavy equipment, off road trucks and custom longsticks to complete all installation of bank stabilization

11. Cost of the project at time of bid: \$ 5,978,496

12. Cost of work at completion: \$ 5,978,496

13. LEED Certification

- a. Was this a LEED Certified Project: Yes _____ No X
- b. Minimum LEED Certification required: n/a
- c. LEED Certification obtained: n/a

14. Describe the sources and/or causes of the above differences in costs with reference to the following categories as determined by written change order, the public entity or the Architect/Engineer of Record (whichever had final authority):

- a. Errors or omissions: 0 % \$ _____
- b. Unforeseen/Hidden conditions: 0 % \$ _____
- c. Owner generated changes: 0 % \$ _____
- d. Regulatory agency changes: 0 % \$ _____
- e. Contractor recommended changes: 0 % \$ _____



f. Other: 0 % \$ _____

Explain other: _____

15. How many RFIs did your company submit with respect to the plans and specifications for the project? 0

16. What was the primary reasons for the RFIs: n/a

17. What year did the project start construction? 2013

18. What year did the project complete construction? 2015

19. Project Timeframe for completion (number of calendar days):

- a. 340 Contract timeframe at time of bid/proposal date for Substantial Completion
- b. 365 Contract timeframe at time of bid/proposal date for Final Completion (if different from Substantial Completion)
- c. n/a Formally adjusted contract timeframe based on change orders (if none state N/A)
- d. n/a Timeframe not covered under approved change orders (if none state N/A)
- e. 340 Actual time between issuance of Notice to Proceed and date of Substantial Completion
- f. 25 Actual time between date of Substantial Completion and Final Completion
- g. 340 Total number of days between original contract timeframe and Substantial Completion
- h. 365 Total number of days between original contract timeframe and Final Completion (if different from Substantial Completion)

20. If completion did not occur within the contract time established at bid/proposal date or within the formally adjusted contract time (as identified in item 17c above, explain the reason(s) for the delay:

n/a

21. Total number of task on the punch list? 5

22. If punch list items were not completed/performed explain the reason(s):

n/a

23. Were liquidated damages or actual damages for delay assessed on this project?

Yes _____ No X If yes, state the amount: \$ _____



24. Name of the Project Manager: Tim Harper
25. Name of the Construction Superintendent: Chris Medford/ Clinton Hodges
26. Total amount of the work self-performed: 100 % \$ 5,978,496
- a. If yes, specify the trade, percentage, and value (add additional pages if necessary)

_____	_____ %	\$ _____
_____	_____ %	\$ _____
_____	_____ %	\$ _____
_____	_____ %	\$ _____

27. Were subcontractors used on the project? X yes _____ no

- a. If yes, specify the trade, percentage, and value (add additional pages if necessary)

<u>material suppliers</u>	_____ %	\$ _____
_____	_____ %	\$ _____
_____	_____ %	\$ _____

28. Were any Claims*or Dispute filed on the project? _____ yes X no

*A Claim means a demand or assertion by your firm seeking as matter of right, adjustment or interpretation of contract terms, compensation, extension of time or other relief with respect to the terms of the contract or other disputes between the owner and your firm.

29. If a Claim(s) was filed on the project, provide the following details for each Claim*:

- a. Dollar amount for Initial Claim: n/a
- b. Source of Claim: (e.g. contractor, subcontractor, supplier, etc.) _____
- c. Method of resolution (e.g. negotiation, mediation, arbitration, litigation): _____
- d. Final amount of Claim settlement: n/a

30. If a formal Dispute(s) was filed on the project, provide the following details for each Dispute. Identify the reason for the Dispute and the resolution (use additional pages if necessary):

n/a

31. Did your company fail/refuse to perform or complete any of work it was obligated to complete?

_____ yes X no

If yes, explain what work was not performed/completed and reasons why:



32. Was your company required to perform any work under a directive to proceed pending the resolution of an interpretation of the contract or dispute?

_____ yes X _____ no

33. Identify up to four (4) constructability issues encountered by your company on the project and briefly describe how your company resolve each issue:

Due to steep slopes getting the material to repair the levee to the work site was difficult. ATL built access roads to the Canal bench to give access to ATL's owned offroad trucks.

34. Did your company perform any value engineering or other cost savings measures, which improved the quality of the project or saved cost? If yes, provide details and any cost savings.

no

Project Owner's Name: South Florida Water Management District

Is the Project Owner a public entity? X _____ yes _____ no

Contact Name for Project Owner: Tim Harper

Contact Name's Title: Project engineer and manager

Project Owner's Address: 3301 gun Club Road

Project Owner's City, State, and Zip Code: West Palm Bach, FL 33406

Contact Name's Telephone Number: 561-682-2571

Contact Name's Email Address: tharper@sfwmd.gov

Architect/Engineer of Record: SFWMD

Architect/Engineer of Record Contact Name: Jose Guardiola

Architect/Engineer of Record Contact Name's Telephone No. 561-682-2595

Architect/Engineer of Record Contact Name Email Address: jguardiario@sfwmd.gov

MIAMI LAKES
Growing Beautifully
Project Data Sheet

(A separate data sheet is to be used for each project)

1. Project Name: C41 Bank Stabilization project
2. Project Location: Okeechobee County
3. Project Title: _____
4. Project Number, if applicable: 46000002420
5. Type of Construction: Canal Bank Stabilization
(i.e.: New, Renovation, Addition, Repair, Sidewalk/Curb/Gutter, Roadway reconstruction, Roadway resurfacing, Drainage, etc. Use all that apply.)
6. Size: (i.e.: Capacity, Tonnage, linear feet, square feet, etc.): 12.98 miles
7. Scope of Work: This Project consisted of furnishing all material, labor, tools, and equipment to repair over 12 miles of canal bank. Clearing and grubbing and backfilling was necessary prior to bank stabilization repair
8. How many bid/proposal submissions did the owner receive for the project? 4
9. Business name that performed & managed this project: South Florida Water Management District
10. How is this project similar to the Town's project? The objective of this project was to repair failing canal banks on the C41 canal. ATL used heavy equipment, off road trucks and custom longsticks to complete all installation of bank stabilization
11. Cost of the project at time of bid: \$ 9,233,790
12. Cost of work at completion: \$ 9,233,790
13. LEED Certification
 - a. Was this a LEED Certified Project: Yes _____ No X
 - b. Minimum LEED Certification required: n/a
 - c. LEED Certification obtained: n/a
14. Describe the sources and/or causes of the above differences in costs with reference to the following categories as determined by written change order, the public entity or the Architect/Engineer of Record (whichever had final authority):

a. Errors or omissions:	<u>0</u>	% \$	_____
b. Unforeseen/Hidden conditions:	<u>0</u>	% \$	_____
c. Owner generated changes:	<u>0</u>	% \$	_____
d. Regulatory agency changes:	<u>0</u>	% \$	_____
e. Contractor recommended changes:	<u>0</u>	% \$	_____



f. Other: 0 % \$ _____

Explain other: _____

15. How many RFIs did your company submit with respect to the plans and specifications for the project? 0

16. What was the primary reasons for the RFIs: n/a

17. What year did the project start construction? 2013

18. What year did the project complete construction? 2014

19. Project Timeframe for completion (number of calendar days):

- a. 280 Contract timeframe at time of bid/proposal date for Substantial Completion
- b. 300 Contract timeframe at time of bid/proposal date for Final Completion (if different from Substantial Completion)
- c. n/a Formally adjusted contract timeframe based on change orders (if none state N/A)
- d. n/a Timeframe not covered under approved change orders (if none state N/A)
- e. 280 Actual time between issuance of Notice to Proceed and date of Substantial Completion
- f. 20 Actual time between date of Substantial Completion and Final Completion
- g. 280 Total number of days between original contract timeframe and Substantial Completion
- h. 300 Total number of days between original contract timeframe and Final Completion (if different from Substantial Completion)

20. If completion did not occur within the contract time established at bid/proposal date or within the formally adjusted contract time (as identified in item 17c above, explain the reason(s) for the delay:

n/a

21. Total number of task on the punch list? 5

22. If punch list items were not completed/performed explain the reason(s):

n/a

23. Were liquidated damages or actual damages for delay assessed on this project?

Yes _____ No X If yes, state the amount: \$ _____



24. Name of the Project Manager: Clinton Hodges/ William Hodges
25. Name of the Construction Superintendent: Tony Ornelas/ Chris Medford
26. Total amount of the work self-performed: 100 % \$ 9,233,790

a. If yes, specify the trade, percentage, and value (add additional pages if necessary)

_____	_____ %	\$ _____
_____	_____ %	\$ _____
_____	_____ %	\$ _____
_____	_____ %	\$ _____

27. Were subcontractors used on the project? X yes _____ no

a. If yes, specify the trade, percentage, and value (add additional pages if necessary)

<u>material suppliers</u>	_____ %	\$ _____
_____	_____ %	\$ _____
_____	_____ %	\$ _____

28. Were any Claims*or Dispute filed on the project? _____ yes X no

*A Claim means a demand or assertion by your firm seeking as matter of right, adjustment or interpretation of contract terms, compensation, extension of time or other relief with respect to the terms of the contract or other disputes between the owner and your firm.

29. If a Claim(s) was filed on the project, provide the following details for each Claim*:

- a. Dollar amount for Initial Claim: n/a
- b. Source of Claim: (e.g. contractor, subcontractor, supplier, etc.) _____
- c. Method of resolution (e.g. negotiation, mediation, arbitration, litigation): _____
- d. Final amount of Claim settlement: n/a

30. If a formal Dispute(s) was filed on the project, provide the following details for each Dispute. Identify the reason for the Dispute and the resolution (use additional pages if necessary):

n/a

31. Did your company fail/refuse to perform or complete any of work it was obligated to complete?

_____ yes X no

If yes, explain what work was not performed/completed and reasons why:



32. Was your company required to perform any work under a directive to proceed pending the resolution of an interpretation of the contract or dispute?

_____ yes X _____ no

33. Identify up to four (4) constructability issues encountered by your company on the project and briefly describe how your company resolve each issue:

NO issues where encountered.

34. Did your company perform any value engineering or other cost savings measures, which improved the quality of the project or saved cost? If yes, provide details and any cost savings.

no

Project Owner's Name: South Florida Water Management District

Is the Project Owner a public entity? X _____ yes _____ no

Contact Name for Project Owner: Bob Searcy

Contact Name's Title: Project engineer and manager

Project Owner's Address: 3301 gun Club Road

Project Owner's City, State, and Zip Code: West Palm Bach, FL 33406

Contact Name's Telephone Number: 561-352-7990

Contact Name's Email Address: tharper@sfwmd.gov

Architect/Engineer of Record: _____

Architect/Engineer of Record Contact Name: _____

Architect/Engineer of Record Contact Name's Telephone No. _____

Architect/Engineer of Record Contact Name Email Address: _____

MIAMI LAKES
Growing Beautifully
Project Data Sheet

(A separate data sheet is to be used for each project)

1. Project Name: East Coast Projective Levee- Phase II
2. Project Location: South Florida
3. Project Title: _____
4. Project Number, if applicable: 4600002665
5. Type of Construction: Canal Bank Stabilization
 (i.e.: New, Renovation, Addition, Repair, Sidewalk/Curb/Gutter, Roadway reconstruction, Roadway resurfacing, Drainage, etc. Use all that apply.)
6. Size: (i.e.: Capacity, Tonnage, linear feet, square feet, etc.): 9 miles
7. Scope of Work: Placement of sand filter berm and bentonite for approximately 9 miles.

8. How many bid/proposal submissions did the owner receive for the project? 6
9. Business name that performed & managed this project: South Florida Water Management District
10. How is this project similar to the Town's project? The objective of this project was to repair failing levees bordering the everglades. ATL used heavy equipment, off road trucks and custom longsticks to complete all installation of bank stabilization

11. Cost of the project at time of bid: \$ 5,027,656

12. Cost of work at completion: \$ 5,027,656

13. LEED Certification

- a. Was this a LEED Certified Project: Yes _____ No X
- b. Minimum LEED Certification required: n/a
- c. LEED Certification obtained: n/a

14. Describe the sources and/or causes of the above differences in costs with reference to the following categories as determined by written change order, the public entity or the Architect/Engineer of Record (whichever had final authority):

- a. Errors or omissions: 0 % \$ _____
- b. Unforeseen/Hidden conditions: 0 % \$ _____
- c. Owner generated changes: 0 % \$ _____
- d. Regulatory agency changes: 0 % \$ _____
- e. Contractor recommended changes: 0 % \$ _____



f. Other: 0 % \$ _____

Explain other: _____

15. How many RFIs did your company submit with respect to the plans and specifications for the project? 0

16. What was the primary reasons for the RFIs: n/a

17. What year did the project start construction? 2013

18. What year did the project complete construction? 2015

19. Project Timeframe for completion (number of calendar days):

a. 340 Contract timeframe at time of bid/proposal date for Substantial Completion

b. 365 Contract timeframe at time of bid/proposal date for Final Completion (if different from Substantial Completion)

c. n/a Formally adjusted contract timeframe based on change orders (if none state N/A)

d. n/a Timeframe not covered under approved change orders (if none state N/A)

e. 340 Actual time between issuance of Notice to Proceed and date of Substantial Completion

f. 25 Actual time between date of Substantial Completion and Final Completion

g. 340 Total number of days between original contract timeframe and Substantial Completion

h. 365 Total number of days between original contract timeframe and Final Completion (if different from Substantial Completion)

20. If completion did not occur within the contract time established at bid/proposal date or within the formally adjusted contract time (as identified in item 17c above, explain the reason(s) for the delay:

n/a

21. Total number of task on the punch list? 5

22. If punch list items were not completed/performed explain the reason(s):

n/a

23. Were liquidated damages or actual damages for delay assessed on this project?

Yes _____ No X If yes, state the amount: \$ _____



24. Name of the Project Manager: Tim Harper

25. Name of the Construction Superintendent: Tony Ornelas/ Clinton Hodges

26. Total amount of the work self-performed: 100 % \$ 5,027,656

a. If yes, specify the trade, percentage, and value (add additional pages if necessary)

_____	_____ %	\$ _____
_____	_____ %	\$ _____
_____	_____ %	\$ _____
_____	_____ %	\$ _____

27. Were subcontractors used on the project? X yes _____ no

a. If yes, specify the trade, percentage, and value (add additional pages if necessary)

<u>material suppliers</u>	_____ %	\$ _____
_____	_____ %	\$ _____
_____	_____ %	\$ _____

28. Were any Claims* or Dispute filed on the project? _____ yes X no

*A Claim means a demand or assertion by your firm seeking as matter of right, adjustment or interpretation of contract terms, compensation, extension of time or other relief with respect to the terms of the contract or other disputes between the owner and your firm.

29. If a Claim(s) was filed on the project, provide the following details for each Claim*:

- Dollar amount for Initial Claim: n/a
- Source of Claim: (e.g. contractor, subcontractor, supplier, etc.) _____
- Method of resolution (e.g. negotiation, mediation, arbitration, litigation): _____
- Final amount of Claim settlement: n/a

30. If a formal Dispute(s) was filed on the project, provide the following details for each Dispute. Identify the reason for the Dispute and the resolution (use additional pages if necessary):

n/a

31. Did your company fail/refuse to perform or complete any of work it was obligated to complete?

_____ yes X no

If yes, explain what work was not performed/completed and reasons why:



32. Was your company required to perform any work under a directive to proceed pending the resolution of an interpretation of the contract or dispute?

_____ yes X _____ no

33. Identify up to four (4) constructability issues encountered by your company on the project and briefly describe how your company resolve each issue:

Due to ATL completing Phase I of this project, there were no constructability issues encountered during this phase.

34. Did your company perform any value engineering or other cost savings measures, which improved the quality of the project or saved cost? If yes, provide details and any cost savings.

no

Project Owner's Name: South Florida Water Management District

Is the Project Owner a public entity? X _____ yes _____ no

Contact Name for Project Owner: Tim Harper

Contact Name's Title: Project engineer and manager

Project Owner's Address: 3301 gun Club Road

Project Owner's City, State, and Zip Code: West Palm Bach, FL 33406

Contact Name's Telephone Number: 561-682-2571

Contact Name's Email Address: tharper@sfwmd.gov

Architect/Engineer of Record: SFWMD

Architect/Engineer of Record Contact Name: Jose Guardiola

Architect/Engineer of Record Contact Name's Telephone No. 561-682-2595

Architect/Engineer of Record Contact Name Email Address: jguardario@sfwmd.gov



**Construction Project Staff Experience
Questionnaire**

A. Project Manager

1. Name of Project Manager: Clinton S. Hodges

a. Attach Project Manager's resume.

b. Employed by the Company: 8 years

c. Present position/job function: Estimator and Project Manager

d. Years in present position/job function: 5 years

e. Prior position with company (if applicable) Construction Superintendent

f. Years in prior position/job function: 3 years

g. The Project Manager named above was assigned to the following comparable projects:

	<u>Project Name</u>	<u>Construction Cost</u>
i.	Hillsboro Canal bank Stabilization	\$7,914,500
ii.	East Coast Levee, Phase 1	\$5,978,496
iii.	Extension for Moonshine Marsh	\$ 850,000

h. The Project Manager named above worked on the following projects for which Project Data Sheets are submitted: (Note: If the designated Project Manager did not work in this capacity on at least two (2) comparable projects for which Project Data Sheets were submitted, provide a Project Data Sheet for two (2) of the projects listed A.1.g above.

i.	Hillsboro Canal bank Stabilization	\$7,914,500
ii.	East Coast Levee, Phase 1	\$5,978,496
iii.	Extension for Moonshine Marsh	\$ 850,000

B. Construction Superintendent

1. Name of Construction Superintendent to be committed to this Project and continuously retained throughout this Project: William Gonzalez

a. Attach Construction Superintendent's resume.



- b. Employed by the Company: 7 years
- c. Present position/job function: Construction Superintendent
- d. Years in present position/job function: 5 years
- e. Prior position with company (if applicable) Environmental Supervisor
- f. Years in prior position/job function: 2 years

- g. The Construction Superintendent named above was assigned to the following comparable projects:

	<u>Project Name</u>	<u>Construction Cost</u>
i.	<u>Extension for Moonshine Marsh</u>	<u>\$ 850,000</u>
ii.	<u>20 Mile Bend Bank Stabilization</u>	<u>\$ 998,000</u>
iii.	<u>East Coast Levee, Phase II</u>	<u>\$ 5,027,656</u>

- h. The Construction Superintendent named above worked on the following projects for which Project Data Sheets are submitted: (Note: If the designated Construction Superintendent did not work in this capacity on at least two (2) comparable projects for which Project Data Sheets were submitted, provide a Project Data Sheet for two (2) of the projects listed A.1.g above.

i.	<u>Extension for Moonshine Marsh</u>	<u>\$ 850,000</u>
ii.	<u>20 Mile Bend Bank Stabilization</u>	<u>\$ 998,000</u>
iii.	<u>East Coast Levee, Phase II</u>	<u>\$ 5,027,656</u>

3. Team Members:

Complete Form CQQ, Part 3, Team Member Table, with respect to all employees or members of your company that will be assigned to this Project, their planned responsibilities on the Project, the anticipated percentage of time each will devote to the Project, the person's years of experience in the industry and education experience.

CONSTRUCTION APPROACH

ATL is a South Florida based Environmental Company who specializes in completing projects of this nature. Over the 40 years in business, ATL has been fortunate enough to own and in some cases even custom build unique equipment to complete similar canal stabilizations. As an example, ATL custom builds barges at their West Palm Beach headquarters. These custom-built barges allow crews to safely work utilizing heavy equipment in tight canals in and around residential neighborhoods while minimizing disturbances to residents.

During Hurricane Irma Cleanup, ATL was responsible for cleaning up Miami Dade canals which included The Golden Glades Canal. This experience leaves ATL very knowledgeable of the Gold Glades Canal's depth, width and conditions. ATL is confident that this project will go without delays and will finish well before the total contract length.

ATL utilizes a Project Management approach where it works closely with the Town's project manager to assemble a detailed realistic schedule. This schedule is used to measure the projects. Periodic status meetings will be held with the Town's project manager and/or any other authorized personnel to clearly communicate statuses and address any issues which may arise. Contingency planning will also be discussed during these periodic meetings. The intent is to anticipate any surprises and be prepared with alternate action plans as needed.

As can be seen in the attached Preliminary Schedule, the project will be divided into eight (8) distinct tasks (some of which may overlap) and two key milestones as follows:

Project Tasks

- Mobilization
- Clearing and Land Prep
- Tree Removal
- Encroachment Removal
- Stacked GeoWeb Installation
- Finish Grade
- Sod Installation
- De-mobilization

Key Milestones

- Substantial Completion
- Final Completion

Below please find a summary of the tasks and milestones:

Mobilization & Site Preparation

ATL's construction approach starts with the mobilization of all equipment. All equipment will be transported by company owned lowboys and tractor trailers. Purpose built barges will be splashed at identified staging areas and used as work platforms for the excavation and material transport. The barges will be used for all clearing and land preparation, tree removal, encroachment removal, excavation and installation of stacked Geoweb. Material transport barges will be utilized to remove and/or transfer material to and from the working locations.

Once clearing and land preparation, tree removal, encroachments and all necessary irrigation capping is completed, ATL will use all barges and resources for the installation of stacked Geoweb.

Stacked Geoweb Installation

Installation of Geoweb will be carried out by a barge mounted excavator. The excavator will be equivalent to a 290 Komatsu. To help set each geoweb, ATL will be using a custom-built stretcher frame to accurately place each stretch of Geoweb. ATL's experienced laborers will be guiding and assisting in final placement.

Through ATL's experience, we understand that the first level of stacked Geoweb is crucial to assuring a stable, level and secure stabilization wall. Prior to placing any Geoweb, we will construct a stable base layer for the first level of stacked Geoweb. This base layer will be constructed using "57 Stone". Once the first level is installed to ATL quality standards and optionally (at the Towns discretion) approved by the Town, the remaining levels will be installed and filled to specifications.

Final Grading and Sod installation (Bahia)

Once all Geoweb installation and canal wall stabilization is complete, ATL will request the Town to inspect. Once approved, ATL will use a barge and excavator to slope the top of stacked geoweb wall to match existing Right of Way elevations.

AT this point, Substantial Inspections can be performed.

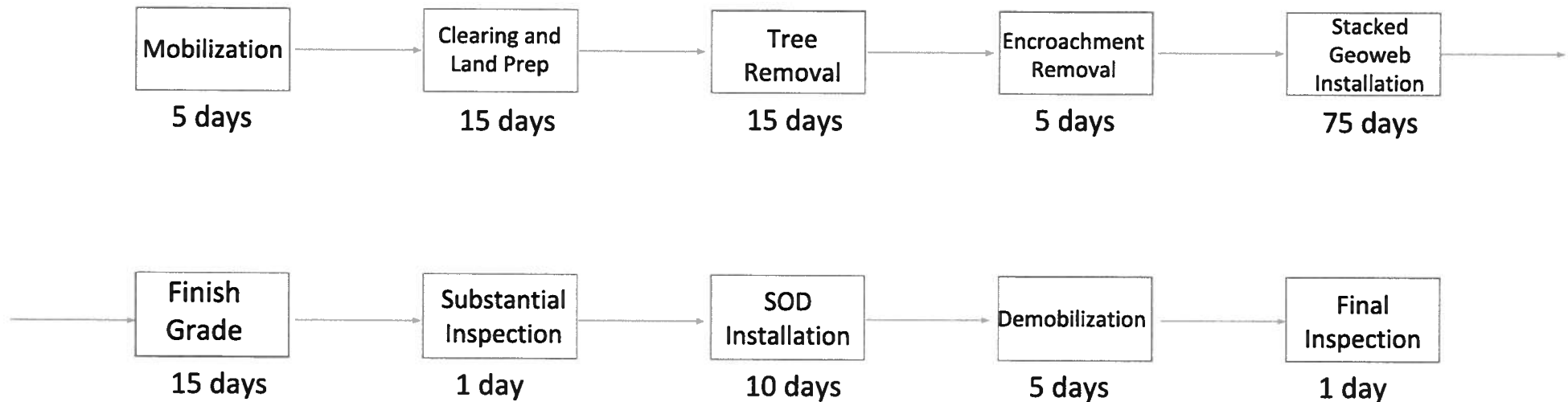
After sloping is complete, ATL will use custom built forks that attach to the excavator to load, transport and place all Bahia sod onto the Right of Way. All new sod will be watered to ensure survivability.

Demobilization

Once completed, ATL will remove all equipment and barges in preparation for staging site restoration.

After the staging site has been restored to its original condition, including all necessary repairs, grading and sodding, the project will be ready for Final Inspection.

Miami Lakes Canal Bank Stabilization Phase II Preliminary Schedule



Estimated number of days: 147 days
Max number of days as per contract : 160 days

QUALITY CONTROL & SAFETY PLAN

Quality Control:

ATL believes quality control efforts are a major part of any successful project. It is vital that all construction activity is regularly monitored and documented to design specifications. This process ensures that the project is progressing as per design and to eliminate any unnecessary delays. ATL's goal is to identify any issues prior to delays being created. If any quality control checks do not meet the design specifications, ATL will address the issues with the Town and work together to come up with corrective measures.

ATL will identify a quality control supervisor prior to construction startup. The quality control supervisor will be responsible for periodic quality control checks that consist of specification accuracy, construction elevations, environmental issues and construction stability.

ATL will also utilize daily reporting which will track all construction activity, progress and delays. These reports will insure that all construction activities stay on schedule and within quantity estimates and budget.

All company reports and quality control checks will be available to the town and will be included in daily reports submitted to the town weekly.

ATL maintains a comprehensive Quality Control Plan which is available to the Town upon request.

ACCEPTANCE CRITERIA:

ATL warrants that all work will be in accordance with the contract documents and will not be defective. ATL will follow and apply its construction methodology as per the contract and specified plans.

PROJECT MONITORING AND CONTROL

- 1.) ATL will submit a detail construction baseline schedule showing all work required in the contract and scheduled within the time constraints set forth in the contract for City approval.
- 2.) ATL will conduct a weekly safety meeting at the job site to remind all personnel about all the mandatory safety procedures from the ATL safety plan.
- 3.) ATL will install and maintain turbidity barriers as noted in the drawings and where necessary to maintain turbidity releases at or below permit compliance levels. Barriers will be installed prior to any construction.
- 4.) ATL will have a designated quality control person on site to supervise the day to day work operations.

All employees have access to ATL's Quality Control Plan at all times.

Safety Plan:

All ATL employees have read and understand ATL's safety plan. All construction sites will have a copy of the Safety Plan for review at all times. Each construction project will have an identified Safety officer on site at all times.

The Safety officer's role is to ensure all employees adhere to the safety plan and wear all OSHA approved safety equipment. The Safety officer will also hold weekly safety meetings to discuss any potential safety violations or concerns. All project employees will attend and sign in sheet will be recorded and submitted with daily reports weekly

To prevent unnecessary injuries, all employees are randomly drug tested to insure sober and effective working conditions.

All employees have access to ATL's safety plan at all times.

ATL's Safety plan focuses on several key safety issues.

- Construction Industry Safety Best Management Practices
- Safety Accountability Policy
- Contractor Safety Code of Conduct
- Site-Specific Safety Orientation
- Motor Vehicle and Heavy Equipment
- Material Handling, Hoists and Rigging
- Tools- Hand and Power
- Scaffolds, Lifts and Ladders
- Personal Protective Equipment
- Respirator
- Confined Space Entry
- Signs, Signals & Barricades
- Walking & Working Surfaces
- Electrical Safety
- Hazard Communications
- Blood Born Pathogens
- Excavations and Trenching
- Demolition
- Fall Protection
- Fire Prevention and Hot Work
- Water Services
- Significant Events

A copy of ATL's safety plan is available upon request.



Experience of Subcontractor Questionnaire

One (1) data sheet must be completed for at least one (1) project completed by each Subcontractor listed in Form SU, Subcontractor Utilization Form, that is demonstrative of the work type that the Subcontractor will perform for this solicitation. The project must have been completed by present employees, officers, or owners of the Subcontractor that utilized the individual listed in Form SU. Do not use a project performed for the Town of Miami Lakes.

ATL will not use any subcontractors to complete this project other than material suppliers.

ATL owns the necessary personnel, equipment and experience to complete this project in-house.

ATL does not plan on utilizing any subcontractors to complete any scope of work other than material supplier.

Subcontractor Utilization Form

RFP/ITB No.: **2019-01**

Project Title: **Canal Bank Stabilization Phase II**

This form is to be submitted with the Bidder's/Proposer's Submittal. Failure to submit this Form with the Submittal may result in the Submittal being rejected as non-responsive or may adversely affect the evaluation of the Submittal. Use additional pages if required.

The subcontractor's identified in this Form may not be changed without the prior written approval of the Project Manager.

Both Tabs of the Exhibit must be completed.

Use additional sheets if necessary.

Name of Business/Tier ¹	Scope of the Work	Years in Business Under Current Name	% of Work	Experience ²	Prior Projects ³	License Information ⁴		Business Certification ⁵
						Type	Number	
R.H Moore & Associates	Material Supplier	36	0 %	stacked stabilization provider	involved in Phase I	STACK STABILIZATION	SUPPLIER	
			%					
			%					
			%					
			%					
			%					
			%					

¹ All tiers must be shown, including multiple sub-tiers, if permitted by the Contract. Sub-tiers must be identified with "(ST)" after their name.

² Identify if the company has ever defaulted on a contract or had a contract terminated. Answer yes or no.

³ Identify if the Proposer has previously worked with this company on any projects. Answer yes or no.

⁴ List only those relevant to this Project.

⁵ Must be certified by either Miami-Dade County, State of Florida, or the Federal Government. Identify the type as SBE, CSBE, DBE, etc.

Form SU

Subcontractor Utilization Form (Qualifiers)

Name of Person	Title	Name of Company	% of Time Devoted to Project	Year in Industry	Years with Firm	Licenses & Certifications
n/a	Electrical Qualifier					
	Mechanical Qualifier					
	Plumbing Qualifier					
	Roofing Qualifier					
	Low Voltage Qualifier					
		No Subcontractors will complete construction work				

Name: Carl Hodges

Signature: [Signature]

Note: Add additional qualifiers as applicable.



ADDENDUM ACKNOWLEDGEMENT FORM

Solicitation No.: 2019-01

Listed below are the dates of issue for each Addendum received in connection with this Solicitation:

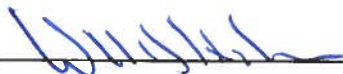
Addendum No. <u>1</u> ,	Dated <u>11/16/18</u>
Addendum No. <u>2</u> ,	Dated <u>12/13/18</u>
Addendum No. _____,	Dated _____
Addendum No. _____,	Dated _____
Addendum No. _____,	Dated _____
Addendum No. _____,	Dated _____
Addendum No. _____,	Dated _____
Addendum No. _____,	Dated _____
Addendum No. _____,	Dated _____

☐ No Addendum issued for this Solicitation

Firm's Name: ATL Diversified (Arbor Tree & Land, Inc.)

Authorized Representative's Name: William D. Hodges

Title: President

Authorized Signature: 

ANTI-KICKBACK AFFIDAVIT

STATE OF FLORIDA }
 }
COUNTY OF MIAMI-DADE }

SS:

I, the undersigned, hereby duly sworn, depose and say that no portion of the sum herein bid will be paid to any employees of the Town of Miami Lakes, its elected officials, and n/a or its design consultants, as a commission, kickback, reward or gift, directly or indirectly by me or any member of my firm or by an officer of the corporation.

By: Clinton S. Hodges

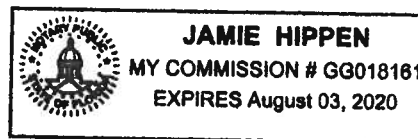
Title: Estimator

BEFORE ME, the undersigned authority, personally appeared Clinton Hodges to me well known and known by me to be the person described herein and who executed the foregoing Affidavit and acknowledged to and before me that Clinton Hodges executed said Affidavit for the purpose therein expressed.

WITNESS, my hand and official seal this 20 day of December, 2018

My Commission Expires: 08-03-20

[Signature]
Notary Public State of Florida at Large



COMPLIANCE WITH PUBLIC RECORDS LAW

The Town of Miami Lakes shall comply with the Public Records Law as provided by Chapter 119, Florida Statutes, and all applicable amendments. Applicants must invoke the exemptions to disclosure provided by law in the response to the solicitation and must identify the data or other materials to be protected by separate envelope, and must state the reasons why such exclusion from public disclosure is necessary. The submission of a response authorizes release of your firm's credit data to the Town of Miami Lakes.

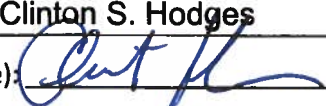
If the company submits information exempt from public disclosure, the company must identify with specificity which pages/paragraphs of their submittal/proposal package are exempt from the Public Records Act, identifying the specific exemption section that applies to each. The protected information must be submitted to the Town in a separate envelope marked "EXEMPT FROM PUBLIC RECORDS LAW". Failure to identify protected material via a separately marked envelopment will cause the Town to release this information in accordance with the Public Records Law despite any markings on individual pages of your submittal/proposal.

- (a) CONTRACTOR acknowledges TOWN'S obligations under Article 1, Section 24, Florida Constitution and Chapter 119, Florida Statutes, to release public records to members of the public upon request. CONTRACTOR acknowledges that TOWN is required to comply with Article 1, Section 24, Florida Constitution and Chapter 119, Florida Statutes, in the handling of the materials created under this Agreement and that said statute controls over the terms of this Agreement.
- (b) CONTRACTOR specifically acknowledges its obligations to comply with Section 119.0701, Florida Statutes, with regard to public records, and shall:
 - 1. Keep and maintain public records that ordinarily and necessarily would be required by TOWN in order to perform the services required under this Agreement;
 - 2. Provide the public with access to public records on the same terms and conditions that TOWN would provide the records and at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes, or as otherwise provided by law;
 - 3. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed, except as authorized by law; and
 - 4. Meet all requirements for retaining public records and transfer, at no cost to the TOWN, all public records in possession of CONTRACTOR upon termination of this Agreement and destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. All records stored electronically must be provided to TOWN in a format that is compatible with the information technology system of TOWN.
- (c) Failure to comply with this Section shall be deemed a material breach of this Contract for which TOWN may terminate this Agreement immediately upon written notice to CONTRACTOR.

By submitting a response to this solicitation, the company agrees to defend the Town in the event we are forced to litigate the public records status of the company's documents.

Company Name: Arbor Tree & Land, Inc.

Authorized representative (print): Clinton S. Hodges

Authorized representative (signature):  Date: 12/20/18

DRUG-FREE WORKPLACE CERTIFICATION

Preference shall be given to businesses with drug-free workplace programs. Pursuant to Section 287.087, Florida Statutes, whenever two or more competitive solicitations that are equal with respect to price, quality, and service are received by the State or by any political subdivision for the procurement of commodities or contractual services, a response received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing tie responses will be followed if none of the tied providers has a drug free workplace program. In order to have a drug-free workplace program, a business shall:

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2. Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.
3. Give each employee engaged in providing the commodities or contractual services that are under proposal a copy of the statement specified in Subsection (1).
4. In the statement specified in Subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under proposal, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 894, Florida Statutes, or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
5. Impose a sanction on any employee who is so convicted or require the satisfactory participation in a drug abuse assistance or rehabilitation program as such is available in the employee's community.
6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of applicable laws, rules and regulations.

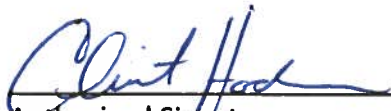
As the person authorized to sign the statement, I certify that this firm complies fully with the above requirements.

Arbor Tree & Land, Inc.

12/20/18

Company Name:

Date



Authorized Signature:

Clinton S. Hodges, Estimator

Printed Name and Title

POLITICAL ACTIVITY AFFIDAVIT

State of FL }
County of Edmon Brach } SS:

Clinton S. Hodges being first duly sworn, deposes and says that he/she is the (Owner, Partner, Officer, Representative or Agent) of Arbor Tree & Land, Inc. the Proposer(s) that has submitted the attached Proposal and certifies the following;

Proposer(s) certifies by submitting its Proposal that if selected to provide Lobbying Services on behalf of the Town of Miami Lakes ("Town") that the owner, employees or any representatives of the Proposer **will not** participate or be involved in any political activities related to the election of any individual running for a political office in the or advocate or express their personal opinions on any issues affecting the Town. The limitation on involvement in political activities in the Town includes but is not limited to:

- Campaigning on behalf of or against any candidate or slate of candidates seeking, or currently holding an elected office in the Town
- Expressing opinions, written or oral, about, in support of, or against any candidate, or slate of candidates seeking, or currently holding an elected office in the Town.
- Advocate or expound any personal opinions in favor of or against any issues affecting the Town.
- Contribute money, directly or indirectly, to any candidates or slate of candidates seeking, or currently holding an elected office in the Town.
- Seek, offer, or request political contributions for any candidate or slate of candidates seeking or currently holding an elected office in the Town.
- Provide any direct, indirect, or in-kind goods or services to any candidate seeking or currently holding an elected office in Town. This includes any political action committees, independent groups or individuals supporting, or against any candidate or slate of candidates current an elected office holder.
- Organize, attend or participate in political fundraising functions, or other similar activities for any candidate or slate of candidates seeking or currently holding an elected office in the Town.
- May not directly or indirectly promote or seek donations or funding for any candidate or slate of candidates seeking or currently holding an elected office in the Town.
- Organize, participate in, or attend political rallies, or meetings related to any candidate or slate of candidates seeking or currently holding an elected office in the Town.
- Use their authority or influence to participate or interfere with an election in the Town.
- Distribute campaign material on behalf of any candidates or slate of

candidates for an elected office in the Town.

- Circulate nominating or recall petitions for any candidate seeking

or currently holding an elected office in the Town.

- Advocate to have any individual appointed to or removed from any Town Committee

Further, Proposer(s) recognizes that with respect to this solicitation, if any Proposer(s) violates or is a party to a violation of any of the requirements of this Affidavit that its contract with the Town may be terminated for default and that the Proposer(s) may be further disqualified from submitting any future bids or proposals for services to the Town. The terms "Proposer" as used herein, include any person or entity making a Proposal herein to the Town to provide services to Town.

Where the Proposer is comprised of a Team as defined in the RFP the Affidavit must be submitted for each company comprising the Team.

Signed, sealed and delivered in the presence of:

[Signature]
Witness

[Signature]
Witness

By: [Signature]

Clinton S. Hodges
(Printed Name)

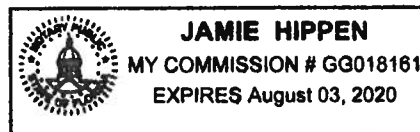
Estimator
(Title)

BEFORE ME, the undersigned authority, personally appeared Clinton Hodges to me well known and known by me to be the person described herein and who executed the foregoing Affidavit and acknowledged to and before me that Clinton Hodges executed said Affidavit for the purpose therein expressed.

WITNESS, my hand and official seal this 20 day of December, 2018

My Commission Expires: 08-03-20

[Signature]
Notary Public State of Florida at Large



State of FL }
County of Palm Beach } SS:

a) He/she is the Representative, (Owner, Partner, Officer, Representative or Agent) of Arbor Tree & Land, Inc., the Bidder that has submitted the attached Proposal;

b) He/she is fully informed respecting the preparation and contents of the attached Proposal and of all pertinent circumstances respecting such Proposal;

c) Such Proposal is genuine and is not collusive or a sham Proposal;

d) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, have in any way colluded, conspired, connived or agreed, directly or indirectly, with any other Bidder, firm, or person to submit a collusive or sham Proposal in connection with the Work for which the attached Proposal has been submitted; or to refrain from proposing in connection with such work; or have in any manner, directly or indirectly, sought by person to fix the price or prices in the attached Proposal or of any other Bidder, or to fix any overhead, profit, or cost elements of the Proposal price or the Proposal price of any other Bidder, or to secure through any collusion, conspiracy, connivance, or unlawful agreement any advantage against (Recipient), or any person interested in the proposed work;

e) Price or prices quoted in the attached Proposal are fair and proper and are not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the Bidder or any other of its agents, representatives, owners, employees or parties in interest, including this affiant.

Witness

Witness

By: 
Clinton S. Hodges
(Printed Name)

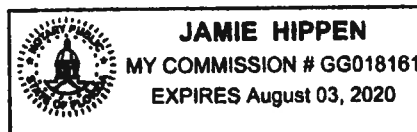
[illegible]

BEFORE ME, the undersigned authority, personally appeared Clinton Hodges to me well known and known by me to be the person described herein and who executed the foregoing Affidavit and acknowledged to and before me that Clinton Hodges executed said Affidavit for the purpose therein expressed.

WITNESS, my hand and official seal this 20 day of December, 2018

My Commission Expires: 08-03-20

Notary Public State of Florida at Large





PUBLIC RELATIONS AFFIDAVIT

Bidder's Name: Arbor Tree & land, Inc (ATL)

Solicitation No.: 2019-01

By executing this affidavit, Proposer discloses any personal or business relationship or past experience with any current Town employee or elected representative of the Town.

Proposer shall disclose to the Town:

- a) Any direct or indirect personal interests in a vendor held by any employee or elected representative of the Town.

n/a

Last name	First name	Relationship
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- b) Any family relationships with any employee or elected representative of the Town.

n/a

Last name	First name	Relationship
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Authorized Signature

12/20/18
Date:

Clinton S. Hodges
Print Name

Estimator
Title:

SWORN STATEMENT ON PUBLIC ENTITY CRIMES

SECTION 287.133(3)(a), FLORIDA STATUTES

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

1. This sworn statement is submitted to the Town of Miami Lakes

by Clinton S. Hodges
[print individual's name and title]

for Arbor Tree & Land, Inc.
[print name of entity submitting sworn statement]

whose business address is

7153 Southern Blvd, A5
West Palm Beach, FL 33413

and (if applicable) its Federal Employer Identification Number (FEIN) is 59-2384451

(If the entity has no FEIN, include the Social Security Number of the individual

signing this sworn statement: N/A)

2. I understand that a "public entity crime" as defined in Paragraph 287.133(1)9g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or the United States, including, but not limited to, any bid or contract for goods and services to be provided to any public entity or an agency or political subdivision of any other state or of the United States involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

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

4. I understand than an "affiliate" as defined in Paragraph 287.133(1)(a), Florida Statutes, means:

- a. A predecessor or successor of a person convicted of a public entity crime; or
- b. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime.

The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who

has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

5. I understand that a "person" as defined in Paragraph 287.133(1)(e), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an entity.

6. Based on information and belief, the statement that I have marked below is true in relation to the entity submitting this sworn statement. **[Indicate which statement applies.]**

X Neither the entity submitting this sworn statement, nor any officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, not any affiliate of the entity, has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

_____ This entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

_____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list. **[attach a copy of the final order]**

I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND, THAT THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND THAT I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUTES, FOR CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.

BEFORE ME, the undersigned authority, personally appeared Clinton Hodges to me well known and known by me to be the person described herein and who executed the foregoing Affidavit and acknowledged to and before me that Clinton Hodges executed said Affidavit for the purpose therein expressed.

WITNESS, my hand and official seal this 20th day of December, 2018

My Commission Expires: 08-03-20

Notary Public State of Florida at Large

Clinton S. Hodges



PRICE PROPOSAL FORM

This Price Proposal is submitted on behalf of ATL Diversified (Arbor Tree and Land, Inc.), (hereinafter "Proposer") located at

(Name of Proposer)

7153 Southern Blvd, West Palm Beach, FL 33413, submitted on 1/7/19
(Address) (Date)

to furnish all Work as stated in the RFP and Contract Documents for **RFP No. 2019-01 for**

Canal Bank Stabilization Phase II Project

To: Town of Miami Lakes, Florida
Attn: Town Clerk
Government Center
6601 Main Street
Miami Lakes, Florida 33014

This Price Proposal Form is submitted as part of the Proposer's Price component in response to the above stated RFP issued by the Town of Miami Lakes.

Proposer has carefully examined all the documents contained in the RFP and understands all instructions, requirements, specifications, drawings/plans, terms and conditions, and hereby offers and proposes to furnish the products or services described herein at the prices, fees or rates quoted in the Submittal, and in accordance with the requirements, specifications, drawings/plans, terms and conditions, and any other requirements of the Contract Documents.

Proposer has the necessary experience, knowledge, abilities, skills, and resources to satisfactorily perform the requirements under this RFP and attests to meeting the minimum qualifications stated therein.

All statements, information and representations prepared and submitted in response to the RFP are current, complete, true, and accurate. Proposer acknowledges that the Town will rely on such statements, information, and representations in selecting a Proposer, and hereby grants the Town permission to contact any persons or entities identified in the RFP to independently verify the information provided herein.

No attempt has or will be made by the Proposer to induce any other person or firm to not submit a response to this RFP and no personnel currently employed by the Town participated, directly or indirectly, in any activities related to the preparation of the Submittal. Proposer has had no contact with Town personnel regarding the RFP. If contact has occurred, except as permitted under the Cone of Silence, so state and include a statement identifying in detail the nature and extent of such contacts and personnel involved.

The pricing, rates or fees proposed by the Proposer have been arrived at independently, without consultation, communication, or agreement, for the purpose of restriction of competition, as to any other Proposer or competitor; and unless otherwise required by law, the prices quoted have not been disclosed by the Proposer prior to submission of the Submittal, either directly or indirectly, to any other Proposer or competitor.



Proposer is not currently disqualified, de-listed or debarred from doing business with any public entity, including federal, state, county or local public entities. If yes, Proposer must provide a detailed explanation of such disqualification, de-listing or debarment, including the reasons and timeframe.

The Proposer agrees, if this Price Proposal is accepted, to timely execute a contract with the Town, pursuant to the terms and conditions of the Contract Documents and to furnish the documents, equipment, machinery, tools, apparatus, means of transportation, and all labor necessary to complete the Work.

The individual signing the Price Proposal Form represents by signing, that he/she is duly authorized to sign on behalf of the Proposer and that all information and documents submitted in response to the RFP are to the best of his/her knowledge are true, accurate, and complete as of the submittal date.

PRICE PROPOSAL

Proposer must complete and submit with its Price Proposal an electronic version of the MS Excel Price Proposal Form (Separate Attachment) to be responsive. A printed copy of the MS Excel Price Proposal Form should also be included as part of the Price component of Proposer's Response. Do not convert the MS Excel Price Proposal Form to a .pdf form.

Proposer's **TOTAL PRICE PROPOSAL AMOUNT** includes the total cost for the Work specified in this solicitation, consisting of furnishing all materials, labor, equipment, supervision, mobilization, overhead & profit required, in accordance with the Contract Documents as reflected in the MS Excel Spreadsheet.

Total Price Proposal Amount: \$ 950,284

Firm's Name: ATL Diversified (Arbor Tree and land, Inc.)
SSN or Federal ID No.: 59-2384451 Telephone No.: 561-722-5630
E-Mail Address: chodges@atldiversified.com Facsimile No.: 561-584-5157
Town/State/Zip: West Palm Beach, FL 33413
Printed Name/Title: William D. Hodges, President Signature: [Signature]



Subcontractor Breakdown of the Price Proposal

The following information shall be provided for all of the Subcontractors listed under Form SU, Subcontractor Utilization Form. This form is to include all tiers of Subcontractors. The Tier column is to be used to identify if they are a 1st, 2nd, 3rd etc. tier and who they are the sub-tier for if it is not the Successful Proposer. Add additional pages if required.

Name of Business	Value of the Work
R.H. Moore & Associates (Material supplier)	\$ 121,144.48
	\$
	\$
	\$
	\$
	\$
	\$
	\$
	\$

By signing below, Proposer certifies that the information contained herein is complete and accurate to the best of Proposer's knowledge.

By: 
Signature of Authorized Officer

1/7/19
Date

William D. Hodges
Printed Name

Town of Miami Lakes
RFP 2019-01 Canal Bank Stabilization Phase II Project
MS Excel Price Proposal Form

PRICE PROPOSAL FORM NOTES:

1. All prices listed below shall be inclusive of all labor, equipment, material, machinery, tools, means of transportation, mobilization, maintenance of traffic, supplies, equipment, applicable permitting coordination and services, testing costs, sales tax and all other applicable taxes and fees.
2. The Proposer agrees to perform all the work described in the Contract documents for a lump sum amount.
3. Contractor will be paid based on actual work performed.
4. Quantities in Price Proposal Form are based on estimates only and are not intended to reflect the actual quantities required. As such, the Town reserves the right to reduce quantities or sizes as needed.

Item No.	Description	U/M	Unit Price	Quantity	Extended Price
1	MOBILIZATION*	LS	\$ 75,000.00	1	\$ 75,000.00
2	MAINTENANCE OF TRAFFIC	LS	\$ 2,500.00	1	\$ 2,500.00
3	CLEARING & LAND PREPARATION	SY	\$ 5.50	3,500	\$ 19,250.00
4	REMOVAL OF WOODEN DECKING @ 7951 & 7941 @ NW 169TH	LS	\$ 1,500.00	1	\$ 1,500.00
5	REMOVAL OF IRON FENCING @ 8201 NW 169TH TERR	LS	\$ 500.00	1	\$ 500.00
6	REMOVAL OF WOODEN FENCING @ 7951 NW 169TH TERR	LS	\$ 400.00	1	\$ 400.00
7	REMOVAL OF RIP RAP @ STA 61+80	LS	\$ 2,700.00	1	\$ 2,700.00
8	EMBANKMENT FILL (BACKFILL ABOVE EL. 3.5 BEHIND CELLS)	CV	\$ 95.00	1,218	\$ 115,710.00
9	FDOT NO. 57 STONE (BACKFILL BELOW EL. 3.5 BEHIND CELLS)	TN	\$ 25.00	1,100	\$ 27,500.00
10	STACKED GEOWEB EXCAVATION VIA BARGE	LF	\$ 35.00	3,266	\$ 114,310.00
11	STACKED GEOWEB INSTALLATION VIA BARGE (0.5 - 2.0FT - NGVD)	LF	\$ 55.50	3,266	\$ 181,263.00
12	STACKED GEOWEB INSTALLATION VIA BARGE (2.0 - 3.5FT - NGVD)	LF	\$ 55.50	3,266	\$ 181,263.00
13	STACKED GEOWEB END TREATMENT	EA	\$ 1,000.00	1	\$ 1,000.00
14	STACKED GEOWEB TERMINATION @ STRUCTURES	EA	\$ 1,000.00	2	\$ 2,000.00
15	FLOATING TURBIDITY BARRIER	LF	\$ 10.00	100	\$ 1,000.00
16	FINISH GRADING & SODDING (BAHIA)	SY	\$ 9.25	2,500	\$ 23,125.00
17	TREE REMOVAL	EA	\$ 200.00	100	\$ 20,000.00
18					
TOTAL BID AMOUNT					\$ 950,284.00

*Includes the cost of a second mobilization due to NW 82nd Ave crossing the canal

Firm's Name: Arbor Tree and Land, Inc. (ATL Diversified)

Authorized Signatory:



Print

Name/Title: William D. Hodges

Email Address: info@atldiversified.com

EXHIBIT B – PLANS
(SPACE RESERVED FOR PLANS)



TOWN OF MIAMI LAKES

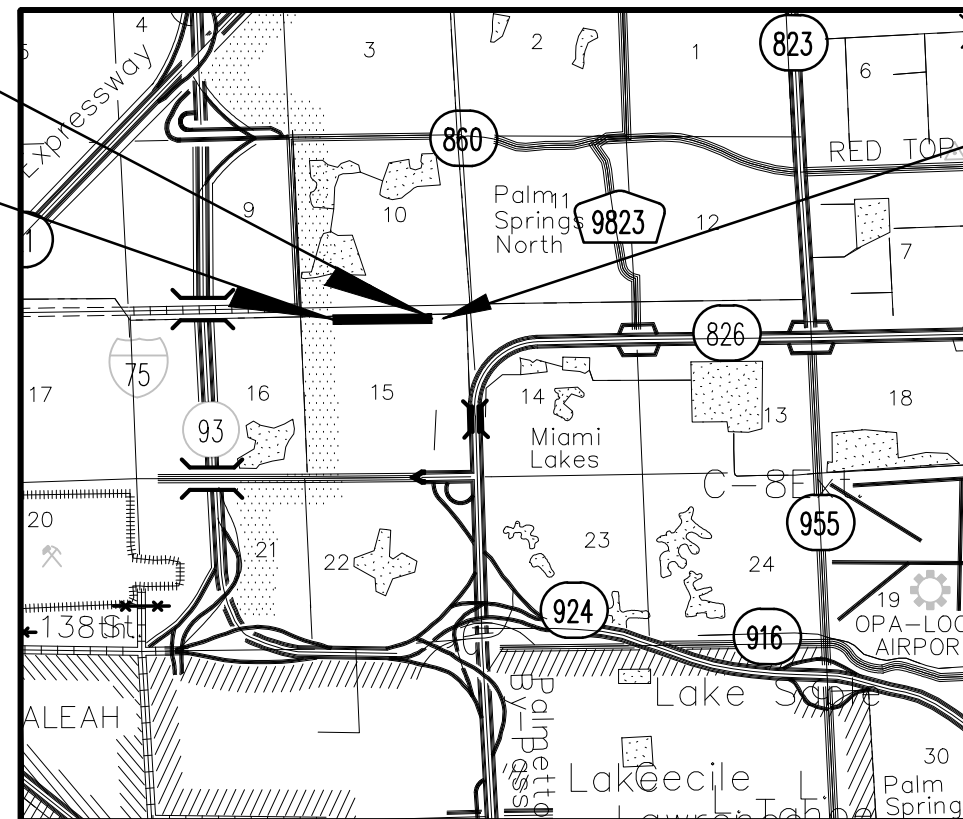
PLANS FOR PROPOSED CANAL EMBANKMENT STABILIZATION PHASE 2

INDEX OF SHEETS

SHT. No.	SHEET DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES
3	LEGEND AND ABBREVIATIONS
4	KEY PLAN
5	SURVEY CONTROL PLAN
6-6A	TYPICAL SECTIONS
7-12	CANAL PLANS
13-18	CROSS SECTIONS
19-21	DETAILS

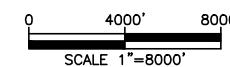
END PROJECT
BASELINE A
STA. 81+65.50

BEGIN PROJECT
BASELINE A
STA. 48+11.72



GOLDEN GLADES
CANAL

LOCATION MAP



PREPARED FOR
TOWN OF MIAMI LAKES
TOWN HALL

6661 MAIN STREET
MIAMI LAKES, FLORIDA 33014

PREPARED BY
A.D.A. ENGINEERING, INC.

8550 NW 33rd STREET, SUITE 202
DORAL, FLORIDA 33122

OCTOBER 2018

CITY COUNCIL

MAYOR
MANNY CID

VICE MAYOR
FRANK MINGO

COUNCILMEMBER
LUIS COLLAZO

COUNCILMEMBER
MARILYN RUANO

COUNCILMEMBER
NELSON RODRIGUEZ

COUNCILMEMBER
TIM DAUBERT

COUNCILMEMBER
CEASAR MESTRE

NOTES:

1. THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH AND ARE GOVERNED BY THE TOWN OF MIAMI LAKES STANDARDS, MIAMI-DADE COUNTY PUBLIC WORKS DEPARTMENT STANDARDS AND SPECIFICATIONS PARTS 1, 2 AND 3, THE MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS, THE FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY AND TRAFFIC DESIGN STANDARDS, AND THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, AS AMENDED BY THE CONTRACT DOCUMENTS.
2. ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN ENLARGED IN SIZE BY REPRODUCTION.



ENGINEER OF RECORD:

JEFFREY VOLLAT
FLORIDA REGISTRATION P.E. No. 63930

SHEET

1

OF 21

P:\Projects\C222 Miami Lakes\C222-0216-02 Canal Bank Stabilization Phase 2\05 Drawings\02_GENERAL-NOTES.dwg Oct 22, 2018 - 9:26am JVOLLAT

GENERAL NOTES

1.

ALL CONSTRUCTION SHALL BE PERFORMED IN A SAFE MANNER, SPECIFICALLY, THE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) SHALL BE STRICTLY OBSERVED.
2.

CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO COMMENCING CONSTRUCTION.
3.

UPON RECEIPT OF NOTICE OF AWARD AND AFTER OBTAINING AN ENGINEERING CONSTRUCTION PERMIT FROM APPLICIBLE AGENCIES, THE CONTRACTOR SHALL ARRANGE A PRE-CONSTRUCTION CONFERENCE TO INCLUDE THE TOWN OF MIAMI LAKES, THE CITY PUBLIC WORKS DIRECTOR, AND THE ENGINEER OF RECORD.
4.

THE CONTRACTOR'S REPRESENTATIVE MUST BE PRESENT WHEN UTILITY COMPANIES LOCATE THEIR FACILITIES.
5.

THE CONTRACTOR IS TO USE CAUTION WHEN WORKING IN OR AROUND AREAS OF OVERHEAD AND UNDERGROUND UTILITIES.
6.

EXISTING UNDERGROUND UTILITIES, IF SHOWN ON THE DRAWINGS HAVE BEEN SHOWN BASED UPON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE REQUIRED TO MARK AND CLEARLY DELINEATE LOCATIONS OF EXISTING UTILITIES WITHIN AREAS OF WORK PRIOR TO EXCAVATION TO AVOID DAMAGE. THE CONTRACTOR SHALL MAKE ALL REASONABLE EFFORTS TO LOCATE, IDENTIFY AND MARK EXISTING UTILITIES BY FIELD VERIFICATION, COORDINATION WITH UTILITY COMPANIES AND ELECTRONIC OR OTHER SUCH DETECTION TECHNOLOGY AND MEANS AND SHALL BEAR ALL COSTS FOR THIS WORK.
7.

AS-BUILT INFORMATION FOR ALL UTILITIES WAS NOT AVAILABLE AT THE TIME OF DESIGN. CONTRACTOR TO FIELD VERIFY LOCATION OF ALL EXISTING UNDERGROUND UTILITIES.
8.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REPAIRS AND COSTS TO CORRECT DAMAGES RESULTING FROM FAILURE TO TAKE ALL NECESSARY PRECAUTIONS INCLUDING LOCATING, MARKING AND CAREFUL EXCAVATION.
9.

IT IS THE OBLIGATION OF THE CONTRACTOR TO MAKE HIS OWN INVESTIGATION AND SATISFY HIMSELF FULLY OF SUBSURFACE CONDITIONS.
10.

IF UPON EXCAVATION, AN EXISTING UTILITY IS FOUND TO BE IN CONFLICT WITH THE PROPOSED CONSTRUCTION OR TO BE OF A SIZE OR MATERIAL DIFFERENT FROM THAT SHOWN ON THE PLANS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE TOWN OF MIAMI LAKES PUBLIC WORKS DIRECTOR.
11.

CONTRACTOR SHALL PROVIDE HIS OWN LINE AND GRADE FROM HORIZONTAL AND VERTICAL CONTROL.
12.

FOR EACH PROJECT AREA, VERTICAL CONTROL IS BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.
13.

TOPOGRAPHICAL INFORMATION WAS PROVIDED BY ROBAYNA AND ASSOCIATES, INC. (RBA) AND WAS PERFORMED IN JUNE 2015. RBA ALSO ESTABLISHED SURVEY CONTROL IDENTIFIED ON THE PLANS. NOT ALL TREES, FENCES, AND OTHER TOPOGRAPHIC FEATURES WERE SURVEYED AS PART OF THIS EFFORT. THE PRIMARY SURVEY SCOPE WAS TO OBTAIN CANAL CROSS SECTIONS AND LIMITED TOPOGRAPHIC DATA. CONTRACTOR SHALL PROVIDE HIS OWN TOPOGRAPHIC SURVEY SERVICE.
14.

ANY N.G.V.D. BENCH MARK MONUMENTS WITHIN THE LIMITS OF CONSTRUCTION IS TO BE PROTECTED AND PROPERLY REFERENCED BY A REGISTERED-LAND SURVEYOR IN ACCORDANCE WITH THE MINIMUM TECHNICAL STANDARDS OF THE FLORIDA BOARD OF PROFESSIONAL LAND SURVEYORS PRIOR TO BEGINNING WORK AT THE SITE.
15.

ALL STATIONS AND OFFSETS REFER TO [BASELINE] OF CONSTRUCTION, UNLESS OTHERWISE STATED.
16.

CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM PLANS FOR CONSTRUCTION PURPOSES.
17.

THE CONTRACTOR IS ALERTED TO THE PRESENCE OF UNDERGROUND WIRES AND POLES IN THE PROJECT AREA. THE METHOD OF CONSTRUCTION IN THESE LOCATIONS MUST COMPLY WITH ALL OSHA SAFETY STANDARDS. THE CONTRACTOR SHALL INSPECT THESE SITES AND BE RESPONSIBLE FOR DETERMINING WHAT METHOD OF PREPARATION AND CONSTRUCTION WILL BE USED TO COMPLY WITH THESE REQUIREMENTS.
18.

ALL GEOTECHNICAL INFORMATION WAS OBTAINED FROM TERRACON. DATED JUNE 2015. CONTRACTOR TO REFER TO PLANS FOR SUB-SURFACE PROFILE AND TO PROVIDE HIS OWN GEOTECHNICAL EXPLORATION SERVICES.
19.

THE CONTRACTOR SHALL NOTIFY THE TOWN OF MIAMI LAKES PUBLIC WORKS DEPARTMENT AT LEAST 24 HOURS PRIOR TO BEGINNING OF WORK.
20.

THE CANAL IMPROVEMENT WORK SHALL INCLUDE DIGGING, SHAPING, SLOPING, SLOPE STABILIZATION AND OTHER EARTHWORK BANK STABILIZATION NECESSARY TO BUILD BANK STABILIZATION TO THE REQUIRED GRADES, ALIGNMENTS AND CROSS SLOPE STABILIZATION SECTIONS DEPICTED ON THE PLANS.
21.

WHERE MATERIAL OR DEBRIS HAS WASHED OR FLOWED INTO OR BEEN PLACED IN WATER COURSES, GRAVITY SEWER, DITCHES, DRAINS, CATCH BASINS, OR ELSEWHERE AS A RESULT OF THE CONTRACTOR'S OPERATIONS, SUCH MATERIAL OR DEBRIS SHALL BE REMOVED AND SATISFACTORILY DISPOSED OF DURING PROGRESS OF THE WORK, AND THE AREA KEPT IN A CLEAN AND NEAT CONDITION.
22.

THE CONTRACTOR SHALL RESTORE OR REPLACE, WHEN AND AS DIRECTED BY THE TOWN OF MIAMI LAKES, ANY PUBLIC OR PRIVATE PROPERTY DAMAGED BY THE WORK, EQUIPMENT, EMPLOYEES OR SUBCONTRACTORS TO A CONDITION AT LEAST EQUAL TO THAT EXISTING IMMEDIATELY PRIOR TO THE BEGINNING OF OPERATIONS.
23.

CONTRACTOR SHALL MAINTAIN EXISTING TRAFFIC FLOW PATTERNS THROUGHOUT ALL WORK OPERATIONS. MAINTENANCE OF TRAFFIC IN THE PUBLIC RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE TOWN OF MIAMI LAKES, MUTCD, MIAMI-DADE PUBLIC WORKS DEPARTMENT AND FDOT.
24.

ALL EXCAVATIONS SHALL COMPLY WITH OSHA'S EXCAVATION SAFETY STANDARDS AND FLORIDA'S TRENCH SAFETY ACT. CONTRACTOR SHALL FURNISH THE OWNER WITH WRITTEN ASSURANCE THAT HE WILL COMPLY WITH THESE REGULATIONS.
25.

THE PROJECT SITE AND ALL ADJACENT AREAS SHALL BE MAINTAINED IN A NEAT AND CLEAN MANNER. UPON FINAL CLEAN UP, THE PROJECT SITE SHALL BE LEFT CLEAR OF ALL SURPLUS MATERIAL OR TRASH.
26.

CONTRACTOR IS TO VERIFY THE EXACT LOCATION OF ALL EXISTING TREES, STRUCTURES AND UTILITIES WHICH MAY NOT BE SHOWN ON PLANS. ANY STRUCTURE, PAVEMENT, TREES OR OTHER EXISTING IMPROVEMENT NOT SPECIFIED FOR REMOVAL WHICH IS TEMPORARY DAMAGED, EXPOSED OR IN ANY WAY DISTURBED BY CONSTRUCTION PERFORMED UNDER THIS CONTRACT, SHALL BE REPAIRED, PATCHED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.

GENERAL NOTES (CONTINUED)

27.

CONTRACTOR TO RELOCATE TREES AS DIRECTED BY THE TOWN OF MIAMI LAKES. CONTRACTOR SHALL AVOID DAMAGE TO ANY EXISTING TREES TO REMAIN. EXISTING TREES SHALL BE REMOVED ONLY IF REQUIRED FOR CONSTRUCTION. CONTRACTOR TO USE CAUTION WHEN REMOVING ANY TREES TO ENSURE CANAL BANKS REMAIN STABLE AND DON'T COLLAPSE. THOSE TREES NOT INTERFERING WITH CONSTRUCTION SHALL BE PROTECTED IN PLACE.
28.

CONTRACTOR SHALL MAINTAIN THE SLOPES SHOWN ON THE CROSS-SECTION PLANS. BY NO MEANS THE CONTRACTOR SHALL ALTER THE CANAL'S TYPICAL CROSS-SECTIONS UNLESS OTHERWISE SHOWN ON THE PLANS.
29.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING AT HIS OWN EXPENSE ANY ITEMS DAMAGED DUE TO HIS PERSONNEL OR EQUIPMENT INSIDE AND/OR OUTSIDE OF THE CONSTRUCTION AREA.
30.

CONTRACTOR SHALL INSURE THAT ALL MUD OR ANY OTHER TYPE OF DEBRIS IS CLEANED FROM ADJACENT ROADWAYS (WHERE APPLICABLE) AT THE END OF EACH DAY. CONTRACTORS SHALL BE LIABLE FOR ANY PERSONAL OR PROPERTY DAMAGE CAUSED BY ANY TYPE OF DEBRIS LEFT ON ROADWAYS AND/OR PEDESTRIAN WAYS.
31.

CONTRACTOR SHALL AVOID DAMAGING EXISTING IRRIGATION SYSTEMS. IN CASE OF DAMAGE, THE CONTRACTOR SHALL REPLACE IRRIGATION SYSTEMS OUTSIDE OF THE RIGHT-OF-WAY TO MATCH EXISTING CONDITIONS AND LOCATION.
32.

THE INFORMATION PROVIDED IN THESE DRAWINGS IS SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF CONDITIONS WHICH WILL BE ENCOUNTERED DURING THE COURSE OF WORK. THE CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT WHATEVER INVESTIGATIONS THEY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSION REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH BIDS WILL BE BASED.

SOIL EROSION, SEDIMENT, AND TURBIDITY CONTROL GENERAL NOTES

1.

THIS PROJECT IS SUBJECT TO ALL RELATED ENVIRONMENTAL REQUIREMENTS WHICH INCLUDE A "CONTROL OF EROSION AND SEDIMENTATION PLAN". THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING NECESSARY AND ADEQUATE MEASURES FOR PROPER CONTROL OF EROSION DUE TO SEDIMENTATION RUNOFF FROM THE SITE PRIOR TO CONSTRUCTION OPERATIONS IN A PARTICULAR AREA. ALL SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO START OF CONSTRUCTION. FIELD ADJUSTMENTS WITH RESPECT TO LOCATIONS AND DIMENSIONS MAY BE MADE BY THE ENGINEER AS REQUIRED.
2.

EROSION CONTROL MEASURES WILL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RAIN FOR DAMAGE AND GENERAL EFFECTIVENESS. ANY DAMAGED OR INEFFECTIVE CONTROLS SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR.
3.

ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED, IF DEEMED NECESSARY, BY THE ON-SITE INSPECTOR.
4.

EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. TEMPORARY AND PERMANENT MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
5.

ALL TEMPORARY SEDIMENT CONTROL DEVICES SHALL BE LEFT IN PLACE AND MAINTAINED UNTIL THE AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION.
6.

ALL CONSTRUCTION EXITS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ON TO ANY PUBLIC RIGHT-OF-WAY. THIS SHALL REQUIRE PERIODIC TOP DRESSING WITH STONE, AS CONDITIONS REQUIRE. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED ON TO PUBLIC RIGHT-OF-WAY OR INTO STORM DRAINS SHALL BE PROMPTLY REMOVED BY CONTRACTOR.
7.

FLOATING TURBIDITY BARRIERS SHALL BE INSTALLED AND MAINTAINED AS CLOSE AS POSSIBLE TO THE CONSTRUCTION OPERATION UPSTREAM AND DOWNSTREAM OF CANALS. TURBIDITY BARRIERS SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANS AND DETAILS.
8.

TURBIDITY SCREENS OR EQUIVALENT SHALL BE PROPERLY EMPLOYED AND MAINTAINED AS NECESSARY DURING CONSTRUCTION ACTIVITIES SO THAT TURBIDITY LEVELS DO NOT EXCEED 29 NTU's ABOVE NATURAL BACKGROUND 50 FEET DOWNSTREAM OF POINT OF DISCHARGE. IF TURBIDITY LEVELS EXCEED THESE LIMITS, PROJECT ACTIVITIES SHALL IMMEDIATELY CEASE, AND WORK SHALL NOT RESUME UNTIL TURBIDITY LEVELS DROP TO WITHIN THESE LIMITS.
9.

CONTRACTOR SHALL SOD GRASS AREAS DAMAGED DURING CONSTRUCTION AT NO ADDITIONAL COST TO OWNER.
10.

CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE ENVIRONMENTAL PROTECTION AGENCY (EPA) AND THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES).
11.

IF 1 ACRE OR MORE IS DISTURBED THEN AN NPDES GENERAL PERMIT IS REQUIRED. THE CONTRACTOR SHALL OBTAIN THE REQUIRED NPDES PERMIT IN ADDITION TO SUBMITTING THE NOTICE OF INTENT (NOI) PRIOR TO START OF CONSTRUCTION, AND NOTICE OF TERMINATION (NOT) AT THE END OF CONSTRUCTION.

MIAMI LAKES NOTES

1.

CONTRACTOR IS RESPONSIBLE FOR ALL SAFETY PRECAUTIONS & OSHA COMPLIANCE. CONTRACTOR IS TO REFER TO THE CONTRACT DOCUMENTS FOR ADDITIONAL REQUIREMENTS.
2.

CONTRACTOR IS RESPONSIBLE FOR ALL SHOP DRAWINGS, PRODUCT DATA & SAMPLES. CONTRACTOR IS TO REFER TO THE CONTRACT DOCUMENTS FOR ADDITIONAL REQUIREMENTS.
3.

CONTRACTOR IS RESPONISBLE TO INSPECT THE SITE PRIOR TO COMMENCING WORK AND CONTACT SUNSHINE ONE CALL PRIOR TO COMMENTING ANY TRENCHING OR DIGGING. CONTRACTOR IS TO REFER TO THE CONTRACT DOCUMENTS FOR ADDITIONAL REQUIREMENTS.
4.

CONTRACTOR SHALL COMPLY WITH THE TRENCH SAFETY ACT, SECTIONS 533.60 THROUGH 533.64 OF THE FLORIDA STATUTES. CONTRACTOR IS TO REFER TO THE CONTRACT DOCUMENTS FOR ADDITIONAL REQUIREMENTS.
5.

CONTRATOR MUST CONTACT SUNSHINE ONE CALL 48 HOURS PRIOR TO COMMENCEMENT OF THE WORK AND IS TO REFER TO THE CONTRACT DOCUMENTS FOR ADDITIONAL REQUIREMENTS.
6.

CONTRACTOR IS TO PROTECT ALL PROPERTY AND UTILITIES. CONTRACTOR IS TO REFER TO THE CONTRACT DOCUMENTS FOR ADDITIONAL REQUIREMNTS.
7.

CONTRACTOR IS RESPONSIBLE FOR PREPARING AS-BUILT DRAWINGS. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS FOR SIGNING & SEALING BY A REGISTERED LAND SURVEYOR, IF REQUIRED. CONTRACTOR IS TO REFER TO THE CONTRACT DOCUMENTS FOR ADDITIONAL REQUIREMENTS.
8.

CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL LAWS. CONTRACTOR IS TO REFER TO THE CONTRACT DOCUMENTS FOR ADDITIONAL REQUIREMENTS.
9.

CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT MANAGER OF ANY CONFLICTS IN THE DRAWINGS. CONTRACTOR IS TO REFER TO THE CONTRACT DOCUMENTS FOR ADDITIONAL REQUIREMENTS.
10.

CONTRACTOR SHALL PERFORM TESTING REQUIRED BY THE PERMITTING ENTITIES OR THE TOWN: CONTRACTOR SHALL REFER TO THE CONTRACT DOCUMENTS FOR ADDITIONAL REQUIREMENTS.

AS-BUILT REQUIREMENT NOTES

1.

THE CONTRACTOR SHALL MAINTAIN ACCURATE AND COMPLETE RECORDS OF WORK ITEMS COMPLETED.
2.

ALL "AS-BUILT" INFORMATION SUBMITTED TO THE CITY PUBLIC WORKS DIRECTOR SHALL BE SUFFICIENTLY ACCURATE, CLEAR AND LEGIBLE TO SATISFY THE TOWN OF MIAMI LAKES THAT THE INFORMATION PROVIDES A TRUE REPRESENTATION OF THE COMPLETED WORK. AS-BUILT PLANS SHALL INCLUDE SURVEY CROSS SECTIONS AT BASELINE STATION INCLUDED IN THE CROSS SECTION PLANS.
3.

UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO THE TOWN MANAGER ONE COMPLETE SET OF "AS-BUILT" CONSTRUCTION DRAWINGS. THESE DRAWINGS SHALL BE MARKED TO SHOW "AS-BUILT" CONSTRUCTION CHANGES AND DIMENSIONED LOCATIONS AND ELEVATIONS OF ALL WORK PERFORMED AND SHALL BE SIGNED BY THE CONTRACTOR.
4.

ALL "AS-BUILT" INFORMATION ON ELEVATIONS OF WORK PERFORMED SHALL BE CERTIFIED BY A REGISTERED LAND SURVEYOR.
5.

PRIOR TO A FINAL INSPECTION BY THE TOWN OF MIAMI LAKES, THE CONTRACTOR SHALL SUBMIT TO THE CITY THREE (3) SETS OF BLUEPRINTS OF "AS-BUILT" CONSTRUCTION DRAWINGS.
6.

UPON A FINAL INSPECTION BY THE TOWN OF MIAMI LAKES, THE CONTRACTOR SHALL SUBMIT TO THE CITY FIVE (5) SETS OF BLUE PRINTS OF "AS-BUILT" CONSTRUCTION DRAWINGS THAT HAVE BEEN CERTIFIED BY A REGISTERED LAND SURVEYOR, AND COMPUTER FILES OF "AS-BUILT" CONSTRUCTION DRAWINGS ON COMPACT DISK IN AUTOCAD RELEASE 2009 FORMAT OR LATEST EDITION AND PDF VERSION OF THE "AS-BUILT".

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION



8550 N.W. 33RD STREET • SUITE 202
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BY: _____
JEFFREY VOLLAT, P.E.
P.E. No. 63930
CIVIL ENG. STATE OF FL.



TOWN OF MIAMI
LAKES
CANAL BANK RESTORATION
PHASE 2

DATE: 10/22/18	SCALE: N/A	CADD FILE: 02_GENERAL-NOTES
DESIGN BY: J.V.	DRAWN BY: R.B.	CHECKED BY: A.V.

GENERAL NOTES

P:\Projects\C222 Miami Lakes\C222-0216-02 Canal Bank Stabilization Phase 2\05 Drawings\Phase 2\LEGEND-ABBR.dwg Aug 01, 2018 - 9:35am KTHOMS

LEGEND:

⊙ SET OR FOUND SURVEY CONTROL POINT

⌒ CENTERLINE

⌒ BASELINE

✱ PALM

🌳 HARDWOOD TREE

☀ EXOTIC TREE

×2.94 EXISTING GROUND ELEVATION

⌒ POLE

⬤ LIGHTPOLE

⊙ SURVEY CONTROL POINT (SCP)

⌒ SIGN (SINGLE SUPPORT)

⌀ DIAMETER

⌒ WIRING PULL BOX

⌒ CATCH BASIN

⌒ SIGNAL MAST ARM

—X—X—X— EXISTING CHAIN LINK FENCE

—X—X—X— PROPOSED CHAIN LINK FENCE

—E— ELECTRIC LINE (OVERHEAD)

⌒ GUY ANCHOR

—0—0—0— EXISTING GUARDRAIL

—0—0—0— REPLACED GUARDRAIL

— — — CANAL RIGHT OF WAY

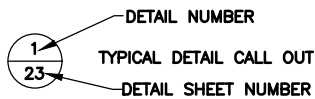
— — — MAINTENANCE EASEMENT

— GAS — GAS — EXISTING GASMAIN

— — — FMx — — — FMx — EXISTING FORCEMAIN

— Wx — Wx — EXISTING WATERMAIN

—TOB—TOB— EXISTING TOP OF BANK



EXISTING ASPHALT PATHWAY

STACKED CANAL BANK STABILIZATION (CBS)

FLOATING TURBIDITY BARRIER

STAKED TURBIDITY BARRIER

T.O.B. EL. 4.0
STA. 10+58.29
OFF. 80.38' LT
PROPOSED ELEVATION, STATION,
AND OFFSET FROM BASELINE

ABBREVIATIONS:

ASPH. = ASPHALT

AVE. = AVENUE

BLCP = BASELINE CONTROL POINT
(TO BE SET BY CONTRACTOR)

BM = BENCHMARK

BOC = BACK OF CURB

CAP = CORRUGATED ALUMINUM PIPE

CBS = CANAL BANK STABILIZATION

C.L.F. = CHAIN LINK FENCE

CLR = CLEAR

CMP = CORRUGATED METAL PIPE

CONC = CONCRETE

COR = CORNER

CSLAB = CONCRETE SLAB

DIP = DUCTILE IRON PIPE

EL. = ELEVATION

ELEV. = ELEVATION

EOP = EDGE OF PAVEMENT

EOW = EDGE OF WATER

EQUIV = EQUIVALENT

ESMT = EASEMENT

ETOB = EXISTING TOP OF BANK

EXIST. = EXISTING

FDOT = FLORIDA DEPARTMENT
OF TRANSPORTATION

FND = FOUND

FT = FEET

HOR. = HORIZONTAL

INV = INVERT

LB = POUND

LT = OFFSET LEFT

MEAS = MEASURED

MIN = MINIMUM

MUTCD = MANUAL OF UNIFORM
TRAFFIC DEVICES

N/A = NOT APPLICABLE

NGVD = NATIONAL GEODETIC
VERTICAL DATUM

NOI = NOTICE OF INTENT

NOT = NOTICE OF TERMINATION

NPS = NOMINAL PIPE SIZE

NPDES = NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

NTU = NEPHELOMETRIC TURBIDITY
UNITS

NTS = NOT TO SCALE

N.W. = NORTHWEST

PB = PLAT BOOK

PED. = PEDESTRIAN

PG = PAGE

PI = POINT OF INTERSECTION

PROP. = PROPOSED

PSI = POUND PER SQUARE INCH

PVC = POLYVINYL CHLORIDE

PVMT. = PAVEMENT

REC. = RECORD

RGE. = RANGE

RT = OFFSET RIGHT

R/W = RIGHT OF WAY

SCH = SCHEDULE

SCP = SURVEY CONTROL POINT
(EXISTING SURVEY MONUMENT)

SEC = SECTION

SDWK = SIDEWALK

SFWMD = SOUTH FLORIDA WATER
MANAGEMENT DISTRICT

STA. = STATION

STD = STANDARD

TOB = TOP OF BANK (PROPOSED)

TWP. = TOWNSHIP

VERT. = VERTICAL

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION



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BY: _____
JEFFREY VOLLAT, P.E.
P.E. No. 63930
CIVIL ENG. STATE OF FL.



TOWN OF MIAMI
LAKES
CANAL BANK RESTORATION
PHASE 2

DATE:
8/1/18

DESIGN BY:
J.V.

SCALE:
N/A

DRAWN BY:
R.B.

CADD FILE:
03_LEGEND-ABBR

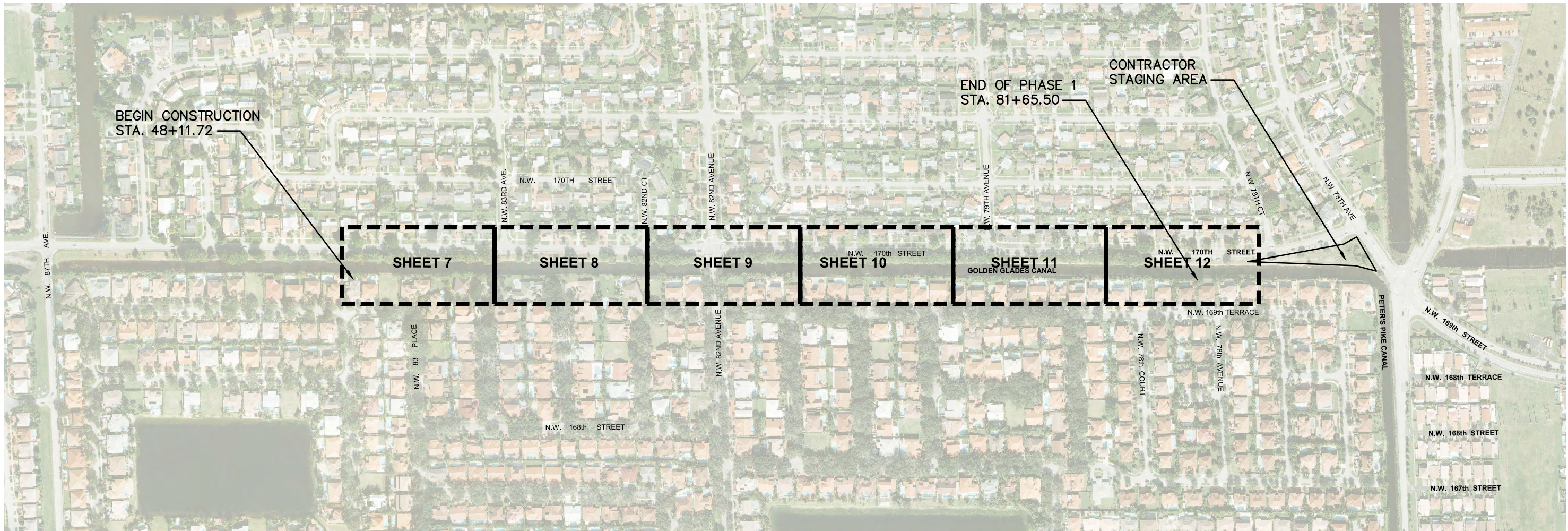
CHECKED BY:
A.V.

LEGEND AND ABBREVIATIONS

SHEET

3

OF 21



P:\Projects\C222 Miami Lakes\C222-0216-02 Canal Bank Stabilization Phase 2\05_Drawings\Permit Plans_04_KEYSHT.dwg Aug 02, 2018 - 8:38am KTHOMAS

1.) THIS IS NOT A BOUNDARY SURVEY

3.) THE LAST DAY OF FIELDWORK WAS PERFORMED ON JUNE 19,2015.

4.) NO INSTRUMENT OF RECORD REFLECTING EASEMENTS, RIGHT OF WAY AND/OR OWNERSHIP THAT WOULD AFFECT THE BOUNDARIES WERE FURNISHED TO THE UNDERSIGNED SURVEYOR.

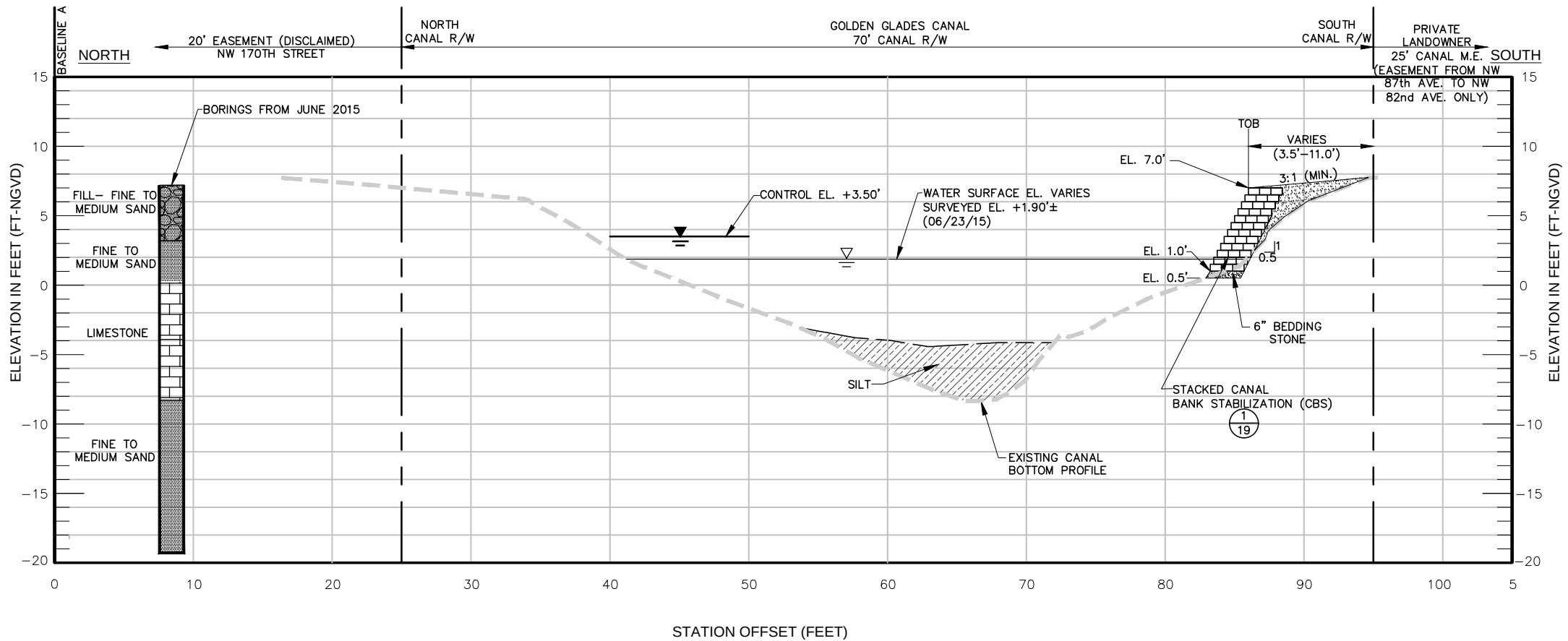
5.) RECORD AND MEASUREMENT CALLS ARE IN SUBSTANTIAL AGREEMENT UNLESS OTHERWISE NOTED.

6.) ELEVATIONS REFER TO NATIONAL GEODETIC VERTICAL DATUM (1929) PHASE I: BENCHMARK #1- No N-628, LOCATOR INDEX 2032W, ELEVATION 5.87'. DESCRIPTION - 2" SQUARE CUT IN NE CORNER OF A CONC CULVERT HEADWALL. NOTE: ACCESS DIFFICULTY. BENCHMARK #2- SPRING, LOCATOR INDEX 2032, ELEVATION 6.23'. DESCRIPTION - US C & G BRASS DISC IN CONC MON. (TRIANGULATION MON.)

7.) UNLESS IT BEARS THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER THIS MAP IS FOR INFORMATIONAL PURPOSES ONLY AND IS NOT VALID.

REVISIONS						 8550 N.W. 33RD STREET • SUITE 202 DORAL, FLORIDA 33122 PHONE (305) 551-4608 • FAX (305) 551-8977 WWW.ADAENG.NET EB # 00003212	BY: _____ JEFFREY VOLLAT, P.E. P.E. No. 63930 CIVIL ENG. STATE OF FL.	 TOWN OF MIAMI LAKES CANAL BANK RESTORATION PHASE 2	DATE:	SCALE:	CADD FILE:	SURVEY CONTROL PLAN	SHEET 5 OF 21
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION				8/1/18	AS SHOWN	SUR CNT PLN		
									DESIGN BY:	DRAWN BY:	CHECKED BY:		
									J.V.	R.B.	A.V.		

P:\Projects\C222 Miami Lakes\C222-0216-02 Canal Bank Stabilization Phase 2\05_Drawings\06-07_Typical Sections.dwg Oct 04, 2018 - 1:19pm JVOLLAT



NOTES:

1. CONTRACTOR SHALL CUT AND CAP ALL EXISTING IRRIGATION INTAKE PIPES IN ACCORDANCE WITH DETAIL 1 ON SHEET 23.
2. CONTRACTOR TO REMOVE ANY PEAT OR ORGANIC MATERIAL AND REPLACE WITH STRUCTURAL FILL FROM FROM BACK OF GEOWEB TO 5' HORIZONTALLY LANDWARD.

STATION OFFSET (FEET)

GOLDEN GLADES CANAL TYPICAL SECTION
STA. 48+11.72 TO STA. 56+00
STA. 58+00 TO STA. 62+39.67
STA. 63+32 TO STA. 64+00
STA. 66+33.44 TO STA. 68+00
STA. 68+78.64 TO STA. 69+63.69
STA. 73+48.74 TO STA. 81+65.50

SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION



8550 N.W. 33RD STREET • SUITE 202
DORAL, FLORIDA 33122
PHONE (305) 551-4608 • FAX (305) 551-8977
WWW.ADAENG.NET EB # 06003212

BY: _____
JEFFREY VOLLAT, P.E.
P.E. No. 63930
CIVIL ENG. STATE OF FL.



TOWN OF MIAMI
LAKES
CANAL BANK RESTORATION
PHASE 2

DATE:
8/1/18
DESIGN BY:
J.V.

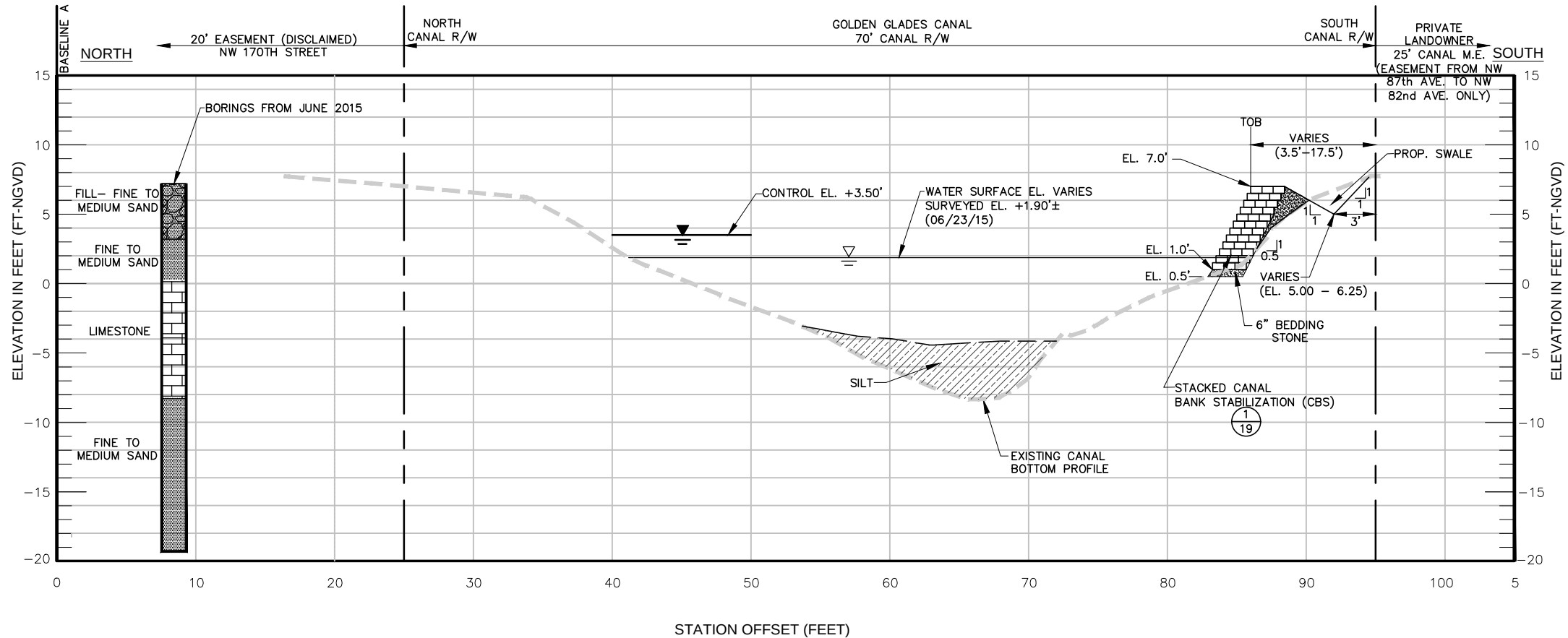
SCALE:
1" = 10'
DRAWN BY:
R.B.

CADD FILE:
TYP SECTIONS
CHECKED BY:
A.V.

GOLDEN GLADES CANAL
GEOWEB TYPICAL SECTION

SHEET
6
OF 21

P:\Projects\C222 Miami Lakes\C222-0216-02 Canal Bank Stabilization Phase 2\05 Drawings\06-07 Typical Sections.dwg Oct 04, 2018 - 1:19pm JVOLLAT



NOTES:

1. CONTRACTOR SHALL CUT AND CAP ALL EXISTING IRRIGATION INTAKE PIPES IN ACCORDANCE WITH DETAIL 1 ON SHEET 23.
2. CONTRACTOR TO REMOVE ANY PEAT OR ORGANIC MATERIAL AND REPLACE WITH STRUCTURAL FILL FROM FROM BACK OF GEOWEB TO 5' HORIZONTALLY LANDWARD.

GOLDEN GLADES CANAL TYPICAL SECTION - SWALE
STA. 56+00 tTO STA. 58+00
STA. 64+00 TO STA. 66+33.44
STA. 68+00 TO STA. 68+78.64
STA. 69+63.69 TO STA. 73+48.74

SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

REVISIONS					
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BY: _____
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P.E. No. 63930
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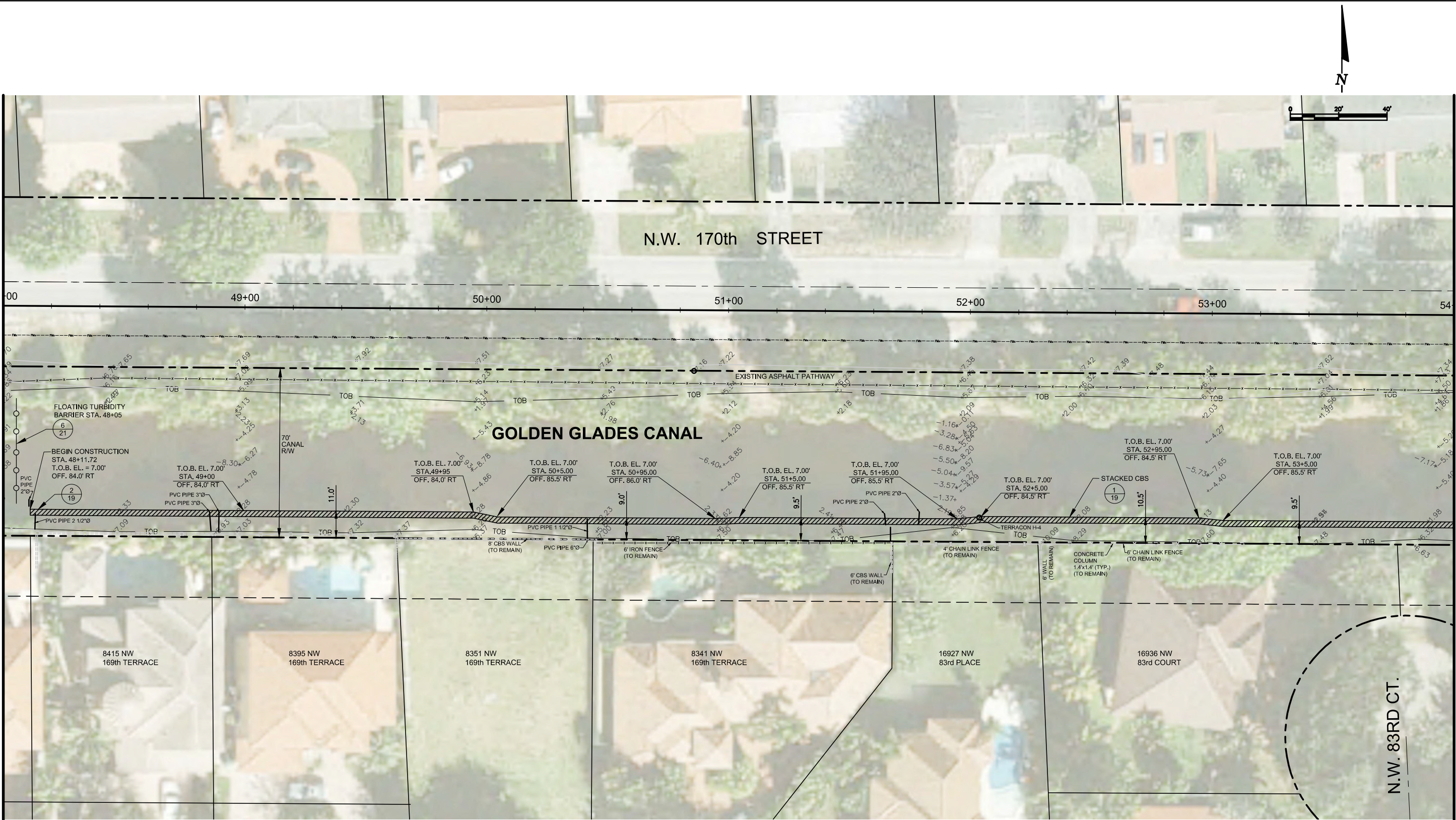


TOWN OF MIAMI
LAKES
CANAL BANK RESTORATION
PHASE 2

DATE: 8/1/18	SCALE: 1" = 10'	CADD FILE: TYP SECTIONS
DESIGN BY: J.V.	DRAWN BY: R.B.	CHECKED BY: A.V.

GOLDEN GLADES CANAL
SWALE TYPICAL SECTION

P:\Projects\C222 Miami Lakes\C222-0216-02 Canal Bank Stabilization Phase 2\05_Drawings\Permit Plans_08_13_PLANS - EDIT.dwg Oct 30, 2018 - 4:39pm JVOLLAT



MATCH LINE SEE SHEET 8 (STA. 54+00)

REVISIONS					
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P.E. No. 63930
CIVIL ENG. STATE OF FL.



TOWN OF MIAMI
LAKES
CANAL BANK RESTORATION
PHASE 2

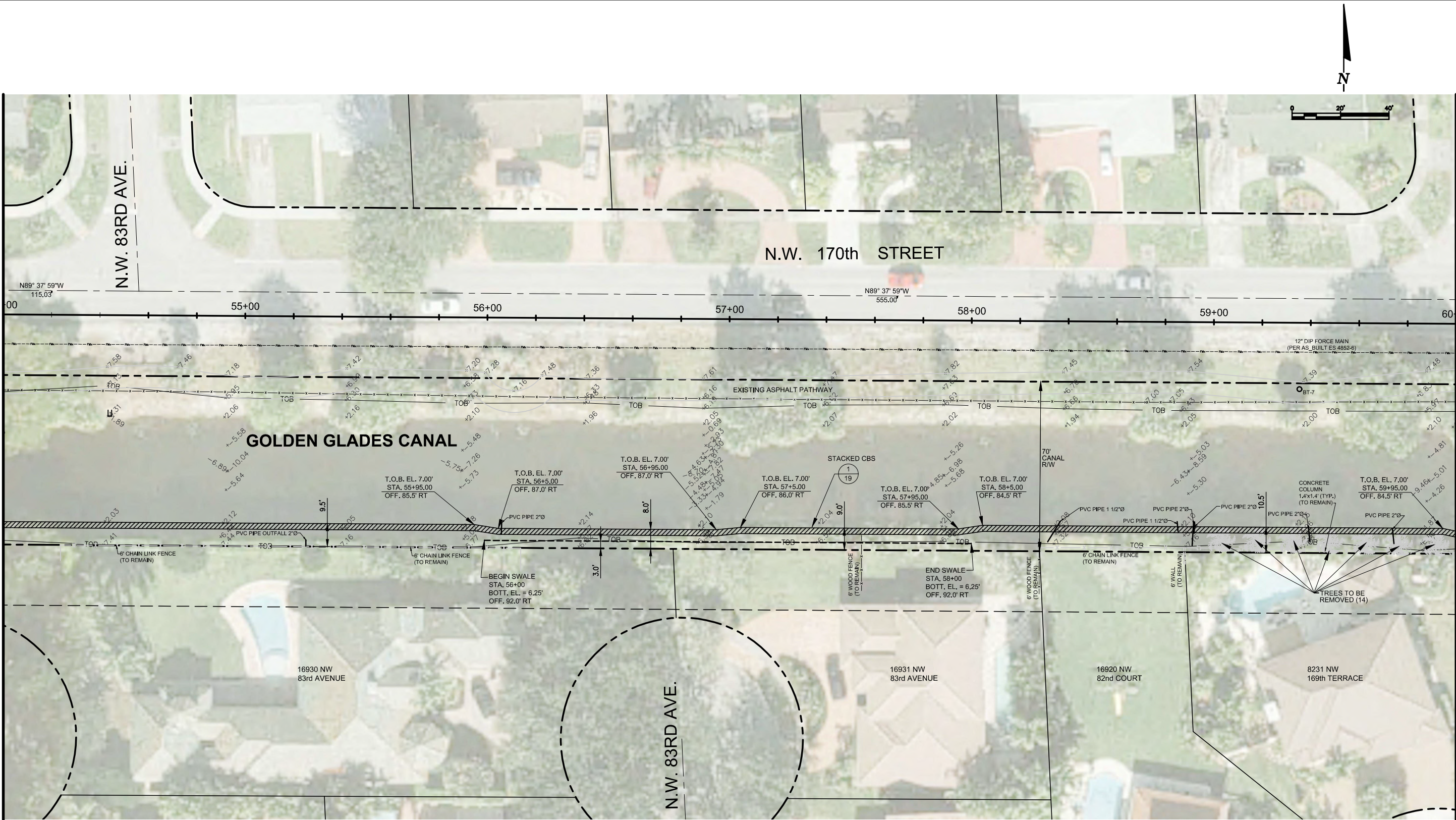
DATE: 10/22/18	SCALE: 1" = 40'	CADD FILE: PLAN SHEETS
DESIGN BY: J.V.	DRAWN BY: R.B.	CHECKED BY: A.V.

GOLDEN GLADES CANAL
STA 48+00 TO STA 54+00
PLAN

SHEET
7
OF 21

P:\Projects\C222 Miami Lakes\C222-0216-02 Canal Bank Stabilization Phase 2\05 Drawings\Permit Plans_08_13_PLANS - EDIT.dwg Oct 30, 2018 - 4:40pm JVOLLAT

MATCH LINE SEE SHEET 7 (STA. 54+00)



MATCH LINE SEE SHEET 9 (STA. 60+00)

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION



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DORAL, FLORIDA 33122
PHONE (305) 551-4608 • FAX (305) 551-9877
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TOWN OF MIAMI LAKES
CANAL BANK RESTORATION
PHASE 2

DATE: 10/22/18	SCALE: 1" = 40'	CADD FILE: PLAN SHEETS
DESIGN BY: J.V.	DRAWN BY: R.B.	CHECKED BY: A.V.

GOLDEN GLADES CANAL
STA 54+00 TO STA 60+00
PLAN

SHEET
8
OF 21

P:\Projects\2222 Miami Lakes\2222-02 Canal Bank Stabilization Phase 2\05 Drawings\Permit Plans_08_13_PLANS - EDIT.dwg Oct 30, 2018 - 4:41pm JVOLLAT

MATCH LINE SEE SHEET 8 (STA. 60+00)



MATCH LINE SEE SHEET 10 (STA. 66+00)

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DORAL, FLORIDA 33122
PHONE (305) 551-4608 • FAX (305) 551-8977
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JEFFREY VOLLAT, P.E.
P.E. No. 63930
CIVIL ENG. STATE OF FL.



TOWN OF MIAMI
LAKES
CANAL BANK RESTORATION
PHASE 2

DATE: 10/22/18	SCALE: 1" = 40'	CADD FILE: PLAN SHEETS
DESIGN BY: J.V.	DRAWN BY: R.B.	CHECKED BY: A.V.

GOLDEN GLADES CANAL
STA 60+00 TO STA 66+00
PLAN

SHEET
9
OF 21

P:\Projects\2222 Miami Lakes\2222-02 Canal Bank Stabilization Phase 2\05 Drawings\Permit Plans_08_13_PLANS - EDIT.dwg Oct 30, 2018 - 4:42pm JVOLLAT

MATCH LINE SEE SHEET 9 (STA. 66+00)



MATCH LINE SEE SHEET 11 (STA. 72+00)

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION



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DORAL, FLORIDA 33122
PHONE (305) 551-4608 • FAX (305) 551-8977
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JEFFREY VOLLAT, P.E.
P.E. No. 63930
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TOWN OF MIAMI
LAKES
CANAL BANK RESTORATION
PHASE 2

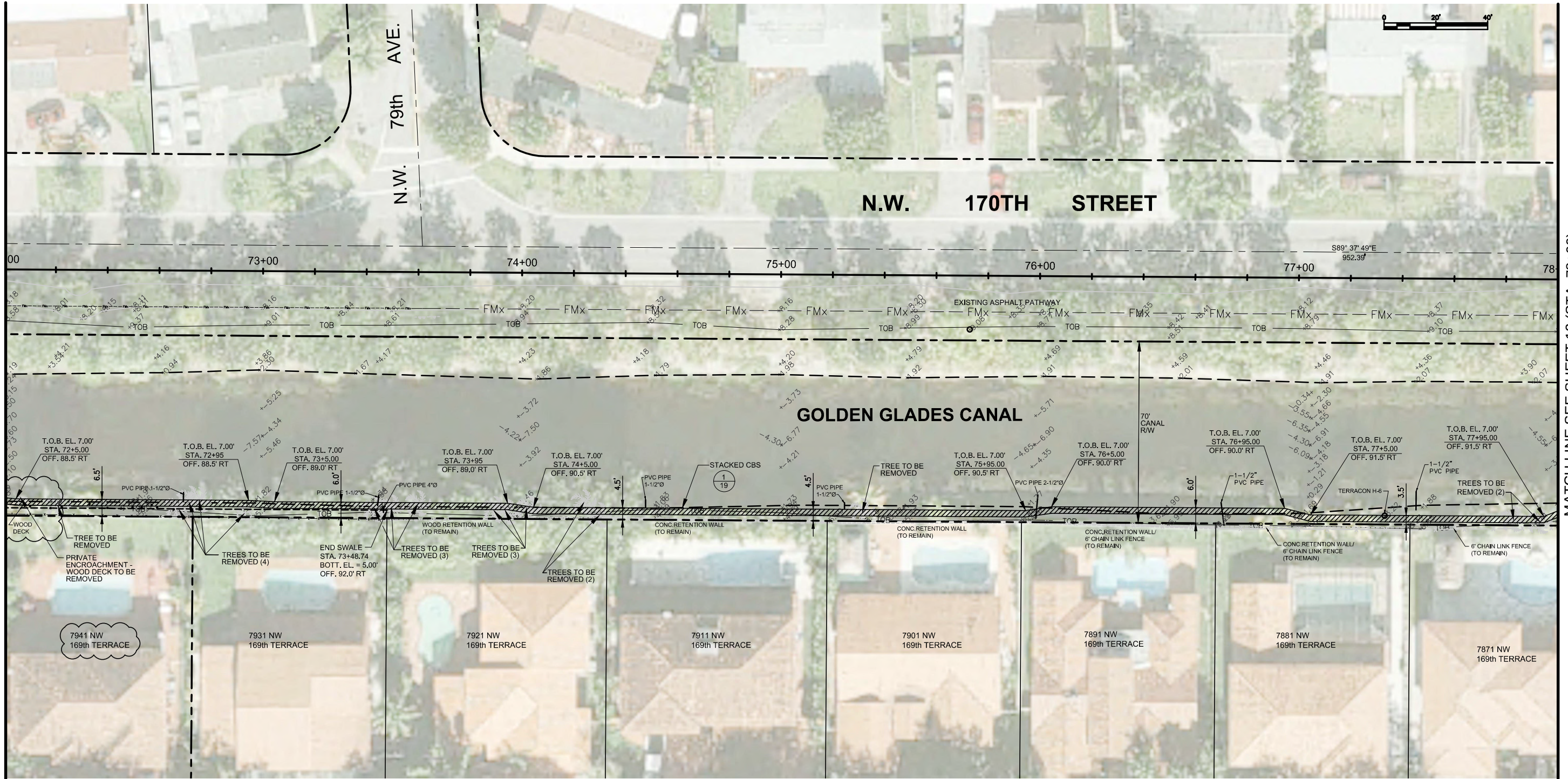
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DESIGN BY: J.V.	DRAWN BY: R.B.	CHECKED BY: A.V.

GOLDEN GLADES CANAL
STA 66+00 TO STA 72+00
PLAN

SHEET
10
OF 21

P:\Projects\C222 Miami Lakes\C222-0216-02 Canal Bank Stabilization Phase 2\05_Drawings\Permit Plans_08_13_PLANS - EDIT.dwg Oct 30, 2018 - 4:42pm JVOLLAT

MATCH LINE SEE SHEET 10 (STA. 72+00)



MATCH LINE SEE SHEET 12 (STA. 78+00)

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION



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P.E. No. 63930
CIVIL ENG. STATE OF FL.



TOWN OF MIAMI LAKES
CANAL BANK RESTORATION
PHASE 2

DATE: 10/22/18	SCALE: 1" = 40'	CADD FILE: PLAN SHEETS
DESIGN BY: J.V.	DRAWN BY: R.B.	CHECKED BY: A.V.

GOLDEN GLADES CANAL
STA 72+00 TO STA 78+00
PLAN

SHEET
11
OF 21

P:\Projects\C222 Miami Lakes\C222-0216-02 Canal Bank Stabilization Phase 2\05 Drawings\Permit Plans_08_13_PLANS - EDIT.dwg Oct 30, 2018 - 4:43pm JVOLLAT

MATCH LINE SEE SHEET 11 (STA. 72+00)



REVISIONS

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BY: JEFFREY VOLLAT, P.E.
P.E. No. 63930
CIVIL ENG. STATE OF FL.

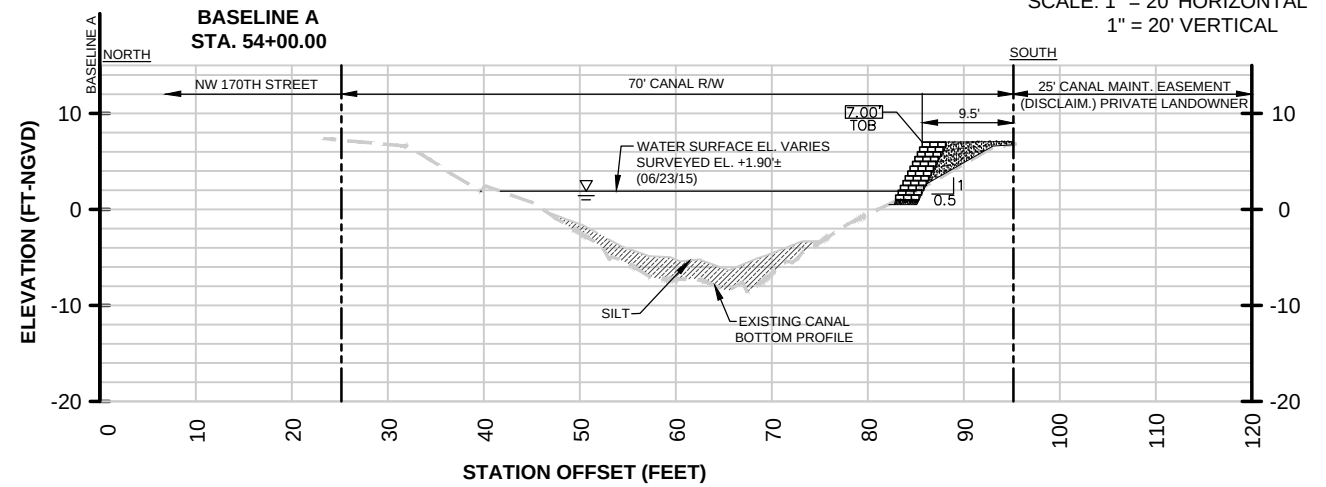
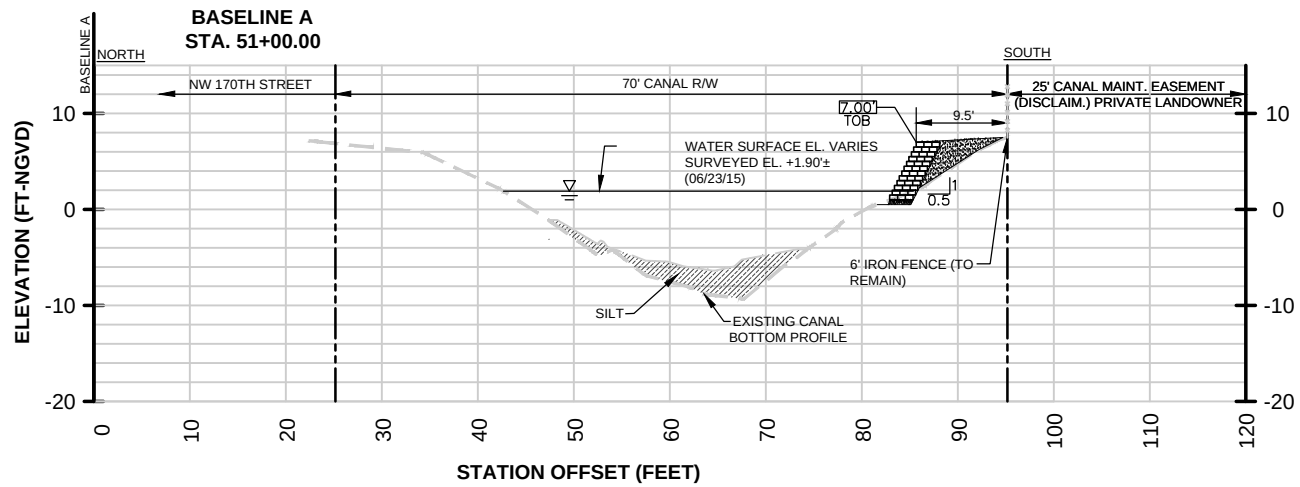
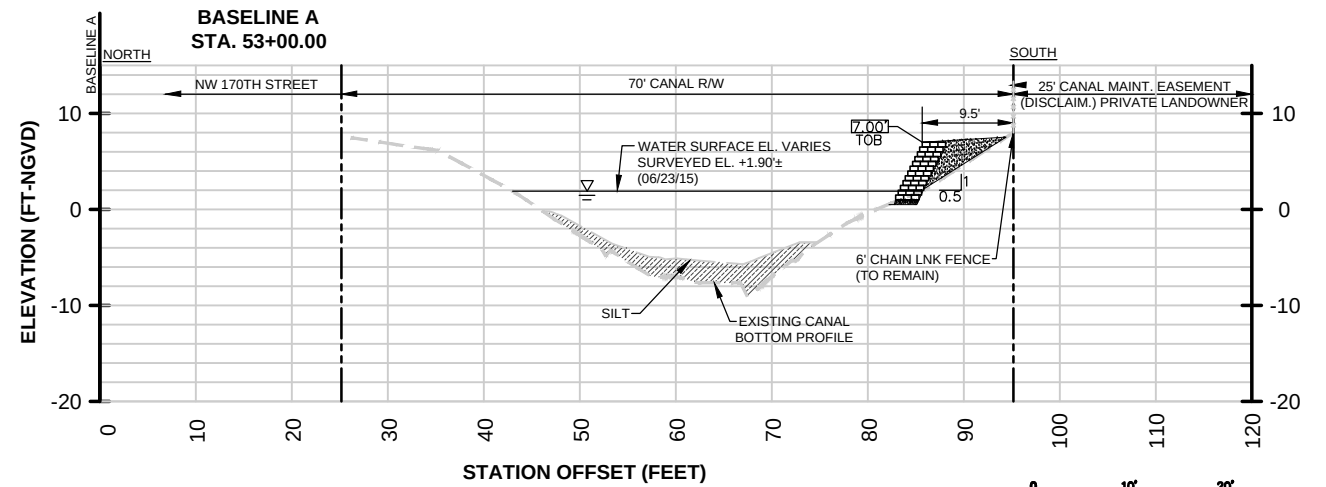
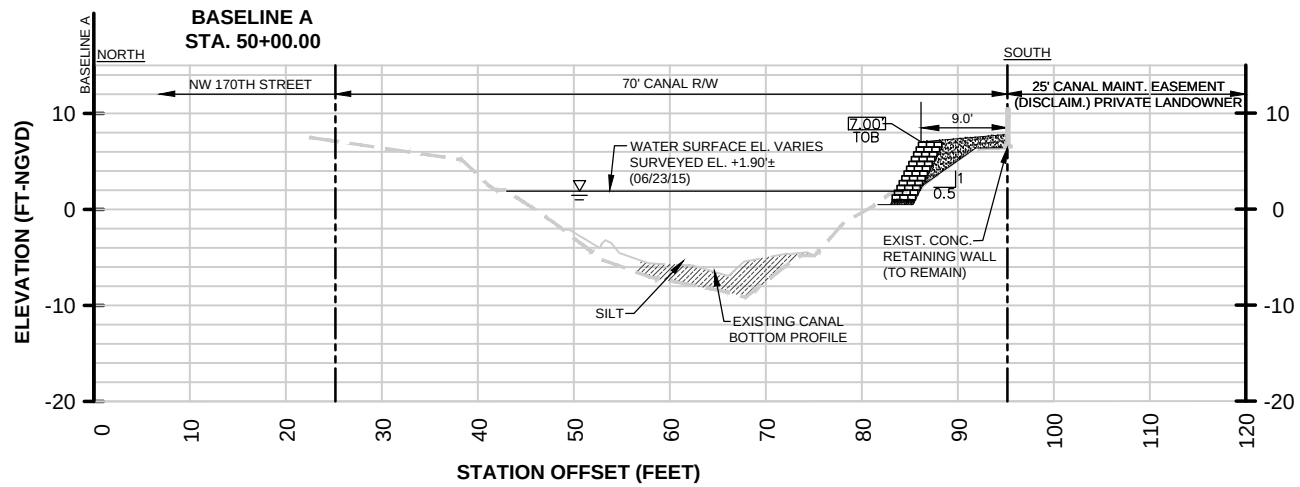
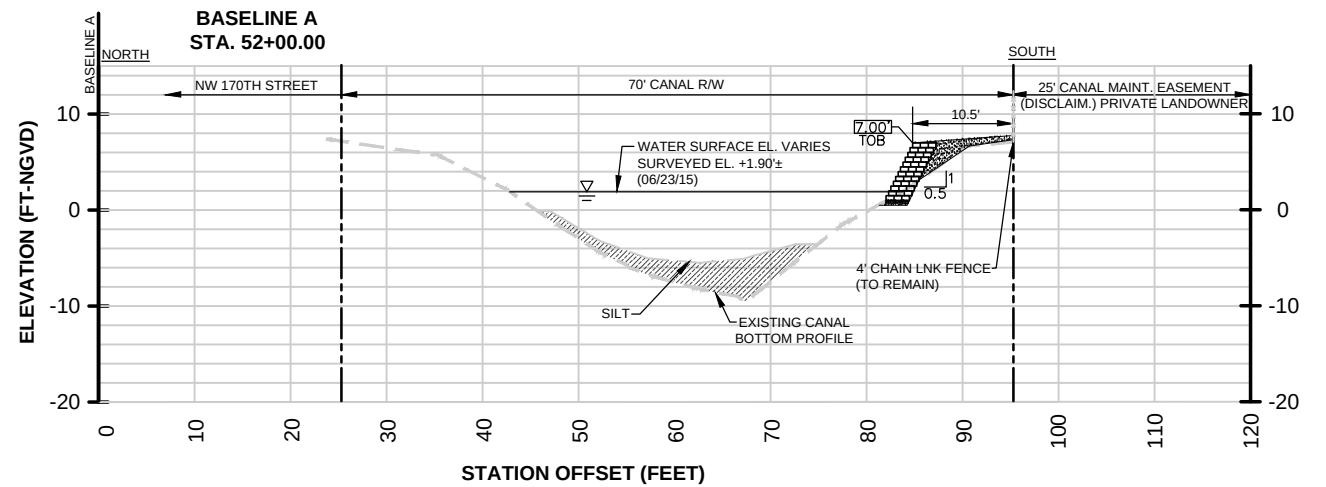
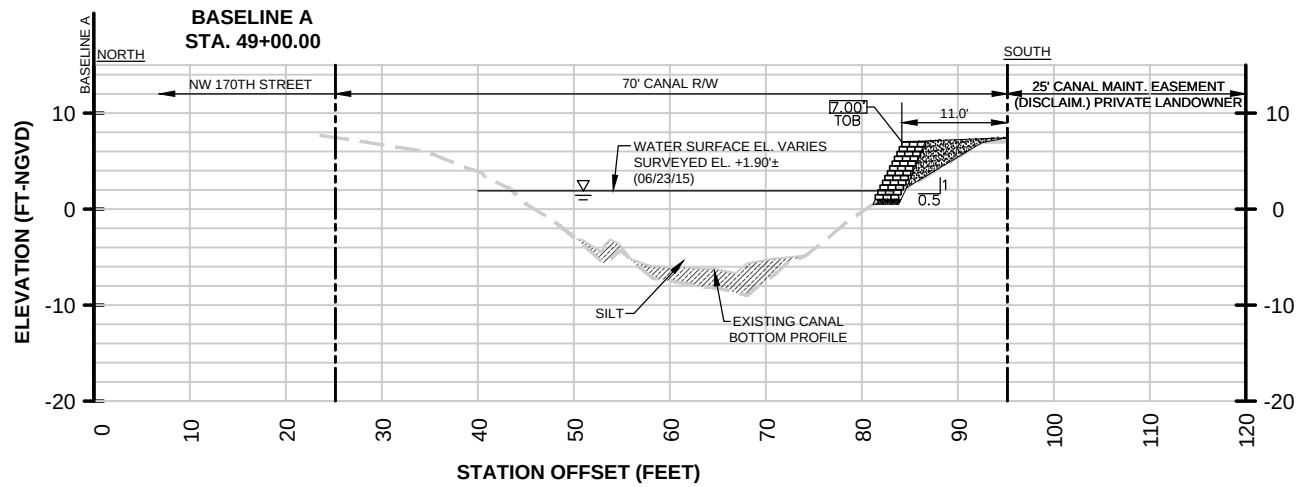


TOWN OF MIAMI
LAKES
CANAL BANK RESTORATION
PHASE 2

DATE: 10/22/18	SCALE: 1" = 40'	CADD FILE: PLAN SHEETS
DESIGN BY: J.V.	DRAWN BY: R.B.	CHECKED BY: A.V.

GOLDEN GLADES CANAL
STA 78+00 TO STA 84+00
PLAN

P:\Projects\C222 Miami Lakes\C222-0216-02 Canal Bank Stabilization Phase 2\05 Drawings\Permit Plans_PHASE 2_CROSS SECTIONS_Mixed TOB.dwg Oct 30, 2018 - 7:30pm JVOLLAT



0 10' 20'

SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

REVISIONS

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DORAL, FLORIDA 33122
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WWW.ADAENG.NET EB # 06003212

BY: _____
JEFFREY VOLLAT, P.E.
P.E. No. 63930
CIVIL ENG. STATE OF FL.



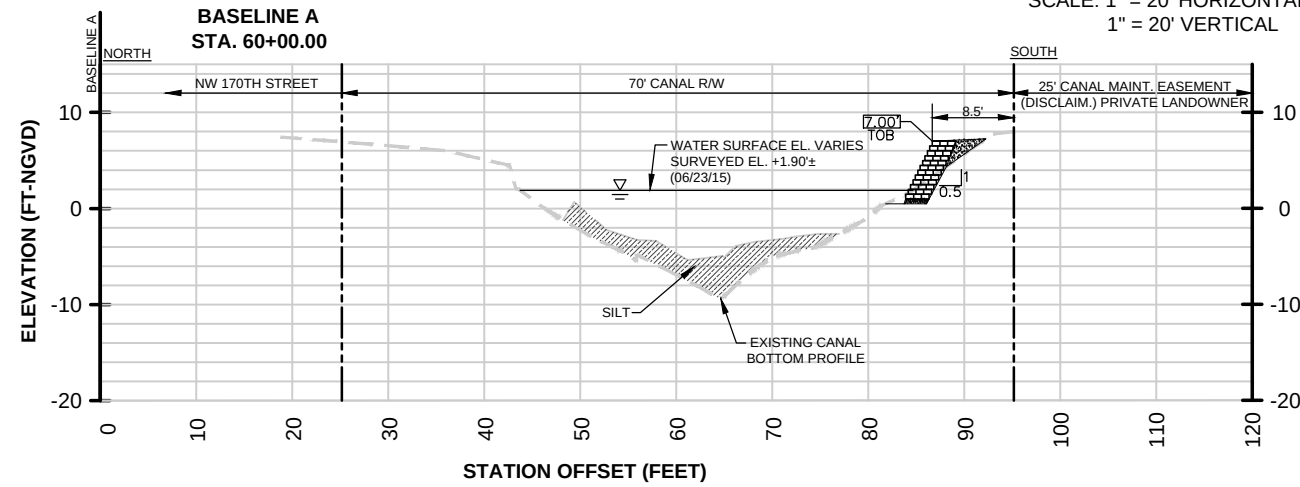
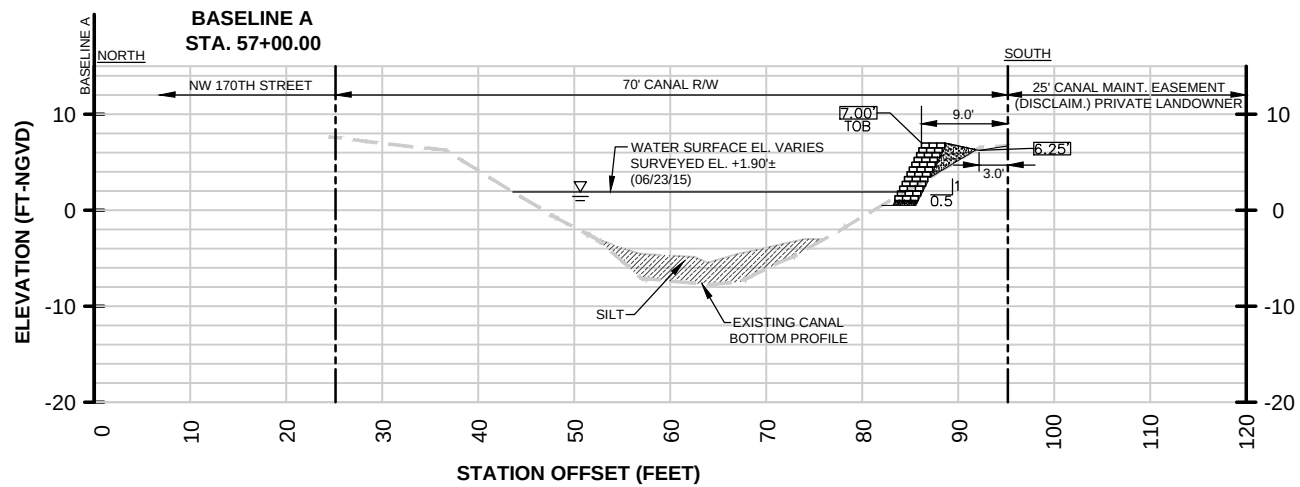
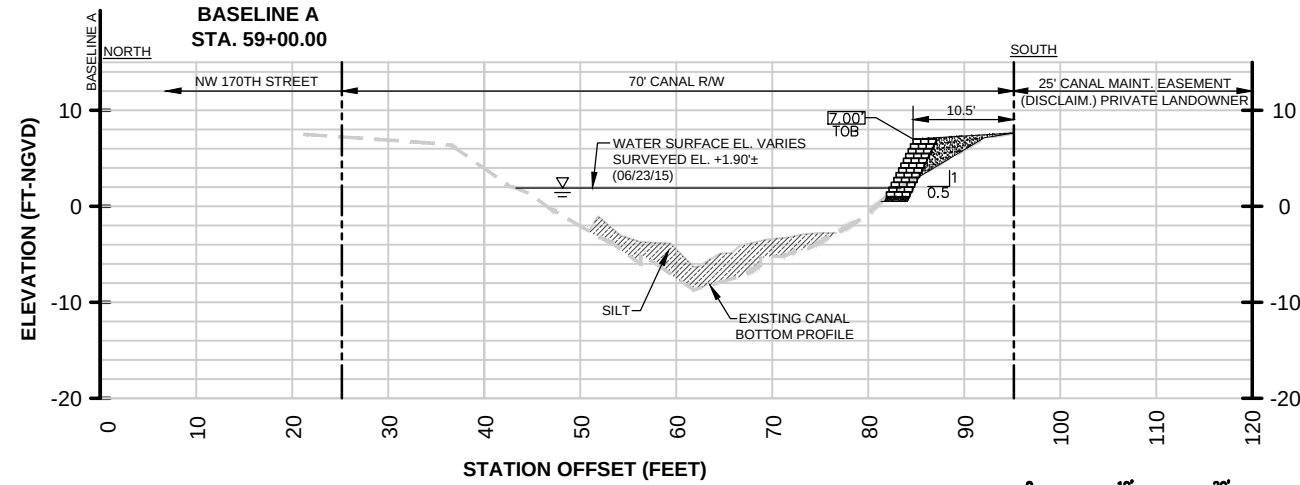
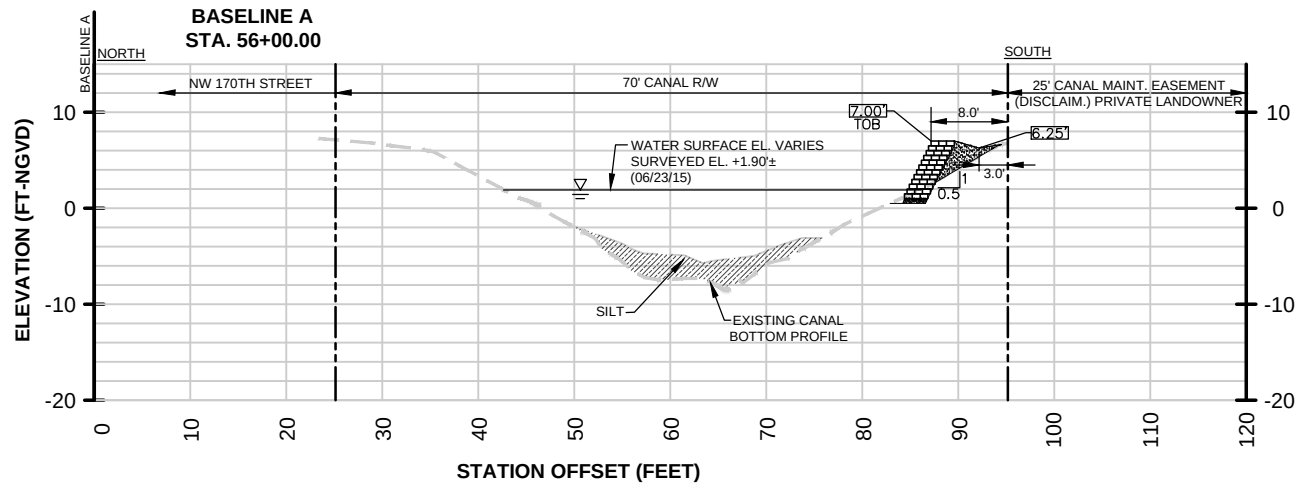
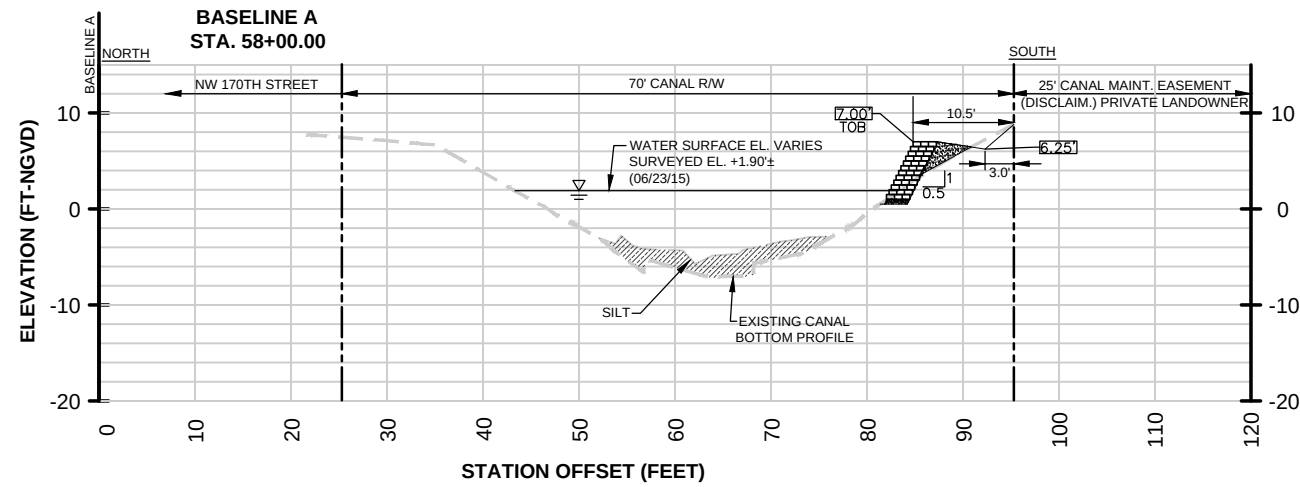
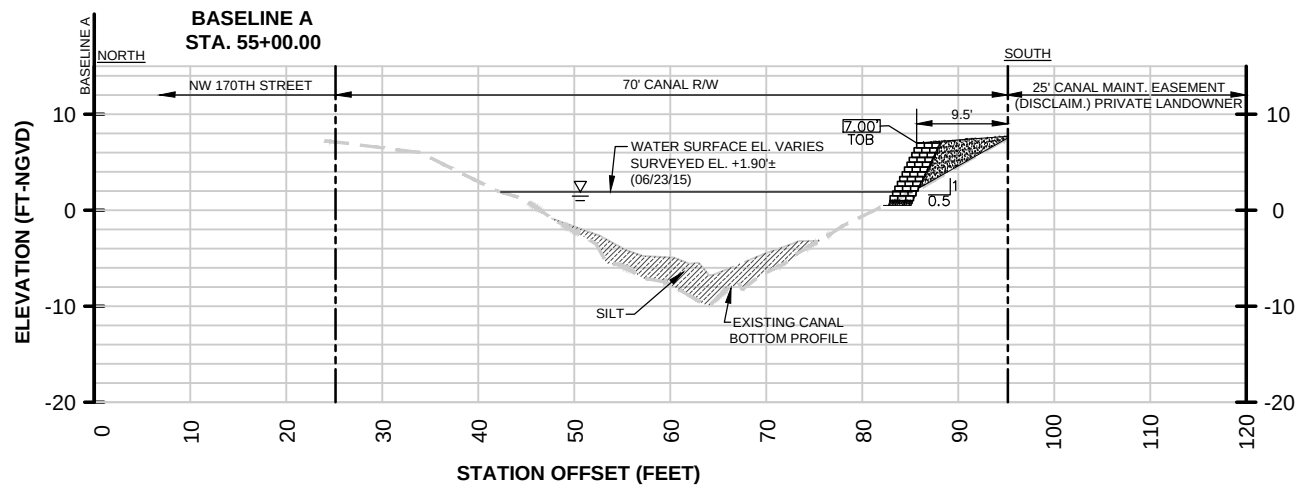
TOWN OF MIAMI
LAKES
CANAL BANK RESTORATION
PHASE 2

DATE: 10/22/18	SCALE: AS SHOWN	CADD FILE: CROSS SECT.
DESIGN BY: J.V.	DRAWN BY: R.B.	CHECKED BY: A.V.

GOLDEN GLADES CANAL
STA 49+00 TO STA 54+00
CROSS SECTIONS

SHEET
13
OF 21

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0 10' 20'

SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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DORAL, FLORIDA 33122
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WWW.ADAENG.NET EB # 00003212

BY: JEFFREY VOLLAT, P.E.
P.E. No. 63930
CIVIL ENG. STATE OF FL.



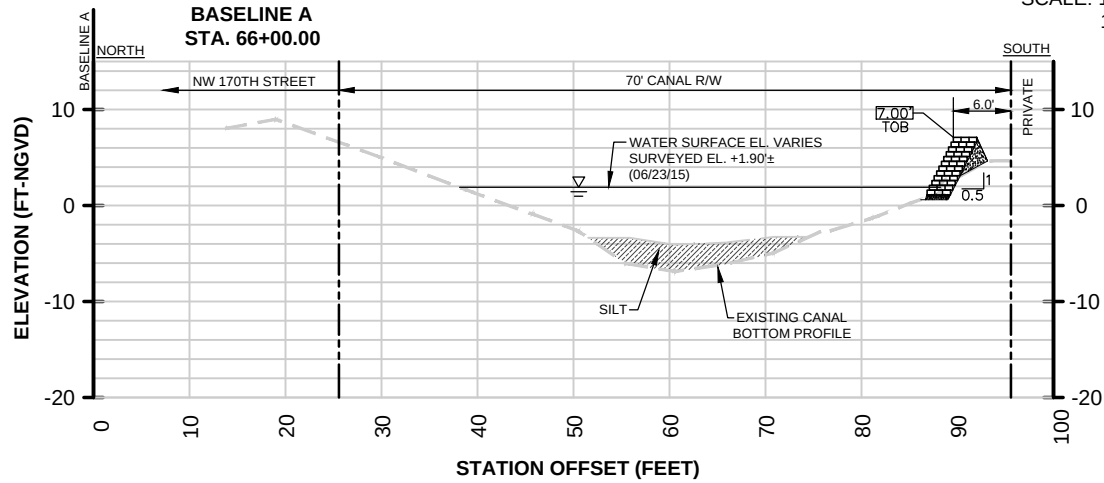
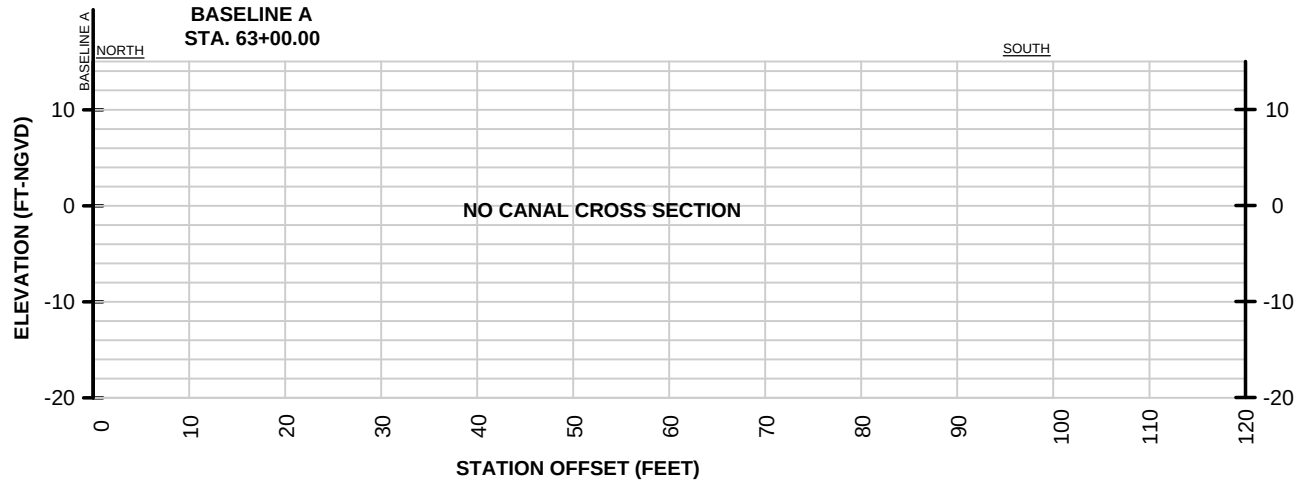
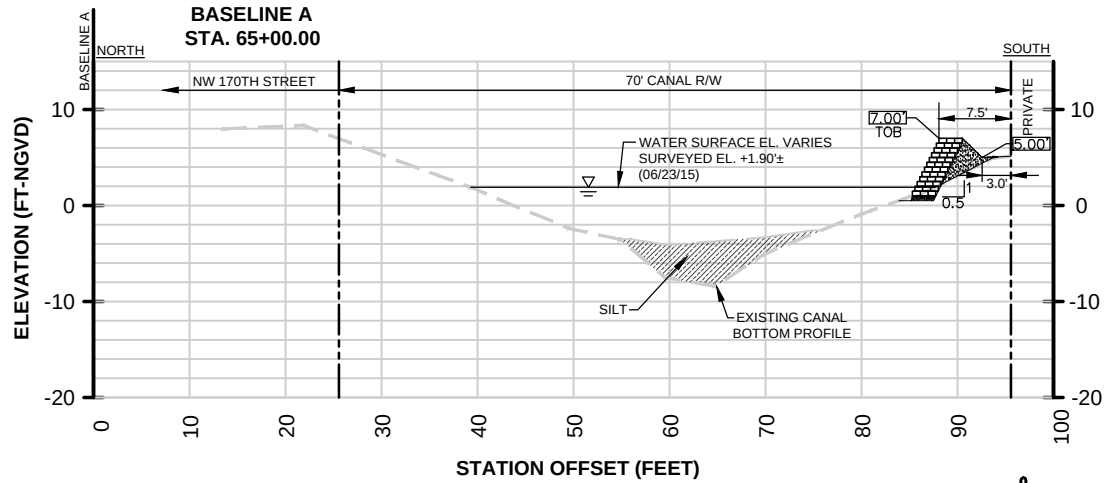
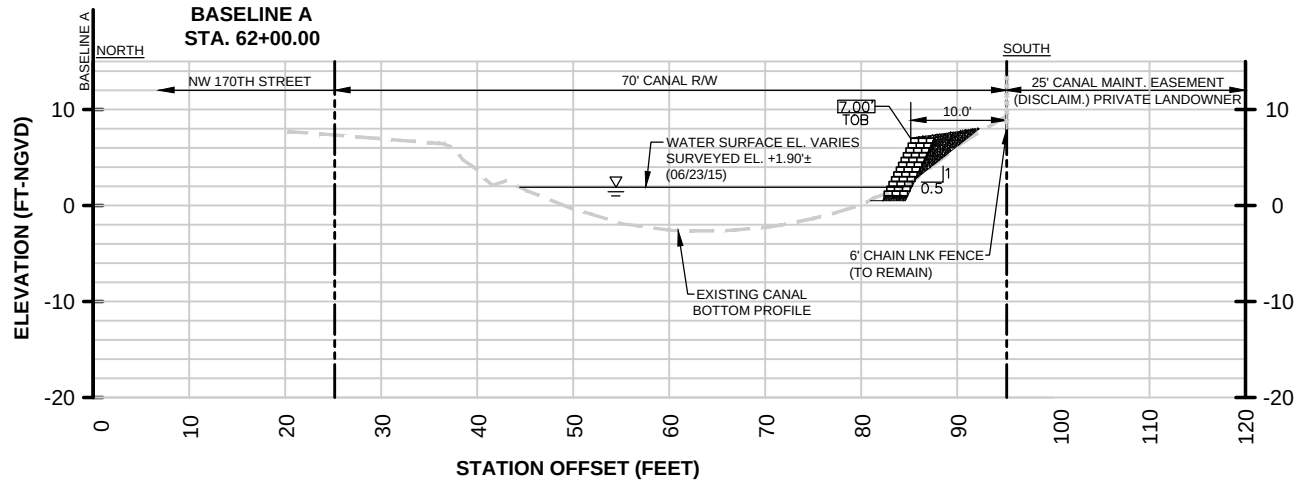
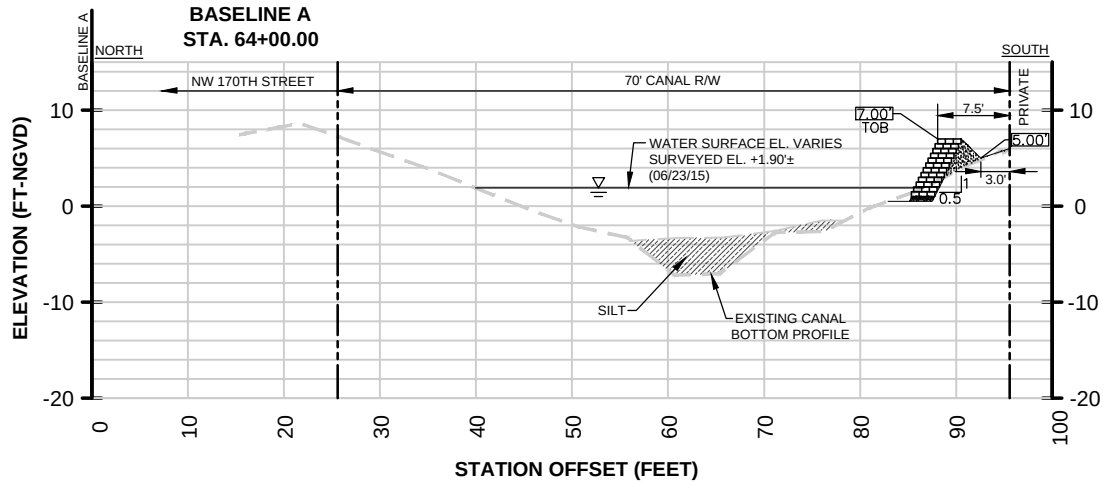
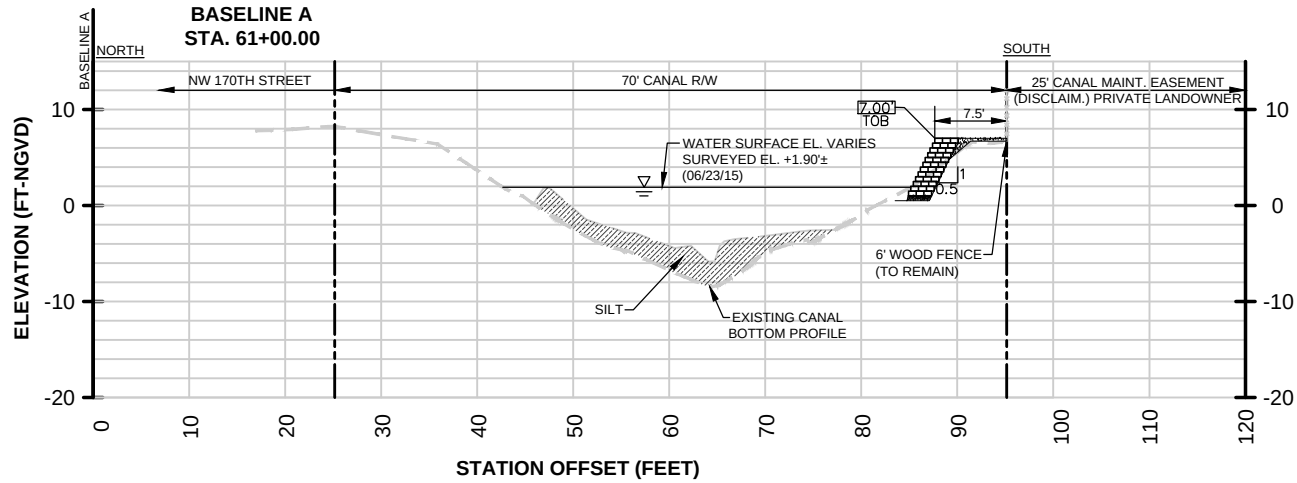
**TOWN OF MIAMI
LAKES
CANAL BANK RESTORATION
PHASE 2**

DATE: 10/22/18	SCALE: AS SHOWN	CADD FILE: CROSS SECT.
DESIGN BY: J.V.	DRAWN BY: R.B.	CHECKED BY: A.V.

**GOLDEN GLADES CANAL
STA 55+00 TO STA 60+00
CROSS SECTIONS**

SHEET
14
OF 21

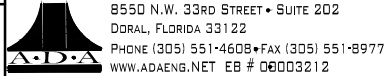
P:\Projects\C222 Miami Lakes\C222-0216-02 Canal Bank Stabilization Phase 2\05_Drawings\Permit Plans_PHASE 2_CROSS SECTIONS_Mixed TOB.dwg Oct 30, 2018 - 7:32pm JVOLAT



0 10' 20'
SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION



BY: JEFFREY VOLLAT, P.E.
P.E. No. 63930
CIVIL ENG. STATE OF FL.



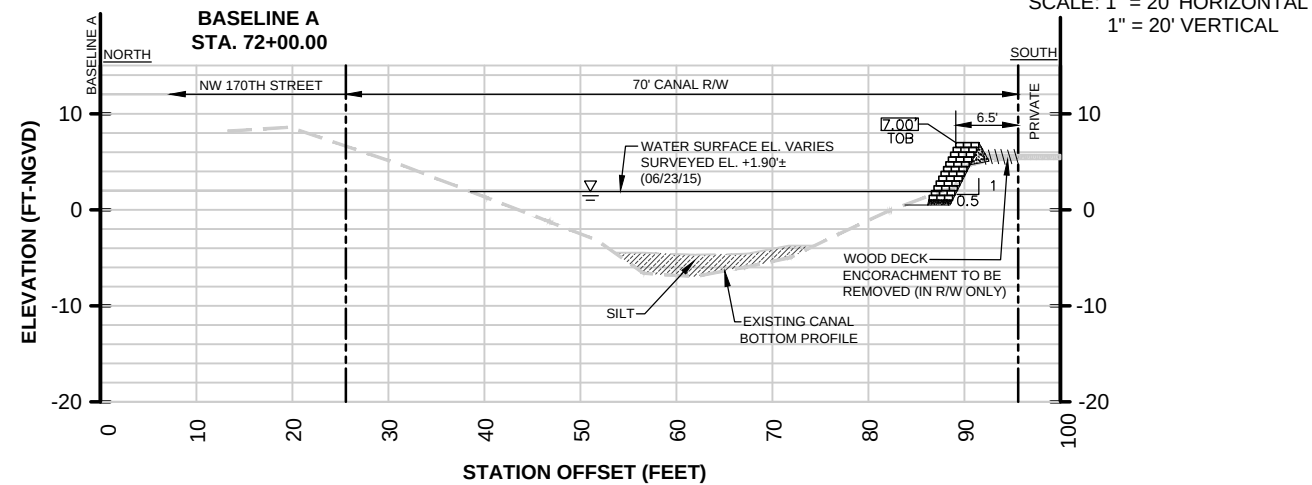
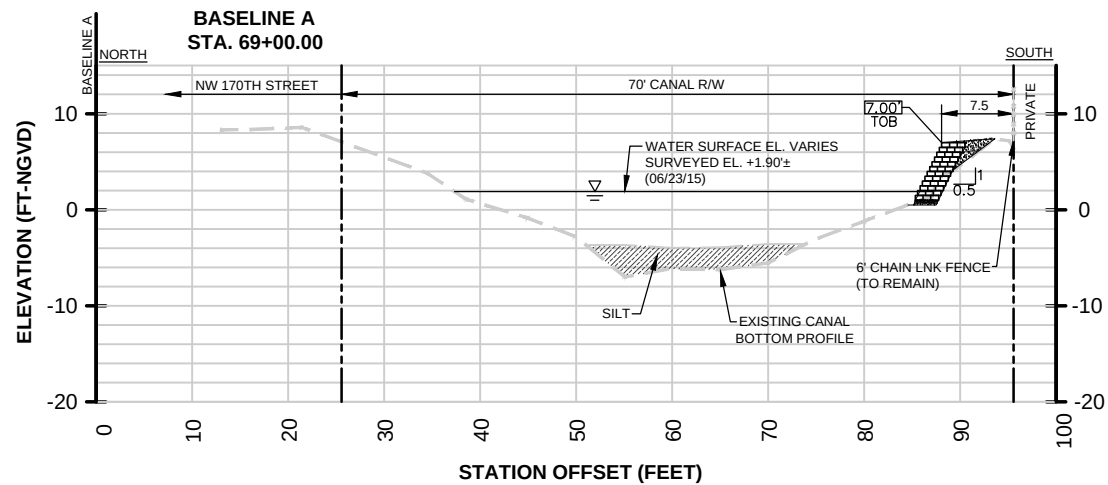
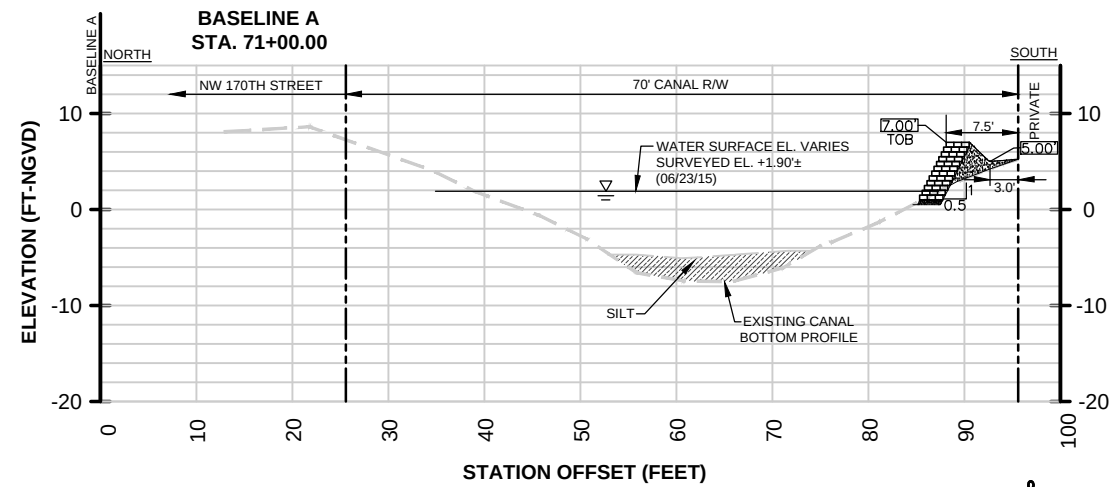
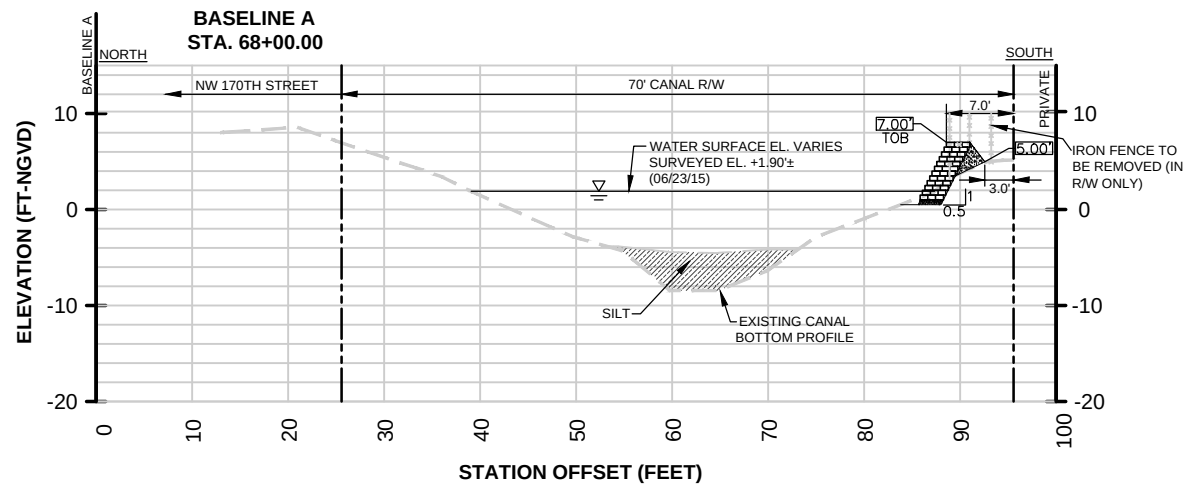
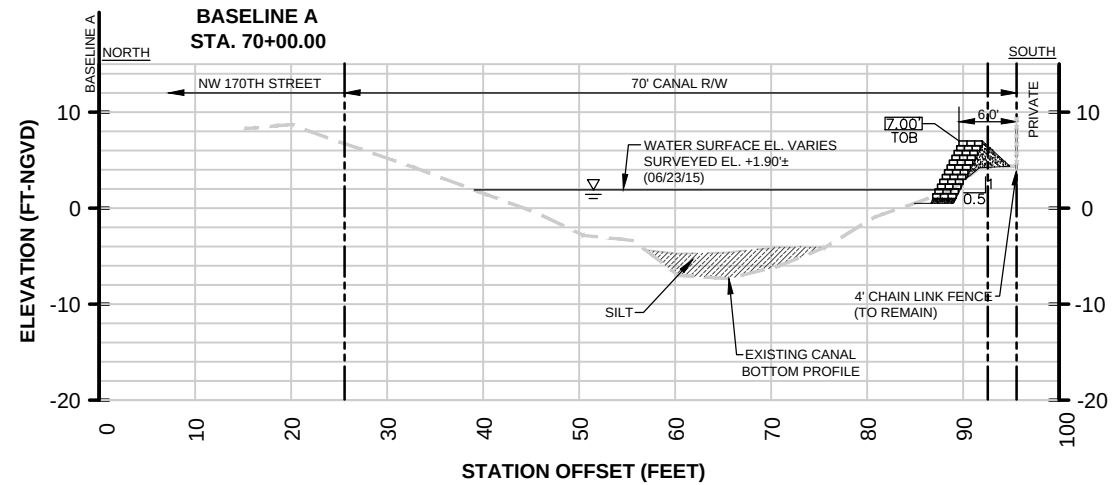
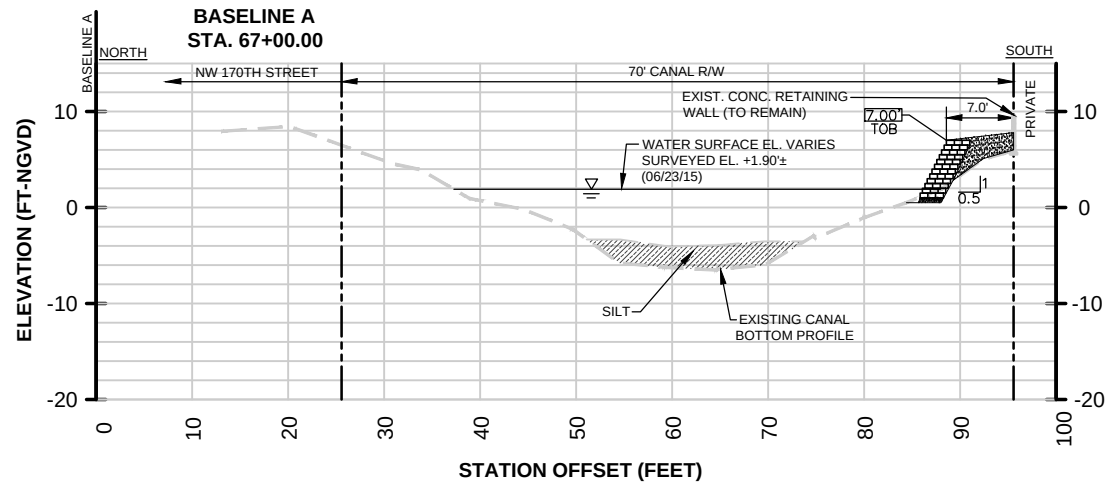
TOWN OF MIAMI
LAKES
CANAL BANK RESTORATION
PHASE 2

DATE: 10/22/18	SCALE: AS SHOWN	CADD FILE: CROSS SECT.
DESIGN BY: J.V.	DRAWN BY: R.B.	CHECKED BY: A.V.

GOLDEN GLADES CANAL
STA 61+00 TO STA 66+00
CROSS SECTIONS

SHEET
15
OF 21

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REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION



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DORAL, FLORIDA 33122
PHONE (305) 551-4608 • FAX (305) 551-9977
WWW.ADAENG.NET EB # 06003212

BY: _____
JEFFREY VOLLAT, P.E.
P.E. No. 63930
CIVIL ENG. STATE OF FL.



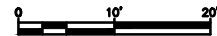
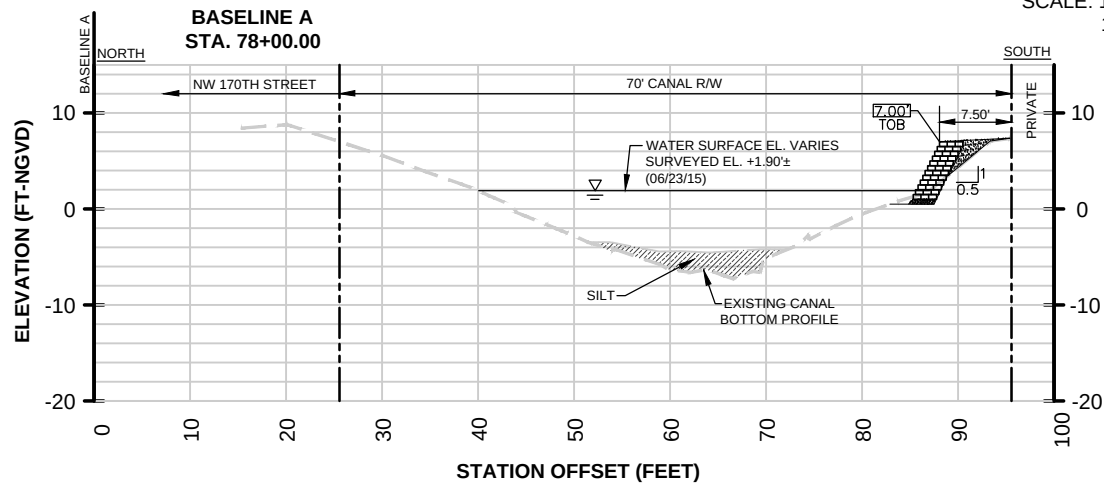
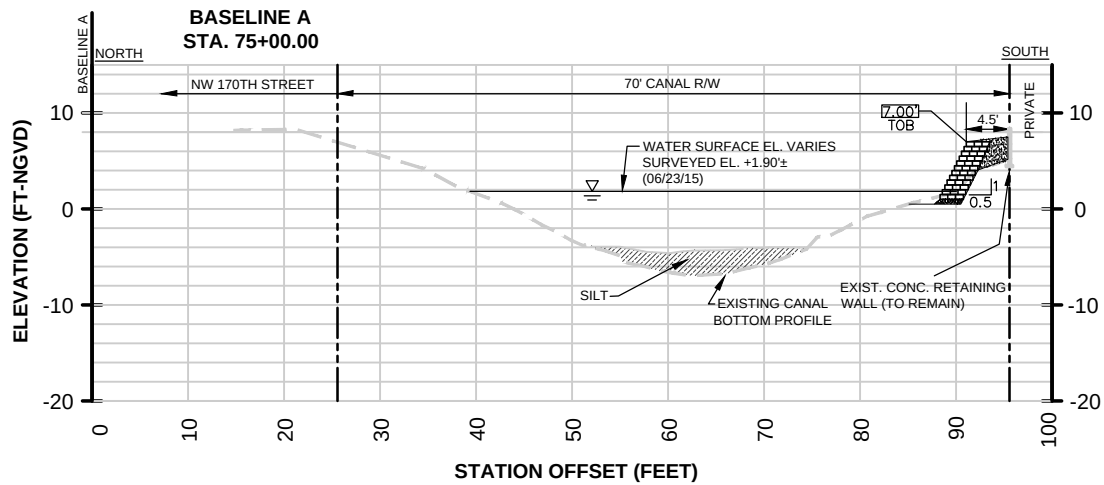
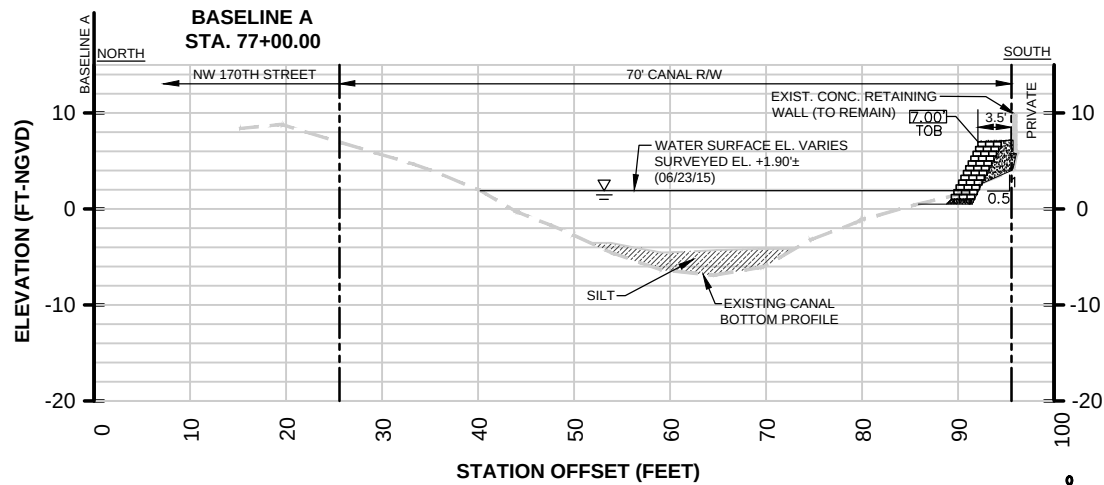
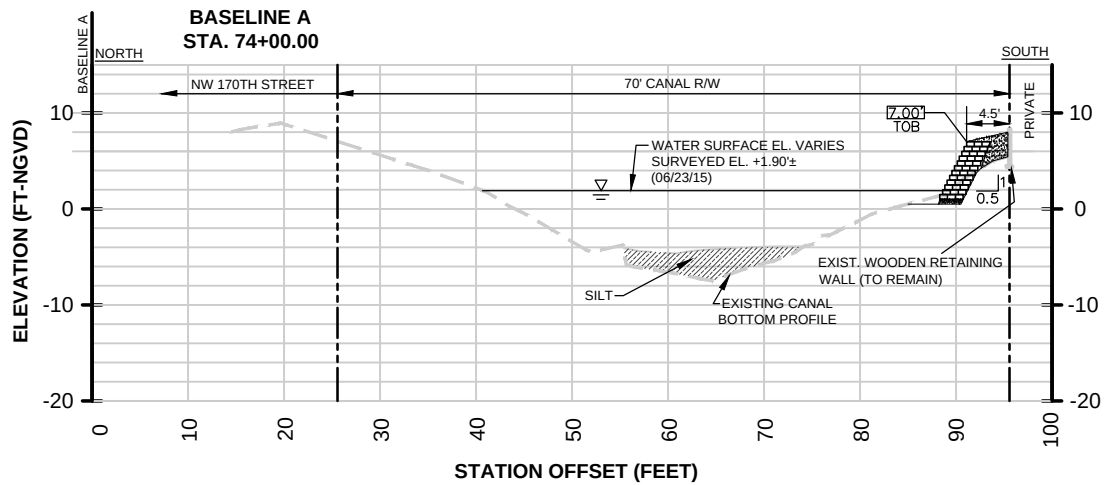
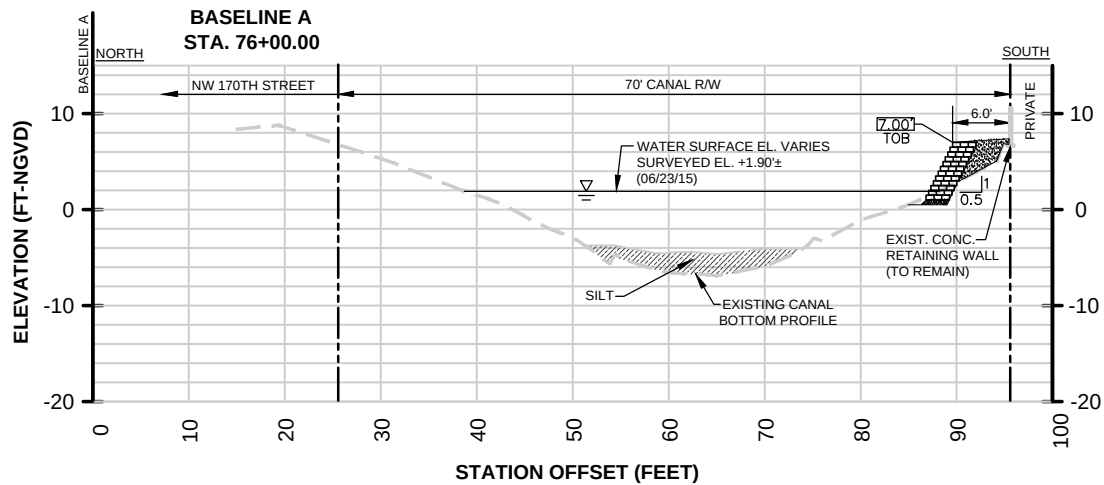
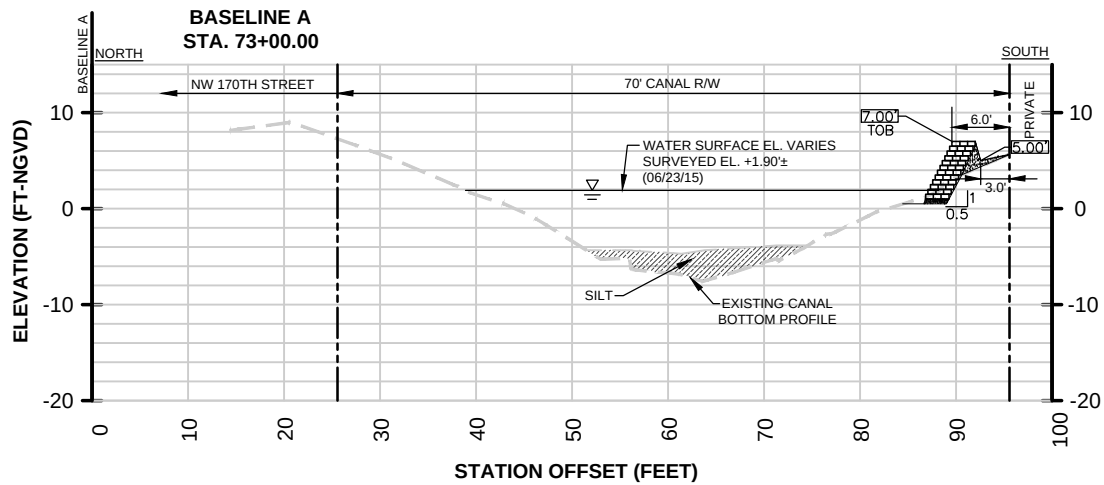
TOWN OF MIAMI
LAKES
CANAL BANK RESTORATION
PHASE 2

DATE: 10/22/18	SCALE: AS SHOWN	CADD FILE: CROSS SECT.
DESIGN BY: J.V.	DRAWN BY: R.B.	CHECKED BY: A.V.

GOLDEN GLADES CANAL
STA 67+00 TO STA 72+00
CROSS SECTIONS

SHEET
16
OF 21

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SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

REVISIONS

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DORAL, FLORIDA 33122
PHONE (305) 551-4608 • FAX (305) 551-9977
WWW.ADAENG.NET EB # 06003212

BY: _____
JEFFREY VOLLAT, P.E.
P.E. No. 63930
CIVIL ENG. STATE OF FL.



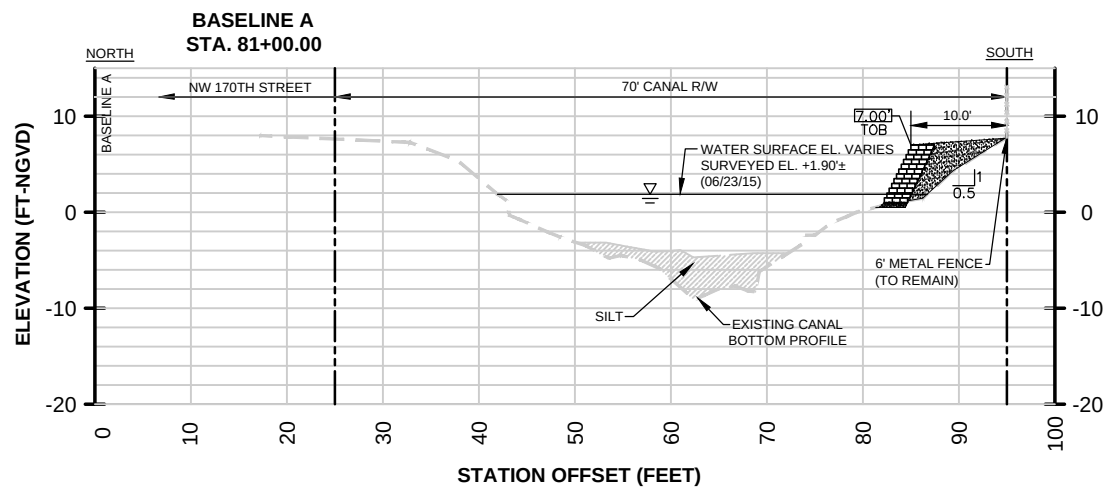
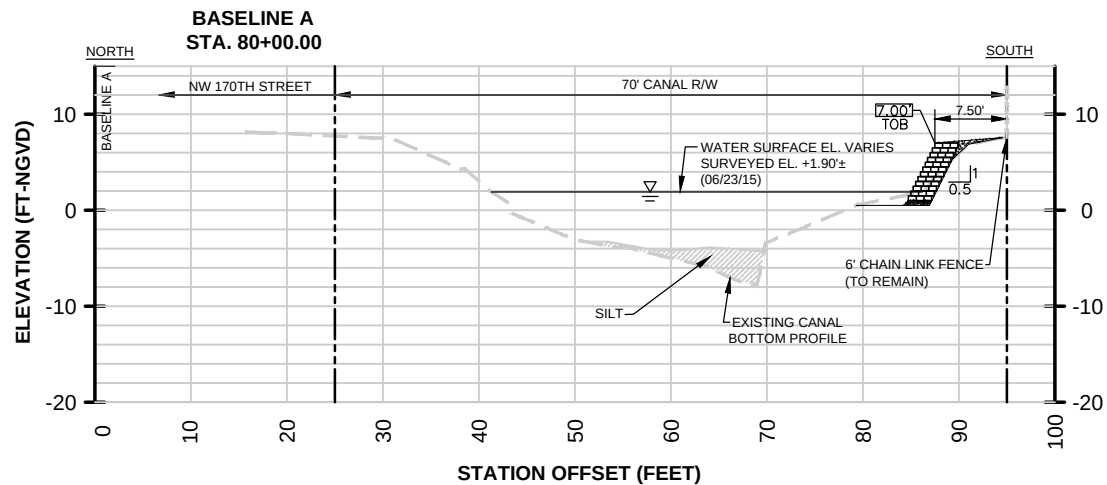
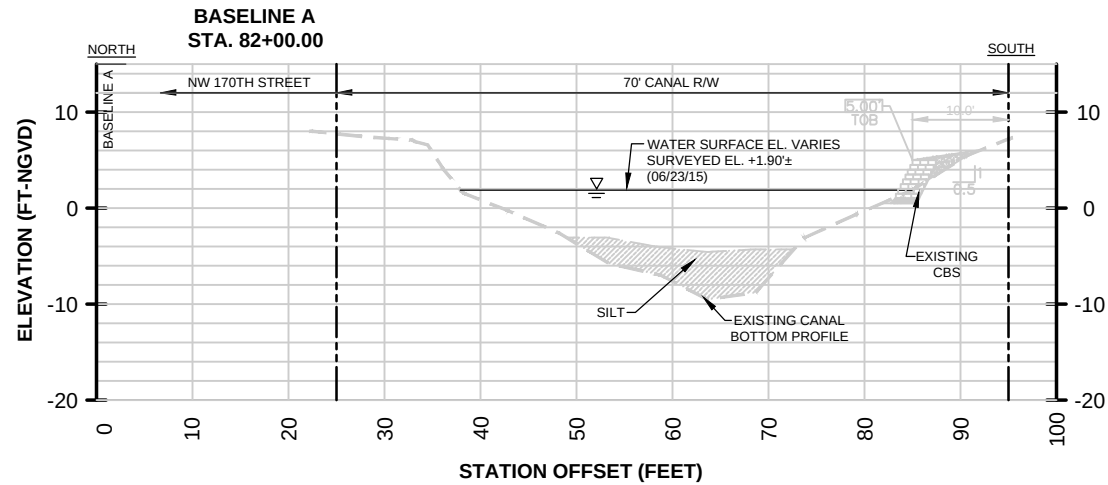
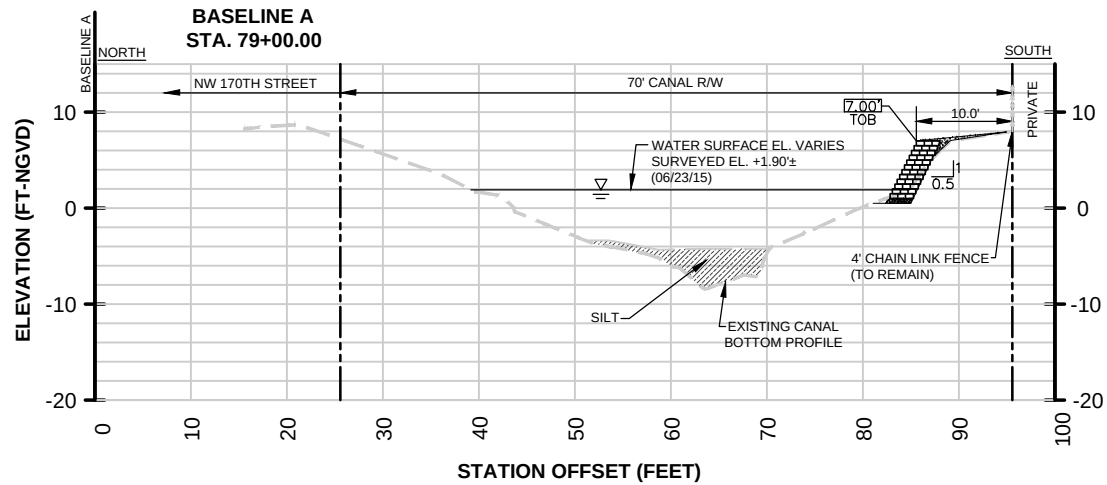
**TOWN OF MIAMI
LAKES
CANAL BANK RESTORATION
PHASE 2**

DATE: 10/22/18	SCALE: AS SHOWN	CADD FILE: CROSS SECT.
DESIGN BY: J.V.	DRAWN BY: R.B.	CHECKED BY: A.V.

**GOLDEN GLADES CANAL
STA 73+00 TO STA 78+00
CROSS SECTIONS**

SHEET
17
OF 21

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0 10' 20'

SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION



8550 N.W. 33RD STREET • SUITE 202
DORAL, FLORIDA 33122
PHONE (305) 551-4608 • FAX (305) 551-8977
WWW.ADAENG.NET EB # 00003212

BY: _____
JEFFREY VOLLAT, P.E.
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CIVIL ENG. STATE OF FL.

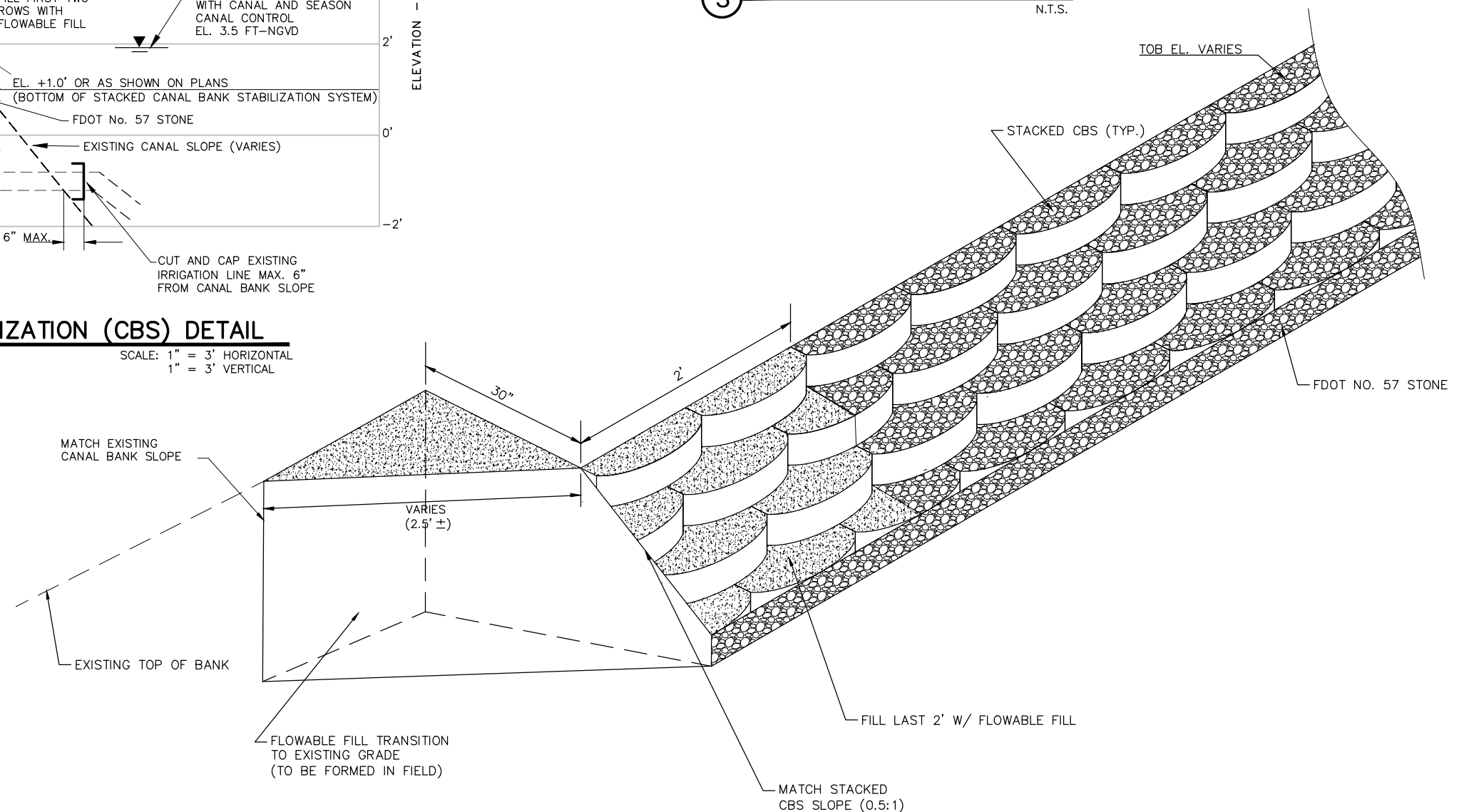
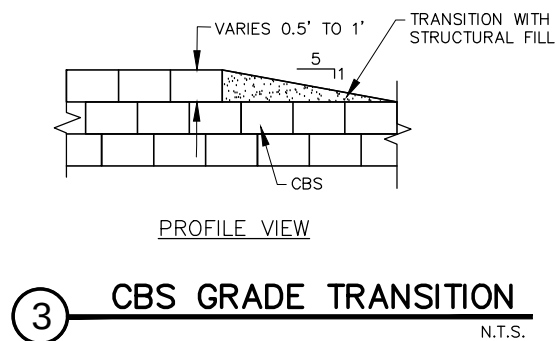
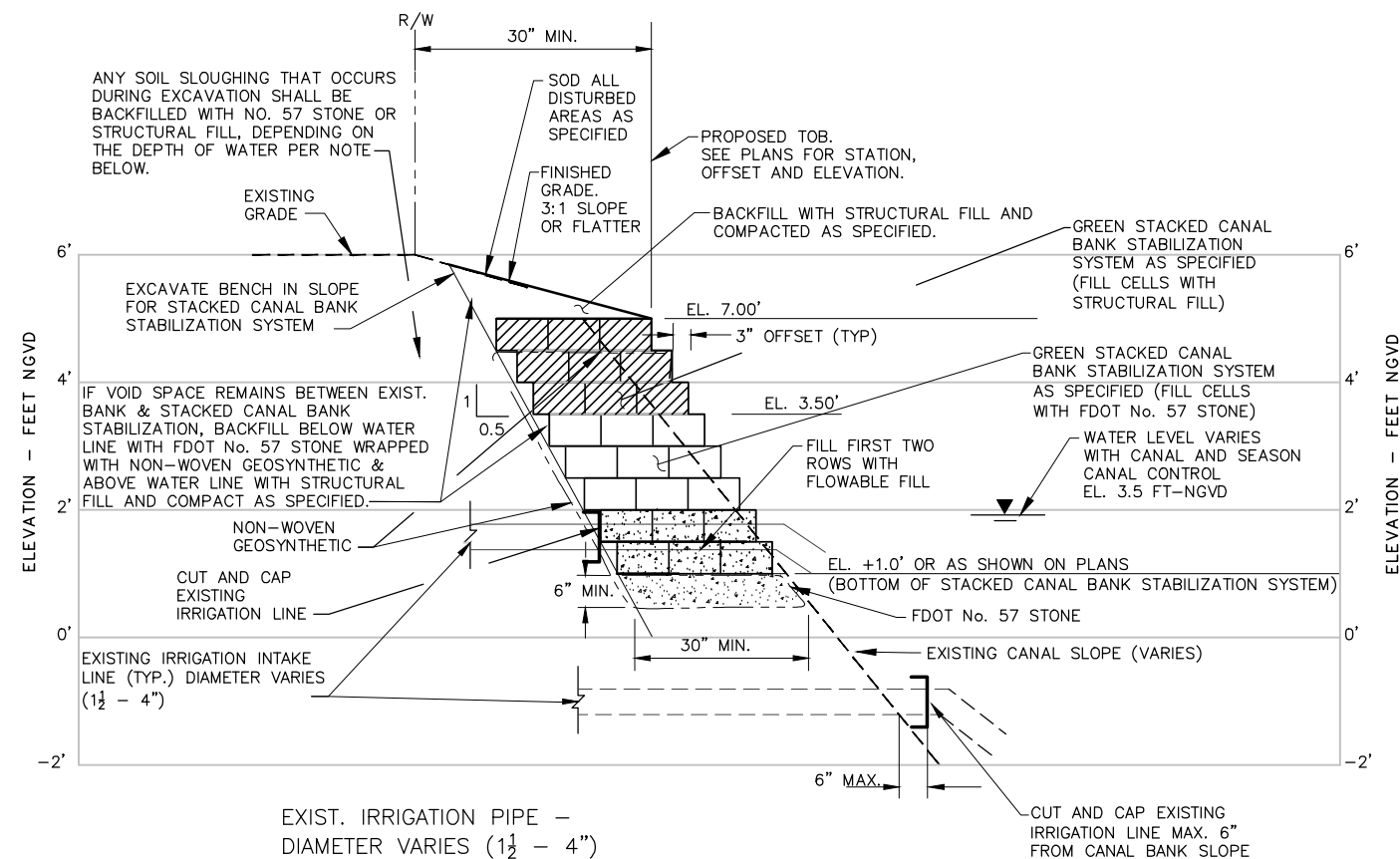


TOWN OF MIAMI
LAKES
CANAL BANK RESTORATION
PHASE 2

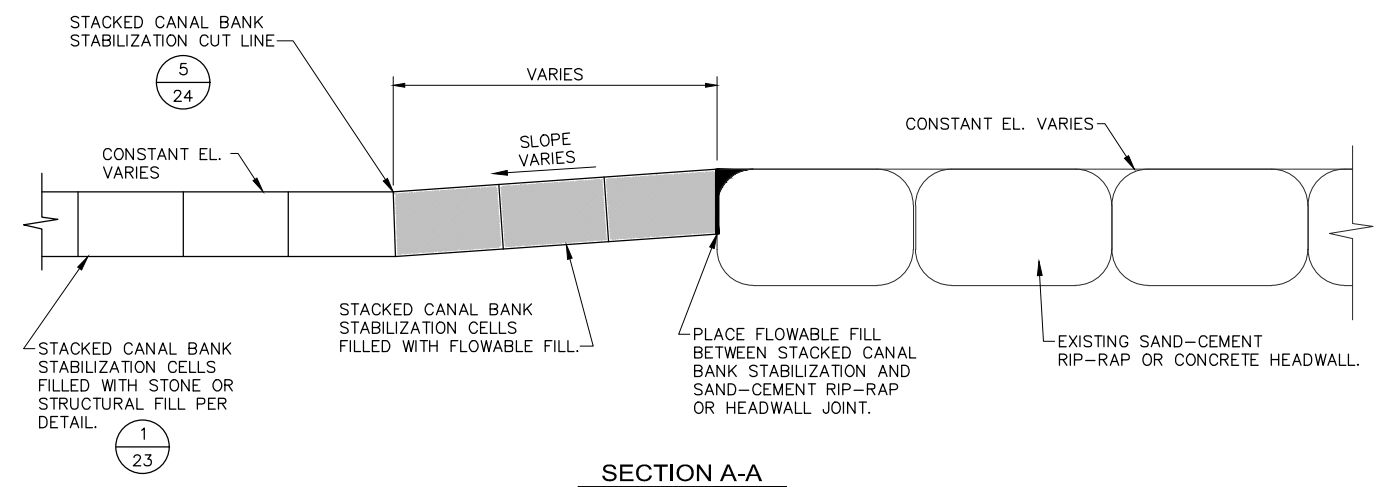
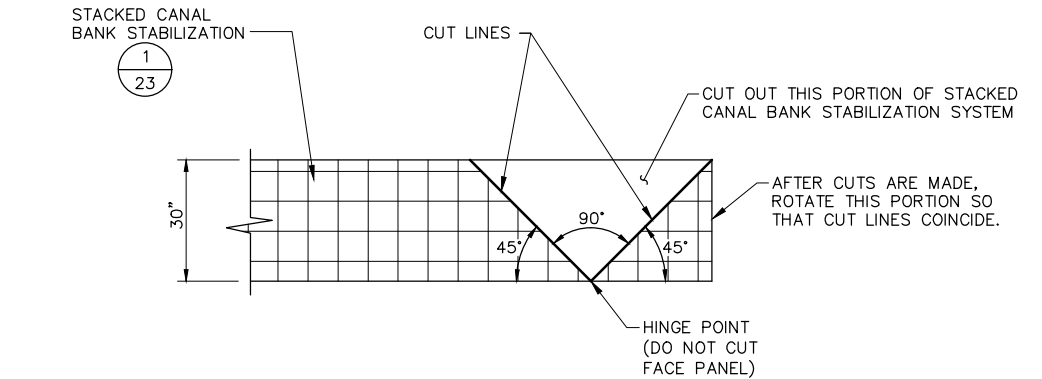
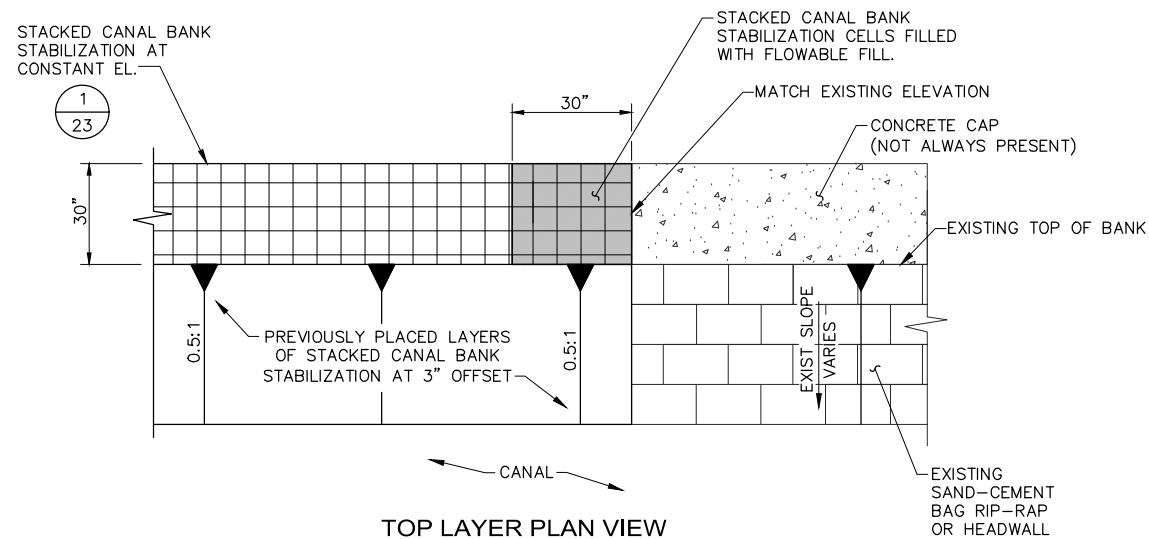
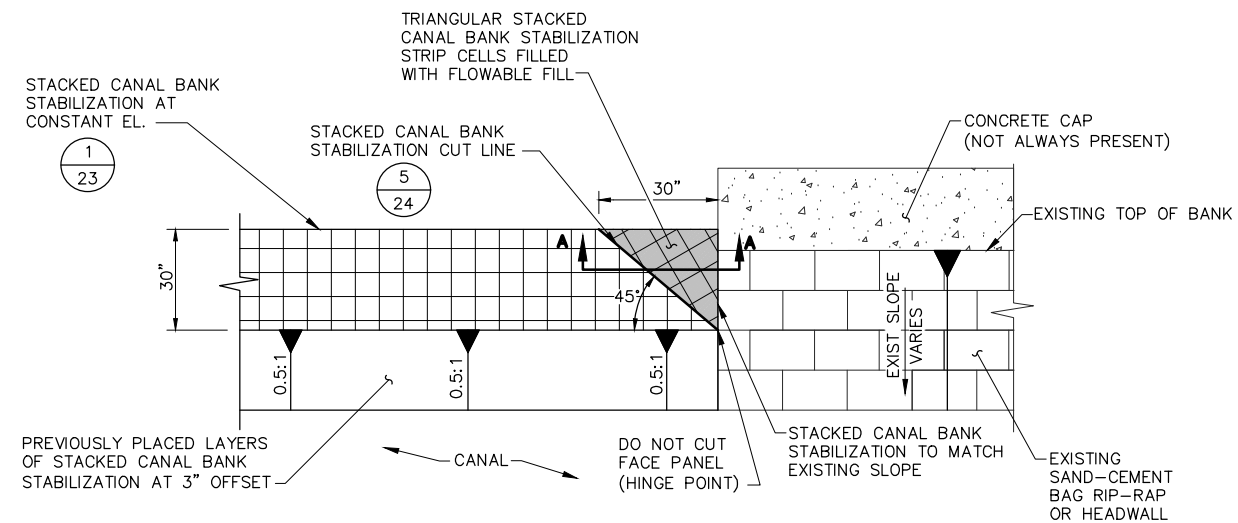
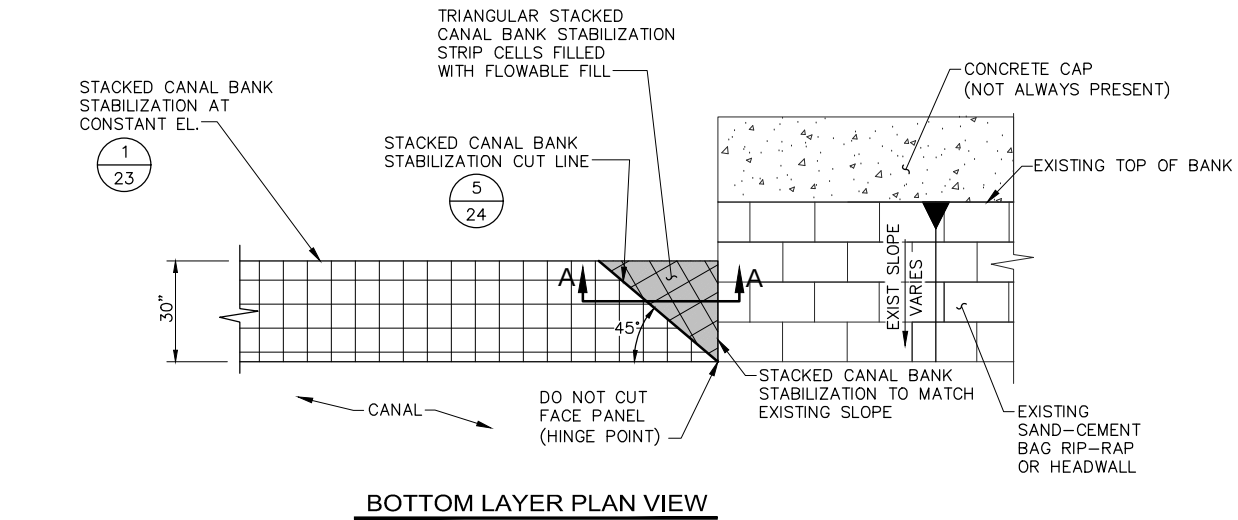
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GOLDEN GLADES CANAL
STA 79+00 TO STA 82+00
CROSS SECTIONS

SHEET
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OF 21



REVISIONS						 8550 N.W. 33RD STREET • SUITE 202 DORAL, FLORIDA 33122 PHONE (305) 551-4608 • FAX (305) 551-8977 WWW.ADAENG.NET EB # 00003212	BY: _____ JEFFREY VOLLAT, P.E. P.E. No. 63930 CIVIL ENG. STATE OF FL.	 TOWN OF MIAMI LAKES CANAL BANK RESTORATION PHASE 2	DATE:	SCALE:	CADD FILE:	DETAILS	SHEET	
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4 STACKED CANAL BANK STABILIZATION (CBS) - TIE-IN TO EXISTING HEADWALL DETAIL
N.T.S.

[illegible]

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P.E. No. 63930
CIVIL ENG. STATE OF FL.



TOWN OF MIAMI
LAKES
CANAL BANK RESTORATION
PHASE 2

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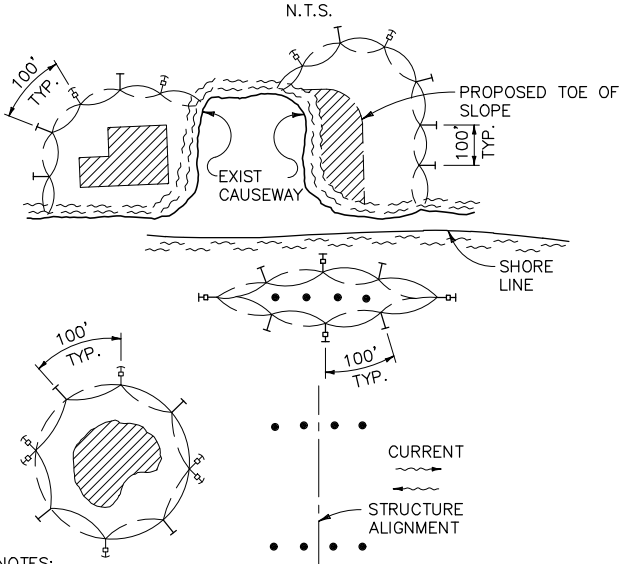
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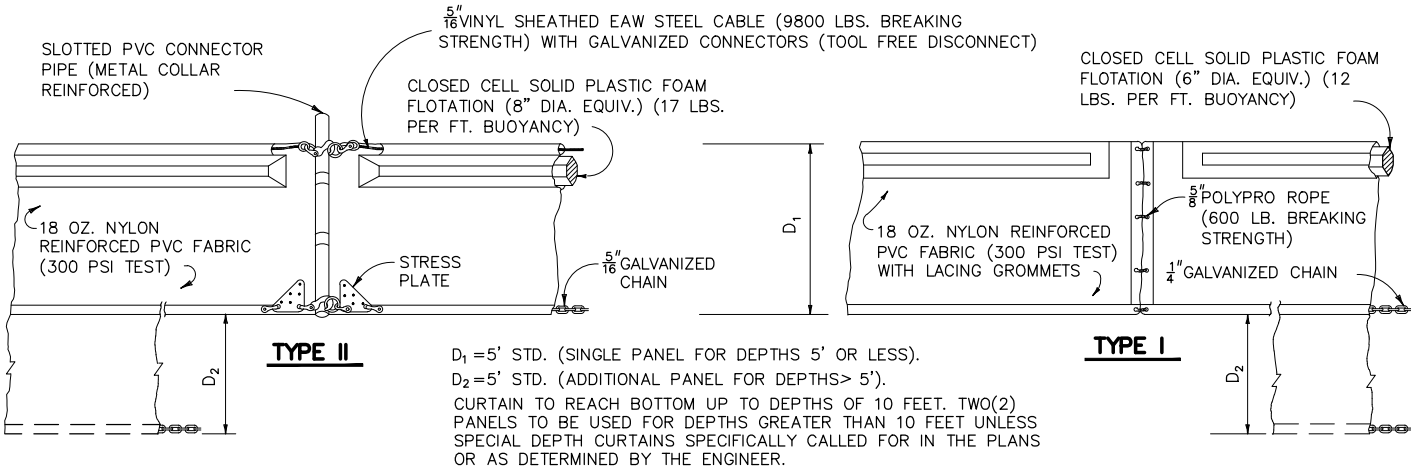
- PILE LOCATIONS
-  DREDGE OR FILL AREA
-  MOORING BUOY W/ANCHOR
-  ANCHOR
-  BARRIER MOVEMENT DUE TO CURRENT ACTION



NOTES:

1. TURBIDITY BARRIERS ARE TO BE USED IN ALL PERMANENT BODIES OF WATER REGARDLESS OF WATER DEPTH.
2. NUMBER AND SPACING OF ANCHORS DEPENDENT ON CURRENT VELOCITIES.
3. DEPLOYMENT OF BARRIER AROUND PILE LOCATIONS MAY VARY TO ACCOMMODATE CONSTRUCTION OPERATIONS.
4. NAVIGATION MAY REQUIRE SEGMENTING BARRIER DURING CONSTRUCTION OPERATIONS.
5. TURBIDITY BARRIERS ARE TO BE PLACED 50' UPSTREAM AND 50' DOWNSTREAM OF WORK AREA AND SHOULD MOVE ALONG WITH WORK ZONE.

TURBIDITY BARRIER APPLICATIONS



NOTICE: COMPONENTS OF TYPES ~ AND ~~ MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES ~ AND ~~ SHALL BE AS APPROVED BY THE ENGINEER.

TURBIDITY BARRIER DETAIL

6 FLOATING TURBIDITY BARRIER DETAIL
N.T.S.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION



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TOWN OF MIAMI
LAKES
CANAL BANK RESTORATION
PHASE 2

DATE: 8/1/18	SCALE: AS SHOWN	CADD FILE: DETAILS_1
DESIGN BY: J.V.	DRAWN BY: R.B.	CHECKED BY: A.V.

DETAILS

EXHIBIT C – TECHNICAL SPECIFICATIONS
(SPACE RESERVED FOR TECHNICAL SPECIFICATIONS)



TOWN OF MIAMI LAKES
CANAL BANK STABILIZATION PROJECT
PHASE 2

TECHNICAL SPECIFICATIONS

Jeffrey F. Vollat, P.E.
Florida P.E. License No.: 63930

SECTION	DESCRIPTION	PAGES
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DIVISION 1: GENERAL REQUIREMENTS

01560	Mobilization	1
01570	Maintenance of Traffic	2

DIVISION 2: TECHNICAL SPECIFICATIONS

02050	Demolition	3
02110	Clearing and Land Preparation	6
02240	Stacked Bank Stabilization System	9
02241	Short-Term Seam Strength Test	3
02242	Long-Term Seam Strength Test	2
02435	Turbidity Control and Monitoring	4
02480	Finish Grading and Sodding	3
02481	Tree Removal	4

SECTION 01560

MOBILIZATION

PART 1 - GENERAL

- 1.01 DESCRIPTION: The Work to be performed under this section shall consist of the preparatory Work and operations in mobilizing for beginning Work on the Project, including, but not limited to, those operations necessary for the movement of personnel, equipment, supplies and incidentals to the Project site, and for the establishment of temporary offices, buildings, safety equipment and first aid supplies, sanitary and other facilities, as required by these Specifications, and State and local laws and regulations.

The costs of bonds, insurance and any other pre-construction expenses necessary for the start of the Work, excluding the cost of construction materials is to be included in this Mobilization item. A detailed itemized cost-breakdown of this item shall be furnished by the CONTRACTOR at the pre-construction conference.

PART 2 - PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

PART 4 - METHOD OF MEASUREMENT (Not Applicable)

PART 5 - BASIS OF PAYMENT

- 5.01 This item will be paid for on the basis of the contract lump sum price for Mobilization, which price and payment shall be full compensation for mobilizing for beginning work on the project. Mobilization includes, but is not limited to, mobilization of equipment, labor, tools, furnishing of all materials, processes, incidental costs, all surveying, all supervision, cost of all bonds and warranties, all permit fees, and all insurance required to complete the work.
- 5.02 MAXIMUM AMOUNT: The maximum amount allowed for the mobilization item shall be five (5) percent of the total contract amount.
- 5.03 MAXIMUM DISTRIBUTION: The mobilization item shall be distributed 100% once the contractor has mobilized on site with equipment and labor personnel.

Payment will be made under:

Item P-01560-1 Mobilization – per Lump Sum (LS)

END OF SECTION

SECTION 01570

MAINTENANCE OF TRAFFIC

PART 1 - GENERAL

- 1.01 DESCRIPTION: The Work to be performed under this section shall include furnishing all materials and labor necessary to regulate vehicular and pedestrian traffic.
- 1.02 APPLICABLE CODES, STANDARDS AND SPECIFICATIONS: The Work under this Contract shall be in strict accordance with the following codes and standards.
 - A. Local, county and municipal codes.
 - B. Florida Department of Transportation Standard Specifications for Road and Bridge Construction, Latest Edition.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

- 3.01 MAINTENANCE OF TRAFFIC PLAN: The CONTRACTOR shall submit Maintenance of Traffic Plans (MOT) for review and acceptance by the TOWN's Project Manager prior to commencement of the work. The Project Manager may require revisions to the proposed MOT plan. The MOT plan must be updated by the Contractor every two weeks.
- 3.02 CONTRACTOR PERSONNEL: The CONTRACTOR shall provide trained and MOT certified personnel to assure the orderly flow of vehicular traffic during construction.
- 3.03 TRAFFIC CONTROL MATERIALS: The CONTRACTOR shall utilize adequate traffic control devices, warning devices and barriers to protect the traveling public and workers, and to safeguard the work area. The CONTRACTOR shall use only those MOT devices that are included on the Qualified Products List (QPL) of the FDOT. Included in the QPL are temporary concrete and temporary water filled barrier walls that shall be used when guardrails along canal banks are removed.
- 3.04 TRAFFIC AND VEHICULAR ACCESS:
 - A. Emergency Vehicles: No multi-family residence, apartment, commercial building or place of employment shall be without access to emergency vehicles for a period longer than three hours. The CONTRACTOR shall notify in writing the TOWN, the police, fire and other emergency departments and agencies when and where work is to be accomplished that will affect their operations at least two days in advance of such work.

- B. Major Road and Streets: No major roads or streets shall be blocked to traffic without adequate detour facilities for a period of more than 30 minutes or as directed by the TOWN. Upon completion of work each day the lanes shall be opened to traffic no later than 4:00 p.m.
- C. Commercial Properties: Access to commercial property shall not be blocked for a period of more than 30 minutes during the time such properties are open for business. The CONTRACTOR shall ensure that commercial property access is available upon completion of daily work.
- D. Residential Property: The CONTRACTOR shall ensure that private property driveways are usable upon completion of daily work.

PART 4 - METHOD OF MEASUREMENT

4.01 MAINTENANCE OF TRAFFIC: This item shall be measured on the basis of completion.

PART 5 - BASIS OF PAYMENT

5.01 MAINTENANCE OF TRAFFIC: This item will be paid for on the basis of the contract lump sum price for Maintenance of Traffic. This price shall be full compensation for furnishing all labor, equipment, materials, tools and incidentals necessary to complete the item.

5.02 PARTIAL PAYMENTS: Shall be made in accordance with the following schedule:

Percent of Original Contract Amount Earned	Cumulative Percent of Lump Sum Price Payable
5	25
25	50
50	75
75	90
100	100

Payment will be made under:

Item P-01570-1 Maintenance of Traffic—per Lump Sum (LS)

END OF SECTION

SECTION 02050

DEMOLITION

PART 1 - GENERAL

1.01 DESCRIPTION:

This section specifies demolition and removal of fencing, headwalls, revetment, other structures and debris from the construction site.

1.02 PROTECTION:

- A. Perform demolition in such manner as to eliminate hazards to persons and property; to minimize interference with use of adjacent areas, utilities and structures or interruption of use of such utilities; and to provide free passage to and from such adjacent areas of structures. Comply with requirements of Section GENERAL CONDITIONS, Article, ACCIDENT PREVENTION.
- B. Provide safeguards, including warning signs, barricades, temporary fences, warning lights, and other similar items that are required for protection of all personnel during demolition and removal operations.
- C. Maintain fences, barricades, lights, and other similar items around exposed excavations until such excavations have been completely filled.
- D. Provide enclosed dust chutes with control gates from each floor to carry debris to truck beds and govern flow of material into truck. Provide overhead bridges of tight board or prefabricated metal construction at dust chutes to protect persons and property from falling debris.
- E. Prevent spread of flying particles and dust. Sprinkle rubbish and debris with water to keep dust to a minimum.

PART 2 - PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 DEMOLITION:

- A. Completely demolish and remove structures, including all appurtenances related or connected thereto, as noted below:
 - 1. As required for installation of new geoblock installation.
- B. Debris, including brick, concrete, stone, metals and similar materials shall become property of Contractor and shall be disposed of by him. Break up concrete slabs below grade that do not require removal from present location into pieces not exceeding 600 mm (24 inches) square.
- C. Remove and legally dispose of all materials, other than earth to remain as part of project work, from any trash dumps shown. Materials removed shall be disposed of in compliance with applicable federal, state or local permits, rules and/or regulations. All materials in the indicated trash dump areas, including above surrounding grade and extending to a depth of 1500mm (5 feet) below surrounding grade, shall be included a part of the lump sum compensation for the work of this section. Materials that are located beneath the surface of the surrounding ground more than 1500 mm (5 feet), or materials that are discovered to be hazardous, shall be handled as unforeseen. The removal of hazardous material shall be referred to Hazardous Materials specifications.

3.02 CLEAN-UP:

On completion of work of this section and after removal of all debris, leave site in clean condition satisfactory to Resident Engineer. Clean-up shall include off the disposal of all items and materials not required to remain property of the Owner as well as all debris and rubbish resulting from demolition operations.

Payment will be made under:

Item P-02050-1	Removal of Wooden Decking – per Lump Sum (LS)
Item P-02050-2	Removal of Iron Fencing – per Lump Sum (LS)

Item P-02050-3	Removal of Wooden Fencing – per Lump Sum (LS)
Item P-02050-4	Removal of Roof Tiles – per Lump Sum (LS)
Item P-02050-5	Removal of Rip Rap – per Lump Sum (LS)

END OF SECTION

SECTION 02110

CLEARING AND LAND PREPARATION

PART 1 - GENERAL

1.01 DESCRIPTION:

- A. Summary of Work: The CONTRACTOR shall include the removal of vegetation and non-organic debris from areas where earthwork or other construction operations specified herein are to be performed. This section also includes land preparation activities for excavation and fill areas.

1.02 APPLICABLE PUBLICATIONS:

- A. American Association of State Highway and Transportation Officials (AASHTO) Standard:
 - 1. T-180 Moisture-Density Relations of Soils Using a 10 lb. Rammer and an 18 inch drop.
 - 2. T-181 In-Place Density of Compacted Base Course Containing Large Sizes of Coarse Aggregates

1.03 DEFINITIONS:

1.04 SUBMITTALS:

- A. Prior to beginning the work, CONTRACTOR shall submit a detailed plan for clearing and land preparation. The plan shall detail the sequence of work and describe the CONTRACTOR's planned method of clearing and land preparation activities.

1.05 QUALIFICATIONS: (Not Used)

1.06 RESPONSIBILITIES:

- A. The CONTRACTOR shall ensure the safe passage of persons around areas of clearing and land preparation. The CONTRACTOR shall conduct its operations to prevent injury to adjacent structures, vegetation designated to remain, other facilities and persons.
- B. Traffic:
 - 1. The CONTRACTOR shall conduct its operations and the removal of cleared materials to ensure minimum interference with existing access roads and other adjacent occupied or used facilities.
 - 2. The CONTRACTOR shall not block or otherwise obstruct access roads or other occupied or used facilities without permission from the TOWN.

Where blockage is allowed, the CONTRACTOR shall provide alternate routes around closed or obstructed traffic ways.

- C. The CONTRACTOR may commence clearing or land preparation within portions of the project falling within the limits of temporary construction easements or utility right-of-way only with specific permission from the TOWN for each activity and location. All requirements under A and B above apply within these limits.

1.07 CERTIFICATIONS AND TESTING: (Not Used)

1.08 INSPECTION COORDINATION: The CONTRACTOR shall provide access to the WORK for the TOWN as requested for inspection. The CONTRACTOR shall provide 48 hours notice of its intention to begin new WORK activities.

1.09 WARRANTY: (Not Used)

PART 2 - PRODUCTS

2.01 STRUCTURAL / RANDOM / UNCLASSIFIED FILL

- A. Structural Fill: Structural Backfill shall be comprised of sand and gravel with a maximum particle size of 2 inches and no more than 2 percent organic matter. Structural backfill shall be placed where indicated on the Drawings. Structural backfill is required where higher control of materials and placement is needed such as water retaining embankments, roadway embankments and adjacent to structures.
- B. Random Fill: Random Backfill shall be clean material free from organic material, clods, and stones greater than 6-inches. Random backfill shall be placed where indicated on the Drawings. Random backfill is required where stable backfill is needed to maintain slopes and grades, but will not retain water or be adjacent to structures.
- C. Unclassified Fill: Unclassified Fill shall be material used to bring areas to grade where there is no potential for slope erosion and the fill will not support a structure of critical function. Unclassified backfill shall be placed where neither structural backfill or random backfill are shown on the Drawings.

PART 3 - EXECUTION

3.01 GENERAL CLEARING:

- A. The CONTRACTOR shall remove the majority of the above grade non-native vegetative matter in the areas indicated on the plans. The CONTRACTOR shall complete the work of Clearing and Land Preparation as outlined below.
 - 1. Mowing or the use of a bush-hog may be required in areas of heavy grass, weeds, or woody-stalked vegetation.

2. Completely remove all designated exotic/hazardous vegetation within the designated project boundaries.
3. All woody debris that measures over three-quarters inch in diameter and longer than 18-inches shall be removed.
5. All plant material (whole or chipped) will be removed from the project area and stockpiled at a location authorized by the TOWN. Disposal of the stockpile shall be accomplished at a maximum of every 15 workdays.
6. Remove any garbage or other waste debris recovered during clearing.
7. On completion of the clearing, remove all sticks, rubbish and other extraneous material and rake the ground surface in order to leave a smooth and clean appearance.
8. Clearing and land preparation shall proceed sufficiently ahead of earthwork activities to minimize disruption and allow time for determination of the adequacy of the clearing procedure.
9. All work shall be performed in accordance with approved principles of modern arboricultural methods.
10. All trees to remain in the project area, as designated by the TOWN, shall be protected from damage by tree barricades.
11. All work shall be performed without damage to existing amenities. The CONTRACTOR shall be responsible for repair and replacement of existing amenities to the satisfaction of the TOWN. The CONTRACTOR shall protect all vegetation, habitats, or amenities on the project location as indicated on the plans.
12. Trees and Shrubs: The CONTRACTOR shall not remove any trees without prior approval from the Town of Miami Lakes representative. Trees shown to be removed shall be done as specified in Section 02481, TREE REMOVAL. The CONTRACTOR shall immediately repair damage to existing trees and shrubs by trimming, cleaning and painting damaged areas, including roots, in accordance with standard industry horticultural practice for the geographic area and plant species. Do not store building materials closer to trees and shrubs, which are to remain, than farthest extension of their limbs.
13. Strip topsoil from within limits of earthwork operations as specified. Topsoil shall be a fertile, friable, natural topsoil of loamy character and characteristic of locality. Topsoil shall be capable of growing healthy horticultural crops of grasses. Stockpile topsoil and protect as directed by TOWN. Eliminate foreign materials, such as weeds, roots, stones, subsoil, frozen clods, and similar foreign materials larger than 1/2 cubic foot in volume, from soil as it is stockpiled. Retain topsoil on station. Remove foreign materials larger than 2 inches in any dimension from topsoil used

in final grading. Topsoil work, such as stripping, stockpiling, and similar topsoil work shall not, under any circumstances, be carried out when soil is wet so that tilth of soil will be destroyed.

- B. The CONTRACTOR shall clear adjacent to cut or fill sections to a minimum distance of 10 feet outside of slope lines unless lesser distances are specified. Clearing in areas of native vegetation for levee construction or removal and canal excavation shall be limited to a distance of 10 feet outside of slope lines.
- C. The CONTRACTOR shall dispose of all materials removed from the property at a legally approved site, for the specific materials, and all removals shall be in accordance with all applicable Federal, State and local regulations. No burning of materials is permitted onsite.

3.02 CLEARING WITHIN AREAS OF NATIVE VEGETATION:

- A. The CONTRACTOR shall remove exotic plants, hazardous material, trash, and debris and leave the site clean with a smoothly raked finish grade. Every reasonable effort shall be made to protect native vegetation designated to remain, such as Coco Plum, Salt Bush, Pond Apples, Leather fern, etc. Areas disturbed by work operations, such as, but not limited to, access points beyond the limits of the right-of way, shall be restored to original or better condition, including, but not limited to, filling, grading, sodding, and seeding/mulching as direct by the TOWN.

3.03 HEAVY CLEARING – LARGE DEBRIS REMOVAL

- A. The CONTRACTOR shall remove tree stumps and roots larger than six (6) inches in diameter and backfill resulting excavations with Structural Fill.
- B. The CONTRACTOR shall remove all non-organic debris measuring larger than 30-inches in any dimension within the limits of construction, including but not limited to automobile tires, auto parts, boulders, etc.
- C. The CONTRACTOR shall dispose of all materials removed from the property at a legally approved site, for the specific materials, and all removals shall be in accordance with all applicable Federal, State and local regulations. No burning of materials is permitted onsite.

3.04 PLACEMENT OF EMBANKMENT FILL

- A. The CONTRACTOR shall construct embankments with Structural Fill and or FDOT No. 57 stone true to the lines, grades and cross sections shown on the Drawings or as directed by the TOWN. The embankment fill requirements shall meet the specifications provided in Sections 02230 and 02240. Unreasonable roughness of the surface shall be dressed out. Rocks and boulders shall not project above the finished surfaces. All areas disturbed shall be graded by the CONTRACTOR so that water drains freely at all points after construction.

PART 4 - METHOD OF MEASUREMENT

- 4.01 CLEARING AND LAND PREPARATION: This item shall be measured on the basis of the area in square yards of the surface cleared, prepared and accepted.
- 4.02 NON-ORGANIC DEBRIS REMOVAL: This item shall be measured on the basis of the each non-organic debris measuring larger than 30-inches in any dimension removed from the site and disposed of in a manner approved by the TOWN and consistent with local, State and Federal regulations.
- 4.03 LARGE TREE STUMP REMOVAL: This item shall be measured on the basis of each tree stump, where the remaining trunk of the tree measures larger than six (6)-inches in diameter, removed from the site and disposed of in a manner approved by the TOWN and consistent with local, State and Federal regulations.
- 4.04 EMBANKMENT FILL: This item shall be measured on the basis of cubic-yards of Structural Fill or FDOT No. 57 Stone, compacted in-place per the specified standards. The volumetric measurement will be calculated by the method of average end areas, unless the TOWN determines that another measurement will provide a more accurate result.

PART 5 - BASIS OF PAYMENT

- 5.01 CLEARING AND LAND PREPARATION: This item will be paid for on the basis of the contract unit price per square yard for clearing and preparing, which price shall be full compensation for all labor, equipment, material, and incidentals necessary to satisfactorily complete the items as specified.
- 5.02 NON-ORGANIC DEBRIS REMOVAL: This item shall be measured on the basis of the each non-organic debris measuring larger than 30-inches in any dimension removed from the site and disposed of in a manner approved by the TOWN and consistent with local, State and Federal regulations.
- 5.03 LARGE TREE STUMP REMOVAL: This item shall be paid on the basis of each tree stump, where the remaining trunk of the tree measures larger than six-inches in diameter, removed from the site and disposed of in a manner approved by the TOWN and consistent with local, State and Federal regulations.
- 5.04 EMBANKMENT FILL: This item shall be paid on the basis of cubic-yards of Structural Fill or FDOT No. 57 Stone, compacted in-place per the specified standards.. The volumetric measurement will be calculated by the method of average end areas, unless the TOWN determines that another measurement will provide a more accurate result.
- 5.05 REMOVAL OF EXISTING FENCE: Excavate fence footing and remove all portions of the existing fencing within project right-of-way and as notated on the plans. The fence shall be disposed of by CONTRACTOR.

Payment will be made under:

- Item P-02110-1 Clearing and Land Preparation—per Square Yard (SY)
- Item P-02110-2 Embankment Fill – per Cubic Yard (CY)

Item P-02110-3

FDOT No. 57 Stone – per Ton (TN)

END OF SECTION

SECTION 02240

STACKED BANK STABILIZATION SYSTEM

PART 1 - GENERAL

1.01 DESCRIPTION: The work covered by this section includes the furnishing of all labor, materials, equipment and incidentals for construction and installation of Stacked Canal Bank Stabilization (CBS) System as shown on the Construction Drawings and described by the Contract Specifications.

1.02 RELATED WORK:

- A. Section 02241 - SHORT-TERM SEAM STRENGTH TEST
- B. Section 02242 - LONG-TERM SEAM STRENGTH TEST
- C. Section 02480 - FINISH GRADING AND SODDING

1.03 REFERENCES:

- A. The American Society for Testing and Materials (ASTM)
- B. American Association of State Highway and Transportation Officials (AASHTO)
- C. Florida Department of Transportation (FDOT) Standard Specifications for Road and Bridge Construction, latest edition
- D. Presto Products Company: Technical Overview
- E. Presto Products Company: Installation Guidelines

1.04 SUBMITTALS: The Contractor shall submit the following items:

- A. Shop drawings
- B. Product data, drawings and samples
- C. Submit current product quality assurance test data and independent laboratory test results indicating compliance with specified performance. The Engineer will approve or disapprove other manufacturers' materials within 60 days after all submitted information is studied and tested.

1.05 QUALITY ASSURANCE AND CERTIFICATION: Product manufacturers shall provide certification of compliance with all applicable testing procedures and related

specifications upon written request. Request for certification shall be submitted by the purchasing agency no later than the date of order placement. Product manufacturers shall also have a minimum of 5 years experience producing products for slope protection systems.

- 1.06 **WARRANTY:** The manufacturer shall warrant each cellular confinement system section which it ships to be free from defects in materials and workmanship at the time of manufacture. The manufacturer's exclusive liability under this warranty or otherwise will be to furnish without charge to the manufacturer's customer at the original f.o.b. (Freight on Board) point a replacement for any section which proves to be defective under normal use and service during the 10-year period which begins on the date of shipment by the manufacturer.
- 1.07 **ON-SITE MANUFACTURER'S REPRESENTATIVE:** The manufacturer shall provide a qualified representative on site at the start of construction to ensure that the contractor installs the cellular confinement system in accordance with the contract drawings and specifications. The representative shall have at least 5 years experience installing slope protection systems and have installed a minimum of 50,000 m² (500,000 ft²) of cellular confinement material.
- 1.08 **ISO CERTIFICATION:** The manufacturer shall have earned a certificate of registration, which demonstrates that its quality-management system for its cellular confinement system is currently registered to the ISO 9001:2000 quality standards.

The scope of ISO 9001:2000 registration shall be for the entire cellular confinement system product manufacturing process from incoming raw materials (resin) to finished product. Earned registration shall be verifiable by providing a copy of the current continuous registration certificate upon the customer's written request.

Under the scope of the ISO quality standard, the manufacturer shall compile, keep record of, and provide for each customer order or production lot, actual and certified values for the following:

- A. Resin Lot Number
- B. Resin Density
- C. Carbon Black content (where applicable)
- D. Sheet Thickness
- E. Short-term Seam Peel Strength
- F. Long-term Seam Peel Strength - 7-day hot box method

- 1.09 10,000 HOUR SEAM PEEL STRENGTH CERTIFICATION: The manufacturer shall provide data showing that the high-density polyethylene resin used to produce the cellular confinement sections has been tested using an appropriate number of seam samples and varying loads to generate data indicating that the seam peel strength shall survive a loading of at least 95 kg (209 lbf) for a minimum of 10,000 hours.
- 1.10 MATERIALS HANDLING AND STORAGE: The contractor shall check all materials delivered to the site to ensure that the correct materials have been received. Materials shall be stored on site in a manner that ensures that no damage occurs to any of the materials. Damaged materials shall be replaced at the Contractor's expense.
- 1.11 SUBSTITUTIONS: No material will be considered as an equivalent to the cellular confinement material specified herein unless it meets all areas of this specification without exception. Manufacturers seeking to supply what they represent as equivalent material must submit records, data, independent test results, samples, certifications, and documentation deemed necessary by the Engineer to prove equivalency. The Engineer shall approve or disapprove other manufacturers materials within 60 days after all submitted information is studied and tested.

PART 2 – MATERIALS

- 2.01 MANUFACTURER AND AVAILABILITY: The cellular confinement system shall be manufactured by Presto Products Company, or approved equal.
- 2.02 CELLULAR CONFINEMENT SYSTEM: The cellular confinement system consists of an assembly of extruded H.D.P.E. sheet strips connected in series, using full-depth ultrasonic spot-welded seams, aligned perpendicular to the longitudinal axis of the strips. When expanded, the interconnected strips form the walls of a flexible, three-dimensional cellular confinement structure into which the specified infill materials can be placed. The system can include:
1. Geocells
 2. Pipe Subdrain
 3. Backfill Material
 4. Outer Cell Infill Material
 5. Interior Cell Infill Material
- 2.03 MATERIALS – COMPOSITION AND PROPERTIES:
- A. Cellular confinement system material color shall be green.
 - B. Cellular Confinement System Base Material: Polyethylene used to make strips for cellular confinement sections shall have a density of 0.935 - 0.965 g/cm³ (58.4 - 60.2 lb/cu.ft) tested per ASTM D1505. Polyethylene used to make strips for cellular confinement sections shall have an Environmental Stress Crack Resistance (ESCR) of 3000 hour tested per ASTM D1693. The resin

manufacturer's certification of polyethylene density and ESCR shall be available upon request from the Manufacturer.

Polyethylene - Colored and Stabilized with HALS: The color of the polyethylene strips used for the outer cells of the wall shall be green. Colorants shall be non-heavy metal types. The colorant shall be homogeneously distributed throughout the material. Hindered amine light stabilizer (HALS) shall be used for ultra-violet light stabilization. HALS content shall be 1.0% by weight through the addition of a carrier with a certified HALS concentrate. The HALS shall be homogeneously distributed throughout the material. Colored polyethylene fascia panels on cellular confinement sections used for earth retention systems shall have a High Pressure Oxidation Induction Time (HPOIT) of 820 minutes minimum per ASTM D5885 'Test Method for Oxidative Induction Time of Polyolefin Geosynthetics by High Pressure Differential Scanning Calorimetry'. The Manufacturer shall certify the percentage of HALS.

Polyethylene - Stabilized with Carbon Black: The color of the polyethylene strips used for the inner cells of the wall shall be black. Carbon black shall be used for ultra-violet light stabilization. Carbon black content shall be 1.5% - 2% by weight through the addition of a carrier with a certified carbon black content. The carbon black shall be homogeneously distributed throughout the material. The Manufacturer shall certify the percentage of carbon black.

- C. **Strip Properties:** Strips used to make cellular confinement sections shall have a sheet thickness, of 1.27 mm -5% +10% (50 mil -5% +10%) tested per ASTM D5199. Thickness shall be determined in the flat, before any surface texturing or other surface disruption. The interior strips shall be perforated. Perforations shall be such that the peak friction angle between the surface of the perforated plastic and a #40 silica sand at 100% relative density shall be no less than 85% of the peak friction angle of the silica sand in isolation when tested by the direct shear method per ASTM D 5321. The quantity of perforations shall remove 19.6% $\pm$ 3% of the cell wall area. The outer strips for the wall face shall be textured. Texturization shall be such that the peak friction angle between the surface of the perforated plastic and a #40 silica sand at 100% relative density shall be no less than 85% of the peak friction angle of the silica sand in isolation when tested by the direct shear method per ASTM D 5321.
- D. **Cell Seam Peel Strength Tests:** Cell seam strength shall be uniform over the full depth of the cell. Minimum seam peel strengths shall be: 2840 N (640 lbf) for the 200 mm (8.0 in) depth cell, 2130 N (480 lbf) for the 150 mm (6.0 in) depth cell, 1420 N (320 lbf) for the 100 mm (4.0 in) depth cell, 1060 N (240 lbf) for the 75 mm (3.0 in) depth cell. Short-term peel strength shall be tested per Section 02241.

Long-term seam peel-strength test shall be performed on all resin or pre-manufactured sheet or strips. A 100 mm (4.0 in) wide seam sample shall support a 72.5 kg (160 lb) load for a period of 168 hours (7 days) minimum in a

temperature-controlled environment undergoing a temperature change on a 1-hour cycle from ambient room to 54°C (130°F). Ambient room temperature is per ASTM E41. Long-term peel strength shall be tested per Section 02242.

- E. Cellular Confinement Dimensions: Cellular confinement sections shall be fabricated using strips of sheet polyethylene each having a length of 3.61 m (11.8 ft). Polyethylene strips shall be connected using full-depth ultrasonic spot-welds aligned perpendicular to the longitudinal axis of the strip. Weld spacing shall be 445 mm $\pm$ 2.5 mm (17.5 in $\pm$ 0.10 in). The ultrasonic weld melt-pool width shall not exceed 25 mm (1.0 in).

The cellular confinement sections shall have expanded individual cell dimensions of 287 mm (11.3 in) by 320 mm (12.6 in). The cell depth shall be 6 inches. Cellular confinement sections shall be 8 cells or 2.64 m (8.67 ft) wide. Sections for cellular confinement wall structures are always 2.64 m (8.67 ft) wide and 0.150 m (0.50 ft) deep and have varying section lengths depending on details of the design.

2.04 CELL INFILL MATERIALS:

- A. Elevation 1.0 ft. NGVD to Elevation 2.0 ft. NGVD: For cells that are positioned in the first two rows, cell infill materials shall consist of Flowable fill that meets the requirements of Section 121 of the FDOT Standard Specifications for Road and Bridge Construction, latest edition.
- B. Elevation 2.0 ft. NGVD to 3.5 ft. NGVD: For cells that are positioned below the canal water level but above the first two rows, cell infill materials shall consist of No. 57 Coarse Aggregate as described in Section 901 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, latest edition.
- C. Above Elevation 3.5 ft. NGVD: For cells that are located above the canal water level, cell infill materials shall consist of structural fill comprised of sand and gravel having a maximum size of 2 inches and no more than 2 percent organic matter.

2.05 GEOSYNTHETIC COMPONENTS: The geosynthetic separation layer shall consist of Mirafi 180N nonwoven geotextile.

2.06 BACKFILL MATERIAL: The backfill material to be placed behind the cellular confinement system shall consist of FDOT No. 57 Stone Below Elevation 3.5 ft. NGVD and structural fill above Elevation 3.5 ft. NGVD. Structural fill shall be comprised of sand and gravel with a maximum particle size of 2 inches and not more than 2 percent organic content.

- 2.07 FLOWABLE FILL: Flowable fill shall consist of fine aggregate and cementitious materials that meet the requirements of Section 121 of the FDOT Standard Specifications for Road and Bridge Construction, latest edition. The mix design shall be proportioned for Excavatable Flowable Fill. Flowable fill to be placed within cells in the first two rows (elevation 1.0 ft NGVD – 2.0 ft. NGVD).

PART 3 – CONSTRUCTION

3.01 EXAMINATION:

- A. Verify that site conditions are as indicated on the Construction Drawings.
- B. Verify that layout of the proposed work is in accordance with the Construction Drawings.
- C. Verify that all required materials delivered to the site comply with the Contract Specifications.

3.02 FOUNDATION PREPARATION

- A. Install approved sediment control works and turbidity barriers. Dewatering of canals will not be permitted.
- B. The foundation soil shall be excavated or filled as required to the footing grades and dimensions shown on the Construction Drawings or as directed by the Engineer. The native soil shall be excavated to the lines and grades shown on the Construction Drawings and moved to a suitable location for reuse as directed by the Engineer. The procedures, extent and scheduling of the temporary excavations for the stacked bank stabilization system shall be approved by the Engineer in the field.
- C. Place and shape specified granular leveling pad materials, complete with geosynthetic layer as shown on the drawings.
- E. Install the specified geosynthetic underlayer on the prepared surfaces, ensuring that required overlaps are maintained and that the outer edges of the geosynthetic are buried at least 6 inches below grade to prevent uncontrolled flow of surface runoff below the geosynthetic.

- 3.03 PLACEMENT OF BASE LAYER: The bottom cellular confinement layer shall be placed on a leveling pad that consists of 6 inches (thick) of FDOT No. 57 Stone. The bottom cellular confinement layer shall then be placed directly on the leveling pad, and infilled with the specified infill material. Pre-cut cellular confinement sections shall be expanded into position at the grades and lines shown on the Construction drawings.

3.04 PIPE SUBDRAIN: Not applicable.

- 3.05 INSTALLATION OF CELLULAR CONFINEMENT WALL SECTIONS: Cellular confinement sections shall be expanded into position and dimensioned according to the Construction Drawings. Individual sections can be held in the expanded positions with suitable stretcher frames, stretcher bars, or steel stakes positioned inside selected outer cell walls. Confirm that each cellular confinement section is expanded uniformly to the required dimensions and that the outer cells are correctly aligned.

The edges of adjacent sections of cellular confinement sections shall be inter-leafed or butt-jointed according to which side-wall profiles abut. In all cases, the upper surfaces of adjoining cellular confinement sections shall be flush at the joint. Inter-leaf side connections between expanded cellular confinement sections. Welded edge seams should be overlapped and aligned when stapling. Abut end connections between cellular confinement sections. The longitudinal centerlines of abutting external cells should be aligned and stapled at the cell wall contact point.

Adjoining sections shall be stapled together using a Stanley Bostitch P50-10B pneumatic stapler using 1/2 inch SB103020 wire staples (or other approved stapler and staples).

Refer to the Manufacturer's standard drawings for additional details regarding panel connections.

3.06 PLACEMENT AND COMPACTION OF INFILL MATERIALS IN CELLULAR CONFINEMENT SYSTEM

- A. Infill shall be placed and compacted in cells only one layer at a time.
- B. Elevation 1.0 ft. NGVD to Elevation 2.0 ft. NGVD: Infill materials shall consist of Flowable Fill. No compaction of this material shall be required.
- C. Elevation 2.0 ft. NGVD to Elevation 3.5 ft. NGVD: Infill materials shall consist of FDOT No. 57 Stone. No compaction of this material shall be required.
- D. Above Elevation 3.5 ft. NGVD: Infill materials shall consist of structural fill that is comprised of sand and gravel having a maximum size of 2 inches and not more than 2 percent organic matter. Compaction of the cell infill materials shall include moisture conditioning and compaction to not less than 95 percent of the maximum dry density determined in accordance with ASTM D 1557.

3.07 PLACEMENT OF RETAINED BACKFILL SOIL

Retained backfill soils located behind the cellular confinement wall system shall consist of materials identical to those described above for Infill Materials, and shall be compacted as described above for Infill Materials, both above and below the elevation specified on the plans. In the case where FDOT No. 57 stone is required, for retained backfill soil, a non-woven geosynthetic shall be wrapped around the stone backfill on all sides to prevent the migration of fines. For retained backfill soils behind the

confinement wall system and above the elevation specified on the plans, structural fill as described above shall be used and shall be placed in lifts no greater than 8-inches in thickness. At no time during construction shall the structural fill exceed the height of the adjacent confinement wall system by more than 1-foot.

In order to avoid outward displacement of cellular confinement sections at the face of the wall during construction, no heavy compaction equipment shall be allowed within approximately 5 feet of the back of the cellular confinement sections.

3.08 PLACEMENT OF FLOWABLE FILL:

Flowable Fill shall be placed in the first two rows of cells and in the areas shown on the drawings, and in accordance with the procedures described in Section 121 of the FDOT Standard Specifications for Road and Bridge Construction, latest edition.

3.09 DISPOSAL OF UNSUITABLE AND EXCESS EXCAVATED MATERIAL:

- A. Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off project property.
- B. Disposal: Transport surplus satisfactory soil to designated storage areas on property. Stockpile or spread soil as directed by ENGINEER.
- C. Place excess excavated materials suitable for fill and/or backfill on site where directed.
- D. Remove from site and dispose of any excess excavated materials after all fill and backfill operations have been completed.
- E. Segregate all excavated contaminated soil designated by the ENGINEER from all other excavated soils, and stockpile on site on two polyethylene sheets (6 mil) with a polyethylene cover. A designated area shall be selected for this purpose. Dispose of excavated contaminated material in accordance with State and Local requirements.
- F. Trucks hauling material shall include an impermeable liner to avoid spilling water to streets during hauling to the disposal site.

PART 4 – MEASUREMENT AND PAYMENT

Measurement and payment for the stacked Canal Bank Stabilization (CBS) system will be based on the contract unit prices per linear foot of canal bank. The contract unit prices shall include full compensation for the cost of all labor, materials, and equipment to excavate, place geosynthetic underlayer, install the cellular confinement system materials, place infill and retained soils around culverts and structures. Pay items shall include the following:

Item P-02240-1	Stacked CBS Excavation via Barge – per Linear Foot (LF)
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Item P-02240-2	Stacked CBS Installation via Barge (0.5 ft-NGVD to 2.0 ft. NGVD) – per Linear Foot (LF)
Item P-02240-3	Stacked CBS Installation via Barge (2.0 ft-NGVD to 3.5 ft. NGVD) – per Linear Foot (LF)
Item P-02240-4	Stacked CBS Installation via Barge (Above 3.5 ft-NGVD) – per Linear Foot (LF)
Item P-02240-5	Stacked CBS End Treatment – per Each (EA)
Item P-02240-6	Stacked CBS Termination at Structures – per Each (EA)

END OF SECTION

SECTION 02241

SHORT-TERM SEAM STRENGTH TEST

PART 1 - GENERAL

- 1.01 DESCRIPTION: The work covered by this section includes the furnishing of all labor, materials, equipment and incidentals for the Short Term Seam Strength Test.
- 1.02 RELATED WORK:
- A. Section 02240 - STACKED BANK STABILIZATION SYSTEM
 - B. Section 02242 - LONG-TERM SEAM STRENGTH TEST
- 1.03 REFERENCES:
- A. The American Society for Testing and Materials (ASTM)
 - B. American Association of State Highway and Transportation Officials (AASHTO)
 - C. Florida Department of Transportation (FDOT) Standard Specifications for Road and Bridge Construction, latest edition
 - D. Presto Products Company: Technical Overview
 - E. Presto Products Company: Installation Guidelines

PART 2 – MATERIALS (Not Applicable)

PART 3 – EXECUTION

- 3.01 FREQUENCY OF TEST: The short-term seam peel strength test (referred to as the ‘test’ in this section) shall be performed on a geocell section randomly taken directly from the production line each two hours.
- 3.02 TEST SAMPLE PREPARATION: Randomly select 10 welds within the geocell section to be tested. Cut the strips defining those welds from the section such that the cut is 10 cm (4 in) on both sides of the weld and perpendicular to the weld. End and internal welds require 4 cuts. Edge welds require 2 cuts. Prior to testing, the test samples shall have air cool for a minimum of 30 minutes from the time the selected geocell section was manufactured.
- 3.03 SHORT-TERM SEAM PEEL STRENGTH TEST: The apparatus used for testing the short-term seam peel strength shall be of such configuration that the jaws of the clamp

shall not over stress the sample during the test period. The sample to be tested shall be loaded such that the load applied shall produce a peeling action on the seam. Load shall be applied at a rate of 300 mm (12 in) per minute and be applied for adequate time to determine the maximum load. The date, time and load shall be recorded.

Short-term seam peel strength shall be defined as the maximum load applied to the test sample. Minimum required short-term seam peel strength shall be:

- 2840 N (640 lbf) for the 200 mm (8 in) depth cell.
- 2130 N (480 lbf) for the 150 mm (6 in) depth cell.
- 1420 N (320 lbf) for the 100 mm (4 in) depth cell.
- 1060 N (240 lbf) for the 75 mm (3 in) depth cell.

3.04 DEFINITION OF PASS / FAILURE: Two methods shall be used to determine acceptability of the manufactured geocell sections. The successful passing of the short-term seam peel test shall not be used to determine acceptable of the polyethylene for use in manufacturing of the geocell sections. Acceptability of the polyethylene shall be determined through tests conducted in Section 02242.

3.05 THE TESTED VALUE: If more than one of the tested seam samples fails to meet the minimum peel strength, all sections manufactured after the previously successful test shall be rejected.

If all tested seam samples meet the minimum peel strength, all geocell sections manufactured since the last successful test shall be considered to have passed the test.

When one of the tested seam samples fails to meet the minimum peel strength, another 10 samples shall be randomly selected and cut from the previously selected section. If more than one of these samples fails, all sections manufactured after the previously successful test shall be rejected. Otherwise, all geocell sections manufactured since the last successful test shall be considered to have passed the test.

3.05 VISUAL FAILURE MODE: After each sample is tested, the seam shall be examined to determine the failure mode. Two failure modes are possible.

- Material failure within and adjacent to the weld indicated by material strain and
- Weld failure resulting in complete separation of the seam and shows little or no material strain.

Upon examination, when the failure mode results in complete separation of the seam and indicates little or no material strain, product manufactured shall be rejected.

PART 4 – MEASUREMENT AND PAYMENT

Measurement and payment for the Short Term Seam Strength Test shall be considered incidental to the cost of testing and installing the cellular confinement materials associated with the stacked canal bank stabilization systems.

END OF SECTION

SECTION 02242

LONG-TERM SEAM STRENGTH TEST

PART 1 - GENERAL

- 1.01 DESCRIPTION: The work covered by this section includes the furnishing of all labor, materials, equipment and incidentals for the Long Term Seam Strength Test.
- 1.02 RELATED WORK:
- A. Section 02240 STACKED BANK STABILIZATION SYSTEM
 - B. Section 02242 SHORT-TERM SEAM STRENGTH TEST
- 1.03 REFERENCES:
- A. The American Society for Testing and Materials (ASTM)
 - B. American Association of State Highway and Transportation Officials (AASHTO)
 - C. Florida Department of Transportation (FDOT) Standard Specifications for Road and Bridge Construction, latest edition
 - D. Presto Products Company: Technical Overview
 - E. Presto Products Company: Installation Guidelines

PART 2 – MATERIALS (Not Applicable)

PART 3 – EXECUTION

- 3.01 FREQUENCY OF TEST: The long-term seam peel-strength test (referred to as the ‘test’ in this section) shall be performed:
- 1. on each new resin lot number if the geocell manufacturer extrudes the sheet or strip used to produce the geocell material.
 - 2. on each new order of sheet and/or strip if the geocell manufacturer does not extrude the sheet and/or strip used to produce the geocell material.
- 3.02 TEST SAMPLE PREPARATION: A test sample shall be made using four of the strips meeting all aspects of the material portion of this specification. The four strips are to be welded together using a warm welder producing a 2-cell long section of geocell product. The 2-cell section of geocell shall have 3 rows of welds connecting the four strips. The rows of welds are to be labeled A, B and C. The individual welds within each row shall

be numbered consecutively from left to right starting with the number 1 (one). The test sample shall air cool for a minimum of 30 minutes.

Randomly select 10 welds from within the test sample. Cut the strips defining those welds such that the cut is 10 cm (4 in) on both sides of the weld and perpendicular to the weld. End and internal welds require 4 cuts. Edge welds require 2 cuts. These samples shall be cut to a width of 10 cm (4 in). Properly identify each weld using the row letter and weld number. The samples are then ready to be tested.

- 3.03 LONG-TERM SEAM PEEL STRENGTH TEST: The long-term seam peel-strength test shall take place within an environmentally controlled chamber that undergoes temperature change on a 1-hour cycle from room temperature to 54°C (130°F). Room temperature shall be defined per ASTM E41.

Within the environmentally controlled chamber, one of the ends of the samples (10 samples in total) shall be secured to a stationary upper clamp. The jaws of the clamp shall be of such configuration that the grip does not over stress the sample during the test period. The sample shall be secured so that its axis is vertical and the welds being tested are horizontal as the sample hangs within the environmentally controlled chamber. The sample to be tested shall be loaded such that the load applied shall produce a peeling action on the seam.

A weight of 72.5 kg (160 lb) shall be lifted via a hoist or lift platform and attached to the free lower end, of the sample. The weight shall be lowered in a way so that no impact load occurs on the sample being tested. The weight shall be sufficient distance from the floor of the chamber so that the weight will not touch the floor of the chamber as the sample undergoes creep during the test period. The date and hour the weight is applied shall be recorded.

The temperature cycle shall commence immediately within the environmentally controlled chamber. The test period for the applied load shall be 168 hours.

- 3.04 DEFINITION OF PASS / FAILURE: If any of the 10 seams fail prior to the end of the 168-hour (7-day) period, the date and hour of the failure shall be recorded and the polyethylene resin and strip material shall be considered unsuitable for geocell manufacturing.

PART 4 – MEASUREMENT AND PAYMENT

Measurement and payment for the Long Term Seam Strength Test shall be considered incidental to the cost of testing and installing the cellular confinement materials associated with the stacked canal bank stabilization systems.

END OF SECTION

SECTION 02435

TURBIDITY CONTROL AND MONITORING

PART 1 - GENERAL

1.01 SCOPE:

- A. Summary of Work: The CONTRACTOR shall furnish all necessary equipment, labor and materials necessary to conform to State water quality standards as prescribed in Chapter 62-302, Florida Administrative Code and with permit conditions.

1.02 APPLICABLE PUBLICATIONS: (Not Used)

1.03 DEFINITIONS: (Not Used)

1.04 SUBMITTALS: The CONTRACTOR shall make submittals for the turbidity control and monitoring system in accordance the requirements herein.

- A. Provide details of the silt screens proposed.
- B. Provide proposed layout of turbidity control and monitoring system.
- C. Monitoring data and reports in accordance with Paragraph 3.02
- D. Provide a Notice of Intent in accordance with NPDES requirements.

1.05 QUALIFICATIONS: (Not Used)

1.06 RESPONSIBILITIES: (Not Used)

1.07 CERTIFICATIONS AND TESTING: (Not Used)

1.08 INSPECTION COORDINATION: The CONTRACTOR shall provide access to the Work for the TOWN as requested for inspection. The CONTRACTOR shall provide 48 hours notice of its intention to begin new Work activities.

1.09 WARRANTY: (Not Used)

PART 2 - PRODUCTS

2.01 STAKED TURBIDITY BARRIER: The CONTRACTOR shall provide fabric that is flexible and impermeable or of sufficiently fine mesh to prevent passage of suspended material through the fabric. Fabric shall provide not less than 60 inches vertical depth of barrier where existing water depths are six feet or greater. Where existing water depths are less than six feet, the fabric depth may be decreased in 12-inch increments to not less than 12 inches to conform to existing bottom depths.

2.02 FLOATING TURBIDITY BARRIER: The CONTRACTOR shall provide floats for barriers of sufficient buoyancy to prevent the top of the barrier from submerging under any water and wind conditions. If the top of the barrier becomes submerged for any

reason, the CONTRACTOR shall suspend construction operations until the condition is corrected.

- 2.03 **ANCHORS AND WEIGHTS:** The CONTRACTOR shall provide and maintain an anchor system to secure the barrier in position. Attach weights to the barrier as necessary to keep the fabric at an angle to the vertical of 30 degrees or less. Fabric material shall not be attached to the canal bottom.

PART 3 - EXECUTION

3.01 TURBIDITY BARRIERS:

- A. The CONTRACTOR shall install and maintain turbidity barriers as noted in the drawings and where necessary to maintain turbidity releases at or below permit levels. Barriers shall be installed prior to any filling, backfilling, or excavation and maintained in place until construction is complete and turbidity from construction has dissipated. All barriers shall be adequately marked and appropriate signage erected to identify them as obstructions to navigation.
- B. Any rips or tears that occur in the turbidity barrier material during use shall be repaired or replaced immediately by the CONTRACTOR at its expense. Rips or tears that occur in the turbidity barrier material in use that are not repaired or replaced immediately by the CONTRACTOR will result in a suspension of excavation and/or construction operations, and shall require repairs and replacements as a prerequisite to the resumption of work.
- C. The CONTRACTOR shall keep in place and maintain all barriers until the Work is complete and turbidity levels return to background levels based on visual inspection. Upon completion of use, the CONTRACTOR shall remove the turbidity barriers and associated items to an off-site location at its own expense.
- D. The CONTRACTOR shall conduct its operations at all times in a manner that minimizes turbidity. The CONTRACTOR is required to conform to State water quality standards as prescribed in F.A.C. Chapter 62-302, and to meet the special requirements of any environmental permits that have been issued.

3.02 MONITORING:

- A. The CONTRACTOR shall conduct turbidity monitoring every four hours during any active excavation and once daily, prior to project completion, when no excavation is occurring.
 - 1. Background Monitoring Location: 500 feet upstream of the construction area at mid-depth in the water column.
 - 2. Compliance Monitoring Location: Within the densest portion of any noted plume.

- B. The CONTRACTOR shall submit monitoring data weekly and all data shall be submitted within one week of analysis. Documents submitted shall contain the following information:
1. Permit number
 2. Dates of sampling and analysis
 3. A statement describing the methods used in collection, handling, storage and analysis of the samples
 4. A map indicating the sampling locations
 5. A statement by the individual responsible for implementation of the sampling program concerning the authenticity, precision, limits of detection and accuracy of the data.
- C. The CONTRACTOR shall submit monitoring reports that also include the following information for each sample that is taken:
1. Time of day samples taken
 2. Depth of water body
 3. Depth of sample
 4. Antecedent weather conditions
 5. Velocity of flow
 6. If monitoring reveals levels greater than the State water quality standard for turbidity, construction activities shall cease immediately and not resume until corrective measures have been taken and turbidity has returned to acceptable levels. Turbidity violations and corrective measures shall be documented in the monitoring reports.

PART 4 - METHOD OF MEASUREMENT

- 4.01 STAKED TURBIDITY BARRIER: This item shall be measured on the basis of the length in linear feet of staked turbidity control device installed and maintained.
- 4.02 FLOATING TURBIDITY BARRIER: This item shall be measured on the basis of the length in linear feet of floating turbidity control device installed and maintained.

PART 5 - BASIS OF PAYMENT

- 5.01 STAKED TURBIDITY BARRIER: This item will be paid for on the basis of the contract unit price per linear foot of staked turbidity control device installed and maintained, which price shall be full compensation for all labor, equipment, material, and incidentals necessary to satisfactorily complete the items as specified.
- 5.02 FLOATING TURBIDITY BARRIER: This item will be paid for on the basis of the contract unit price per linear foot of floating turbidity control device installed and

maintained, which price shall be full compensation for all labor, equipment, material, and incidentals necessary to satisfactorily complete the items as specified.

Payment will be made under:

Item P-02435-1 Floating Turbidity Barrier—per Linear Foot (LF)

END OF SECTION

SECTION 02480

FINISHED GRADING AND SODDING

PART 1 - GENERAL

- 1.01 DESCRIPTION: The Work to be performed under this section shall include multiple components as described below:
- A. Furnishing, placing, compacting and rolling finish grade materials prior to landscaping work.
 - B. Cutting out areas to receive stabilizing base course materials for paving and sidewalks.
 - C. Placing, finish grading and compacting topsoil.
 - D. Preventing damage to existing structures, fencing, trees, landscaping, natural features, benchmarks, pavement, utility lines, and sprinkler system (the CONTRACTOR shall correct damage at no cost to the TOWN).
 - E. Furnishing, hauling, and placing approved live sod on prepared areas in accordance with this specification at the locations shown on the plans or as directed by the TOWN.

PART 2 - PRODUCTS

- 2.01 SOD: Sod furnished by the CONTRACTOR shall be strongly rooted St. Augustine Floratam grass of good quality and free from weeds. It shall be alive and viable, not dormant.
- 2.02 WATER: The water shall be sufficiently free from oil, acid, alkali, salt, or other harmful materials that would inhibit the growth of grass. It shall be subject to the approval of the TOWN prior to use.
- 2.03 SOIL FOR REPAIRS: The soil for fill and topsoiling of areas to be repaired shall be approved by the TOWN.

PART 3 - EXECUTION

- 3.01 GENERAL: Areas are to be solid, strip, or spot sodded as shown on the plans or as directed by the Construction Manager.
- Suitable equipment necessary for proper preparation of the ground surface and for the handling and placing of all required materials shall be on hand, in good condition, and shall be approved by the TOWN before the various operations are started. The CONTRACTOR shall demonstrate to the TOWN before starting the various operations that the application of required materials will be made at the specified rates.
- 3.02 PREPARING THE GROUND SURFACE. After grading of areas has been completed, areas to be sodded shall be raked or otherwise cleared of stones larger than 2 inches in

any diameter, sticks, stumps, and other debris which might interfere with sodding, growth of grasses, or subsequent maintenance of grass covered areas. If any damage by erosion or other causes occurs after grading of areas, the CONTRACTOR shall repair such damage. This may include filling gullies, smoothing irregularities, and repairing other incidental damage.

- 3.03 OBTAINING AND DELIVERING SOD. After inspection and approval of the source of sod by the TOWN, the sod shall be cut with approved sod cutters to such a thickness that after it has been transported and placed on the prepared bed, but before it has been compacted, it shall have a uniform thickness of not less than 2 inches. Sod sections or strips shall be cut in uniform widths, not less than 10 inches, and in lengths of not less than 18 inches, but of such length as may be readily lifted without breaking, tearing, or loss of soil. Where strips are required, the sod must be rolled without damage with the grass folded inside.

The sod shall be transplanted within 24 hours from the time it is stripped. Sod shall be cut and moved only when the soil moisture conditions are such that favorable results can be expected. Where the soil is too dry, permission to cut sod may be granted only after it has been watered sufficiently to moisten the soil to the depth the sod is to be cut.

- 3.04 LAYING SOD. Sod may be transplanted during periods of drought with the approval of the TOWN, provided the sod bed is watered to moisten the soil to a depth of at least 4 inches immediately prior to laying the sod.

The sod shall be moist and shall be placed on a moist earth bed. Pitch forks shall not be used to handle sod, and dumping from vehicles shall not be permitted. The sod shall be carefully placed by hand, edge to edge and with staggered joints, in rows at right angles to the slopes, commencing at the base of the area to be sodded and working upward. The sod shall immediately be pressed firmly into contact with the sod bed by tamping or rolling with approved equipment to provide a true and even surface, and insure knitting without displacement of the sod or deformation of the surfaces of sodded areas. Where the grades are such that the flow of water will be from paved surfaces across sodded areas, the surface of the soil in the sod after compaction shall be set approximately 1 inch below the pavement edge. Where the flow will be over the sodded areas and onto the paved surfaces around manholes and inlets, the surface of the soil in the sod after compaction shall be placed flush with pavement edges.

On slopes steeper than 1 vertical to 2 1/2 horizontal and in v shaped or flat bottom ditches or gutters, the sod shall be pegged with wooden pegs not less than 12 inches in length with a cross sectional area of not less than 3/4 square inch. The pegs shall be driven flush with the surface of the sod.

After laying, sod shall be covered with sufficient top dressing to fill voids remaining and thoroughly watered to wash top dressing into sodded surface. Unmixed sand shall be used for top dressing. The gap between sod pieces shall not exceed one inch.

Finished elevation of new sod along edges of road and driveway aprons must be such to allow rainwater to flow freely to swale areas. Finished elevation of new sod along edges

of existing sod must match elevation of existing sod. Completed sod surface shall be even and firm and shall be flush with top of abutting walks, paving, concrete borders, catch basins, and the like.

- 3.04 WATERING: Adequate water and watering equipment must be on hand before sodding begins, and sod shall be kept moist until it has become established and its continued growth assured. In all cases, watering shall be done in a manner that will avoid erosion from the application of excessive quantities and will avoid damage to the finished surface.

CONTRACTOR shall water immediately after placing sod and at least four (4) times per week for fourteen (14) days, to insure proper growth. CONTRACTOR shall observe all water restrictions that are in place when watering the sod. All sod material that is dead or in poor condition when the project is inspected, shall be replaced at CONTRACTOR's expense.

- 3.05 ESTABLISHING TURF.

- A. General. The CONTRACTOR shall provide general care for the sodded areas as soon as the sod has been laid and shall continue until final inspection and acceptance of the work.
- B. Protection. Where appropriate all sodded areas shall be protected against traffic or other use by warning signs or barricades approved by the TOWN.

- 3.06 REPAIRING: When the surface has become bullied or otherwise damaged during the period covered by this contract, the affected areas shall be repaired to re establish the grade and the condition of the soil, as directed by the TOWN, and shall then be sodded as specified.

PART 4 - METHOD OF MEASUREMENT

- 4.01 MEASUREMENT: This item shall be measured on the basis of the area in square yards of the surface covered with sod and accepted.

PART 5 - BASIS OF PAYMENT

- 5.01 PAYMENT: This item will be paid for on the basis of the contract unit price per square yard for sodding, which price shall be full compensation for all labor, equipment, material, staking, and incidentals necessary to satisfactorily complete the items as specified.

Payment will be made under:

Item P-02480-1 Finish Grading and Sodding—per Square Yard (SY)

END OF SECTION

SECTION 02481

TREE REMOVAL

PART 1 - GENERAL

1.01 DESCRIPTION: This work consists of the removal of trees in locations as shown on the Plans or as directed by the TOWN.

1.02 NOTIFICATION

- A. Before tree excavation, pruning, or removal, CONTRACTOR shall notify:
 - 1. The TOWN of the schedule of operation.
 - 2. Appropriate utility companies and the TOWN for flagging and coordination of service disconnection as necessary to complete work.
 - 3. Coordinate work with other trades and neighboring landowners.

1.03 REFERENCES

- A. American National Standards Institute (ANSI): Z60.1 American Standard for Nursery Stock.
- B. Florida Department of Agriculture and Consumer Services: "Grades and Standards for Nursery Plants".
- C. National Arborist Association (NAA): Ref.1 Transplanting of Trees and Shrubs in the Southeastern United States.

1.04 DEFINITIONS

- A. Toxic Substances:
 - 1. Do not deliver any toxic substance or item as defined in Florida Statute 442.102(21) to the site without furnishing to the TOWN a Material Safety Data Sheet (MSDS).
 - 2. Provide current MSDS information with each initial shipment.
 - 3. The MSDS shall contain the following information:
 - a. The chemical name and the common name of the toxic substance.
 - b. The hazards or other risks in the use of the toxic substance, including:
 - c. The potential for fire, explosion, corrosivity and reactivity.
 - d. The known acute and chronic health effects of risks from exposure, including the medical conditions which are generally recognized as being aggravated by exposure to the toxic substance.
 - e. The primary routes of entry and symptoms of overexposure.

- f. The proper precautions, handling practices, necessary personal protective equipment, any other safety precautions in the use of or exposure to the toxic substance including appropriate emergency treatment in case of overexposure.
- g. The emergency procedure for spills, fire disposal, and first aid.
- h. A description in lay terms of the known specific potential health risks posed by the toxic substance intended to alert any person reading this information.
- i. The year and month, if available, that the information was compiled and the name, address, and emergency telephone number of the manufacturer responsible for preparing the information.

1.05 DESCRIPTION

- A. Protect existing trees to remain during construction phases. Provide tree protection barriers for those existing trees adjacent to tree transplantation operations. Any trees scarred or destroyed, designated to remain, will be replaced at the CONTRACTOR's expense, with similar species, size, and quality.
- B. Remove other vegetation as necessary and as directed by the TOWN to accommodate construction.
- C. Resulting tree pits shall be backfilled with clean fill and brought back flush with surrounding grade, unless the pits are to be immediately replanted. Stabilize grade if required. Correct problems caused by erosion, wind, etc., in the reclaimed area. Pits to be quickly replanted shall be surrounded by safety barricades to prevent accidental falls into pits.

1.06 SUBMITTALS

- A. Obtain permits required by authority having jurisdiction.
- B. Submit written certification that trees indicated to remain have been protected during the course of construction according to recognized standards of the industry. Certify that where damage did occur:
 - 1. Trees were promptly and properly treated.
 - 2. Indicate which damaged trees (if any) are incapable of retaining full growth potential and are recommended to be replaced.
- C. Submit for approval, proposed methods, and schedule for effecting tree and plant protection.

1.07 WARRANTY

- A. Repair damage to other plants and lawn or construction work within the removal area during tree transplantation at no cost to the TOWN. This includes, but is not limited to, damage to: curbs, walks, roads, fences, site furnishings, etc.

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

3.01 TREE REMOVAL AND DISPOSAL

- A. The CONTRACTOR shall accomplish the removal of trees and or all exotic plant material in a safe and acceptable manner by means of equipment designed for this purpose in conformance with ANSI, A300, Z133.1 and Z133.1a Standards. All other debris, trees and wood growth shall be removed. The CONTRACTOR shall accomplish the work of Tree Removal as outlined below.
- B. Remove exotic vegetation from all areas outside of sensitive areas using mechanical equipment for clearing and grubbing. Sensitive areas are defined as areas dominated by native vegetation, canal bank slopes, canal bank areas to be preserved at existing grade and wetlands.
- C. Only handwork and hand tool work will be permitted within the sensitive areas. No mechanical equipment will be allowed within the sensitive areas. Existing native flora and fauna shall be protected from harm during the process. Treat exotic stumps with herbicide mixture approved by the ENGINEER. Herbicide shall be used in combination with flush cut tree stumps where necessary to protect native vegetation from damage by mechanical equipment.
- D. Where exotic trees are removed in sensitive areas, they shall be cut as low as possible (within 4 inches of surrounding natural grade).4. In tree trimming, any cut of at least two (2) inches in diameter shall be cut flush to the main limb or trunk. All limbs shall be undercut to prevent bark teardown. All pruning shall be in conformance with ANSI A300 Pruning Standards.
- E. In the event that the removal of exotic plant materials could damage any native trees or listed species, the CONTRACTOR shall notify the ENGINEER before proceeding further. A.
- F. It shall be the CONTRACTOR's responsibility to remove and dispose of (in a legal manner) all mulch, cut branches, tree trunks and any other debris or solid waste at an approved disposal site. Limbs and any other debris/solid waste shall be disposed of by the CONTRACTOR and shall not be deposited into any trash container. Wood chips/mulch may be disposed of on the TOWN's property if directed by the TOWN.
- G. The CONTRACTOR shall perform all work in conformance with all applicable regulations, ordinances and code requirements of the appropriate Town, county, state and/or federal jurisdiction. Exotic/invasive plants are defined as Brazilian Pepper, Australian Pine, Melaleuca, or as directed by the TOWN, and contract specifications.

3.02 RELOCATION

- A. Relocation shall consist of on-site or off-site relocating of existing trees or palms from

3.03 CLEANING

- A. Site Clean-up:
 - 1. Upon completion of the work, thoroughly clean up the project site.
 - 2. Remove equipment, unused materials, deleterious material, and surplus excavated material.
 - 3. Fine grade all disturbed areas and the areas adjacent to the transplanted material to provide a neat and uniform site.
 - 4. All damaged or altered existing structures, as a result of the landscape work, shall be corrected.

PART 4 - METHOD OF MEASUREMENT

- 4.01 TREE REMOVAL: Tree removal shall be measured per each tree removed. Each tree removal activity shall include all costs associated with removal, disposal and site clean-up.

PART 5 - BASIS OF PAYMENT

- 5.01 TREE REMOVAL: Payment for tree removal shall be per each tree removed and disposed in accordance with applicable regulations and the contract specifications. Each tree removal payment shall include full compensation for all costs associated with removal, disposal and site clean-up.

Payment will be made under:

Item P-02481-1 Tree Removal – per Each (EA)

END OF SECTION

EXHIBIT D –GEO-DATA REPORT
(SPACE RESERVED FOR GEO-DATA REPORT)

Geotechnical Engineering Data Report

Canal Bank Stabilization

Town of Miami Lakes, Florida

June 11, 2015

Terracon Project No. H8155009



Prepared for:

Town of Miami Lakes

6601 Main Street

Miami Lakes, Florida 33014

Prepared by:

Terracon Consultants, Inc.

Miami Lakes, Florida

Offices Nationwide
Employee-Owned

Established in 1965
terracon.com

Terracon

Geotechnical ■ Environmental ■ Construction Materials ■ Facilities



June 11, 2015

Town of Miami Lakes
6601 Main Street
Miami Lakes, Florida 33014

Attn: Ms. Dorcas Perez
E: perezd@miamilakes-fl.gov

Re: Geotechnical Engineering Data Report
Canal Bank Stabilization
Town of Miami Lakes, Florida
Project Number: H8155009

Dear Ms. Perez:

Terracon Consultants, Inc. (Terracon) has completed the Geotechnical Services for the above referenced project. These services were performed in general accordance with our contract with the Town of Miami Lakes, Florida. This report presents the findings of the subsurface exploration and engineering site visits.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report, or if we may be of further service, please contact us.

Sincerely,
Terracon Consultants, Inc.
(Certificate of Authorization No. 8830)

Daniel A. Grijalba
Project Engineer

Hugo E. Soto, P.E.
Senior Engineer
Florida License No. 36440

Copies to: Addressee (1 electronic via email)
Ms. Elia Nuñez, P.E., Director, Public Works Department (1)
Mr. Ernesto Perez, Project Manager (1)
Mr. Gary Fabrikant, Procurement Manager (1)



Terracon Consultants, Inc. 16200 NW 59th Avenue Miami Lakes, Florida 33014
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Geotechnical



Environmental



Construction Materials



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TABLE OF CONTENTS

EXECUTIVE SUMMARY	i
1.0 INTRODUCTION	1
2.0 PROJECT INFORMATION	1
3.0 ENGINEERING VISUAL OBSERVATIONS	1
4.0 SUBSURFACE CONDITIONS	2
4.1 Field Exploration	2
4.2 Stratigraphy	2
4.3 Groundwater	3
4.4 Water Chemistry & Electrical Resistivity	3
5.0 LABORATORY TESTING	3
6.0 CANAL BANK STABILIZATION MEASURES	4
7.0 GENERAL COMMENTS	5

APPENDIX A – VISUAL OBSERVATION OF CANAL BANKS

Exhibit A-1	Site Vicinity Map
Exhibit A-2 to A-6	Visual Observations - Canal Sections
Exhibit A-7 to A-10	Canal Bank Observation Notes
Exhibit A-11 to A-31	Photographs

APPENDIX B – SUBSURFACE EXPLORATION

Exhibit B-1 to B-5	Boring Location Plans
Exhibit B-6 to B-25	Boring Logs
Exhibit B-26	Subsurface Profile
Exhibit B-27	General Notes
Exhibit B-28	General Notes (Description of Rock Properties)
Exhibit B-29	Unified Soil Classification System

APPENDIX C – LABORATORY TEST RESULTS

Exhibit C-1	Laboratory Testing Results
Exhibit C-2 to C-11	Grain Size Distribution Curves

EXECUTIVE SUMMARY

Terracon's Geotechnical Engineering Services consisted of performing SPT borings along the canal, documenting the existing conditions of the canal, and recommending conceptual methods for stabilizing the canal slopes in areas that require action. The specific area for the canal bank stabilization is approximately 10,000 linear feet of the Golden Glades and Peter's Pike canals. The canal is located along the north boundary of the Town (Parallel to the South of NW 170th Street) from I-75 to NW 77th Court where the canal turns South and extend to approximately NW 163rd Street, in Miami Lakes, Florida.

Terracon Engineers visited the site to visually observe and document the above water slopes and materials exposed thereon. Based on our visual observations, the canal bank slope appears relatively steep above the water line along most of the canal bank observed and moderate to steep below the water line. Road sections were within 10 feet of the top of bank along some portions of the canal bank. Property fences are within 5 feet from the top of canal bank, and at some locations property fences are on the edge of the canal top bank.

This report also includes the results of fourteen (14) Standard Penetration Test (SPT) borings drilled at the site to a depth of 30 feet below the existing grade. Additionally, at certain locations chosen by our field engineer, hand drilled auger boring were performed along the canal slopes. The borings disclosed about 3 inches or less of topsoil overlaying fill materials to about 8 feet. The fill consists of sand-gravel-silt mixtures. Some borings encountered an organic sand layer within the fill material which is generally underlain by formational limestone to about 18 feet below grade. Fine sand with limestone lenses is next in the profile that extended to about 28 feet below grade and is followed by formational sandy limestone, which extends to the maximum depth of exploration of 30 feet below grade.

The SPT N values indicate that the upper fill materials are medium dense to dense in terms of relative density while the fine sand beneath it is loose to medium dense. The formational limestone cementation ranges from weakly cemented to well cemented. The deeper sand is medium dense.

This summary should be used in conjunction with the entire report for design purposes. It should be recognized that details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein. The section titled GENERAL COMMENTS should be read for an understanding of the report limitations.

**GEOTECHNICAL ENGINEERING DATA REPORT
CANAL BANK STABILIZATION PROJECT
TOWN OF MIAMI LAKES, FLORIDA
Terracon Project No. H8155009
June 11, 2015**

1.0 INTRODUCTION

This geotechnical engineering data report has been prepared for the proposed Canal Bank

Stabilization project in the Town of Miami Lakes. The scope of work involved site visits to document the existing conditions of the canal, drilling of exploratory borings, laboratory testing of representative samples collected from the field, and recommendations for conceptual methods to stabilize the canal slopes in areas that require actions. This report describes the results of the work performed. An engineering evaluation report (including slope stability evaluation) for the canal banks will be provided at a later time, once canal cross sections are available.

2.0 PROJECT INFORMATION

We understand that the project will consist of the stabilization of the canal section in the Town of Miami Lakes, Florida at Golden Glades and Peter's Pike canals. The canal is located along the north boundary of the Town (Parallel to the South along NW 170th Street) from I-75 to NW 77th Court where the canal turns towards the south and extends to approximately NW 163rd Street in Miami Lakes, Florida.

A site vicinity plan showing the location of the canal section is provided on Appendix A-1. The canal section is also shown on Appendix A-1 and has a total length of about 10,000 feet.

3.0 ENGINEERING VISUAL OBSERVATIONS

Terracon engineers visited the site in April 2015 to view the existing condition of the canal banks and qualitatively note information such as the canal bank steepness (above and below the water level), the uniformity of the top of the bank, the apparent degree to which the canal has been maintained, and the proximity of structures to the top of the canal bank. For purposes of simpler reference, the overall Canal project was divided into 4 sections, each section then was subdivide into similar characteristic segments (see Exhibits A-2 through A-6 for the boundaries of each canal subsection). Detailed notes are provided on Exhibits A-7 through A-10 in Appendix A. Representative photographs of the canal banks are presented on Exhibits A-11 through A-31.

In general, the bank slope appeared relatively steep above the water line along most of the canal bank observed and moderate to steep below the water line. Road sections were within 10 feet of the top of bank along some portions of the canal bank. Property fences are within 5 feet from the top of canal bank. At some segments of the canal, the patio decks and property fences were virtually coincident with the top of the canal bank and some pools were located 10 feet of the top of bank.

4.0 SUBSURFACE CONDITIONS

4.1 Field Exploration

The subsurface conditions at the canal section were explored in the project vicinity using fourteen (14) SPT borings drilled at the locations shown on Exhibit B-1 through B-5 in Appendix B. In addition, six (6) hand auger borings were performed until refusal conditions were reached. The SPT borings were drilled to a depth of 30 feet below existing ground surface. The fourteen SPT borings were drilled using a truck mounted Central Mine Equipment (CME) Model 55 drilling rig and employing mud rotary techniques and 3" diameter NW casing. Samples of the in-place materials were obtained at frequent vertical intervals using a standard split barrel driven with a 140-pound (automatic) hammer freely falling 30 inches (the SPT after ASTM D 1586). Additionally, hand auger borings were performed along the canal slopes at locations selected by the field engineer.

Samples recovered from the borings were placed in moisture-proof containers and returned to our laboratory for visual examination and classification in accordance with the Unified Soil Classification System (ASTM D 2487) and appropriate geologic nomenclature. The subsurface information including SPT data is shown on Exhibits B-6 to B-25.

4.2 Stratigraphy

The results of the borings disclosed about 3 inches or less of topsoil overlaying fill materials to about 8 feet. The fill consists of sand-gravel-silt mixtures. Some borings encountered an organic sand layer within the material layer which is generally underlain by formational limestone to about 18 feet below grade. Fine sand with limestone lenses is next in the profile that extended to about 28 feet below grade and is followed by formational sandy limestone, which extends to the maximum depth of exploration of 30 feet below grade.

The SPT N values indicate that the upper fill materials are medium dense to dense in terms of relative density while the fine sand beneath it is loose to medium dense. The formational limestone cementation ranges from weakly cemented to well cemented. The deeper sand is medium dense.

Conditions found at each boring location are indicated on Exhibits B-6 to B-25 in Appendix B. Stratification boundaries on the boring logs represent the approximate location of changes in soil types; in-situ, the transition between materials may be gradual.

4.3 Groundwater

Depth to groundwater was measured in the boreholes during the drilling activities. The measured depth to the groundwater ranged from 0.5 to 7.4 feet below the ground surface at the locations of borings. The variation in the water table depths are thought to be due to the difference in ground elevation at the boring locations and due to the groundwater levels not being fully stabilized at the time of measurement. These water level observations provide an approximate indication of the groundwater conditions existing at the time the borings were drilled.

4.4 Water Chemistry & Electrical Resistivity

Testing for Resistivity, pH, sulfate and chloride was performed on selected water samples at selected boring locations to provide information which is useful to assess the corrosive potential of the water to steel and concrete. The sample test results are summarized below.

Corrosion Series					Environmental Classification	
Boring No.	Electrical Resistivity (ohm-cm)	pH	Chlorides (ppm)	Sulfates (ppm)	Steel	Concrete
B-2	3100	7.2	5	76	MA	SA
B-6	1600	7.1	5	22	MA	MA
B-11	1400	6.8	5	46	MA	MA
B-14	1600	6.9	5	22	MA	MA

Based on the test results, FDOT Structures Design Guidelines classifies the environment as Moderately Aggressive for substructures. Note: SA-Slightly Aggressive, MA-Moderately Aggressive.

5.0 LABORATORY TESTING

Representative samples of the granular soils recovered from the borings were tested for moisture content (ASTM D 2216), grain size distribution (ASTM D 422), and organic content (ASTM D 2974) to confirm their classifications. A summary table of the test results is show in exhibit C-1 in Appendix C. The grain size distribution curves are provided in Exhibits C-2 through C-11.

6.0 CANAL BANK STABILIZATION MEASURES

The following canal bank stabilization measures will be evaluated on a conceptual basis. The three options considered to be the most practical will be utilized for slope stability evaluations:

1. Sand-Cement Bag Rip-Rap: This involves the construction of a slope cover or retaining wall using bags that are filled with a mixture of sand and cement. When the cement portion of the mix hydrates, the bags become hardened and are capable of being stacked on a nearly vertical orientation.
2. Seawall: Steel sheet piles may be driven or vibrated in place to create a vertical grade separating wall. This method is usually considered to be very expensive, although it may have application in localized areas.
3. Stone Rip-Rap: This method includes placement of graded stone over the finished canal slopes. Typically the method includes placement of a geosynthetic filter fabric, followed by bedding stone rip-rap. Selection of the filter fabric and the gradation of the bedding stone and rip-rap should be designed based upon anticipated wave forces and canal bank seepage forces.
4. Geoweb: This geosynthetic product consists of open cells that can be filled with concrete or gravel to cover canal slopes. The geoweb is placed and stretched over the slope, anchored to grade using short lengths of steel rebar, then filled as appropriate to limit erosion. An alternative to geoweb is the use of fabric form.
5. Articulated Block: These are used to cover canal banks in areas of potential erosion and consists of individual concrete blocks that are structurally connected by wires oriented in two directions. The articulated nature of the system enables it to be placed on non-uniform slopes.
6. Geogrid Reinforcement: This system involves the use of sequential layers of geogrid and backfill, with the grid forming the face of the slope. The geogrid extend horizontally into the slope such that the weight of the overlaying fill and the frictional resistance at the grid fill interface enables the system to be stable. Geogrid layers are normally designed to be 1.5 to 2 feet apart vertically.
7. Gabions: These consist of wire or synthetic baskets that are filled with stone and then stacked upon each other. The baskets are filled in place, which makes their construction rather time consuming and labor intensive.
8. Synthetic Turf Mats: There are many products on the market that involve placement of mats that become reinforcement for the growth of natural grass roots. These fabrics are placed prior to sodding and include a high percentage of open area that allows the grass roots to penetrate the fabric and to develop into the embankment slope.

Geotechnical Engineering Data Report

Canal Bank Stabilization ■ Town of Miami Lakes, Florida

June 11, 2015 ■ Terracon Project No. H8155009



We have received the canal cross sections and elevations at the boring locations for this project. Using information gleaned from the borings and the geological reconnaissance, we have evaluated three options for five canal cross sections that are considered to be typical of the conditions found in the field. Our evaluation and recommendation are presented under separate cover.

7.0 GENERAL COMMENTS

This report does not reflect variations that may occur between borings, across the site, or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No warranties, either expressed or implied, are intended or made.

APPENDIX A – VISUAL OBSERVATION OF CANAL BANKS

Exhibit A-1	Site Vicinity Map
Exhibit A-2 to A-6	Visual Observations - Canal Sections
Exhibit A-7 to A-10	Canal Bank Observation Notes
Exhibits A-11 to A-31	Photographs

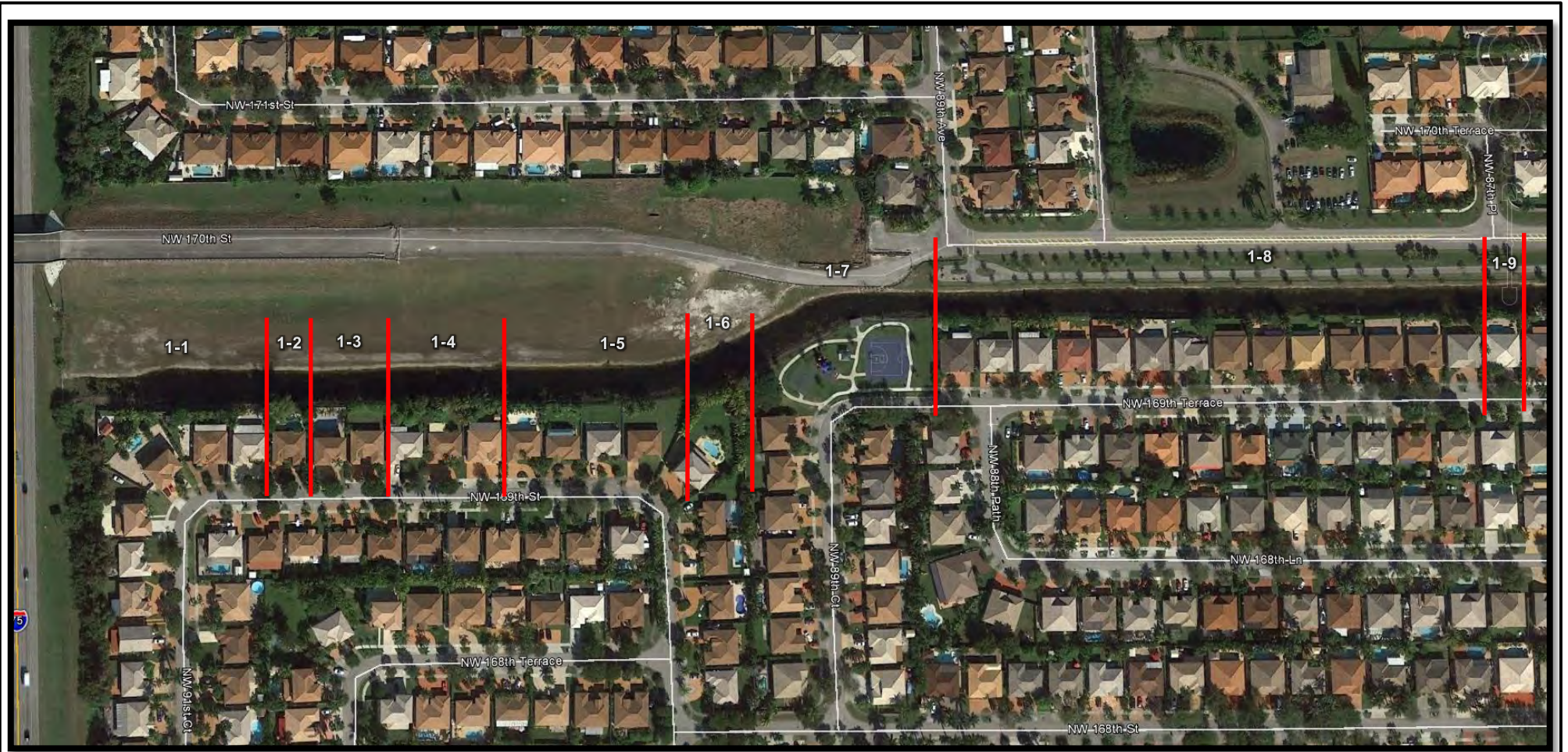


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT
INTENDED FOR CONSTRUCTION PURPOSES

LEGEND	
	SPT Boring Locations
	Hand Auger Boring Test Locations

Project Manager: HES	Project No. H8155009	 Consulting Engineers & Scientists 3801 Molare Court, Suite A Columbia, Missouri 65202 PH. (573) 214-2877 FAX. (573) 214-2714	Visual Observations – Canal Section 1 MIAMI LAKES CANAL BANK STABILIZATION NW 170TH STREET MIAMI LAKES, FLORIDA	Exhibit A-2
Drawn by: SDF	Scale: N.T.S.			
Checked by: HES	File Name: H8155009			
Approved by: HES	Date: 5/20/2015			

Photograph Source: Google Earth Pro.

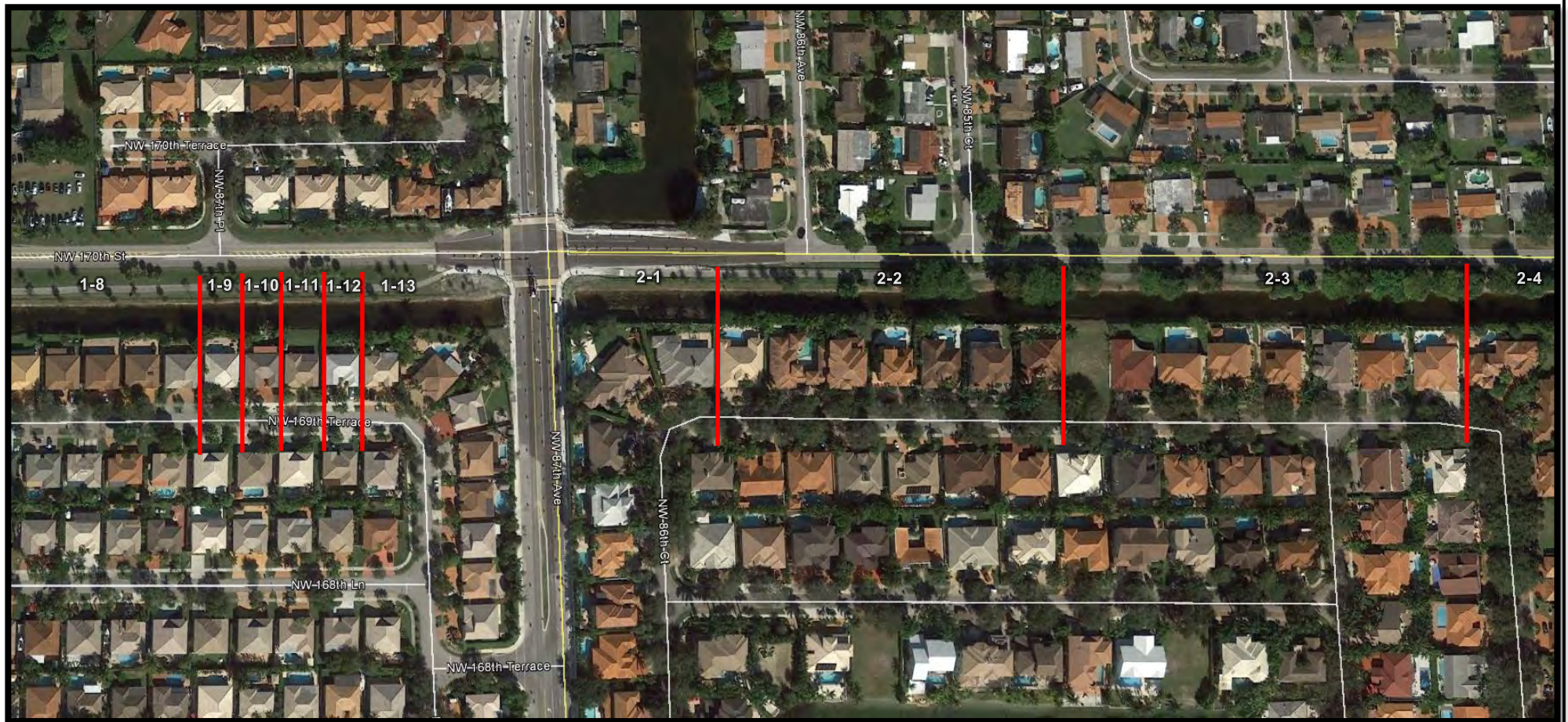


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT
INTENDED FOR CONSTRUCTION PURPOSES

LEGEND

-  SPT Boring Locations
-  Hand Auger Boring Test Locations

Photograph Source: Google Earth Pro.

Project Manager: HES
Drawn by: SDF
Checked by: HES
Approved by: HES

Project No: H8155009
Scale: N.T.S.
File Name: H8155009
Date: 5/20/2015

Terracon
Consulting Engineers & Scientists
3801 Molare Court, Suite A Columbia, Missouri 65202
PH: (573) 214-2877 FAX: (573) 214-2714

Visual Observations – Canal Sections 1 and 2
MIAMI LAKES CANAL BANK STABILIZATION
NW 170TH STREET
MIAMI LAKES, FLORIDA

Exhibit

A-3

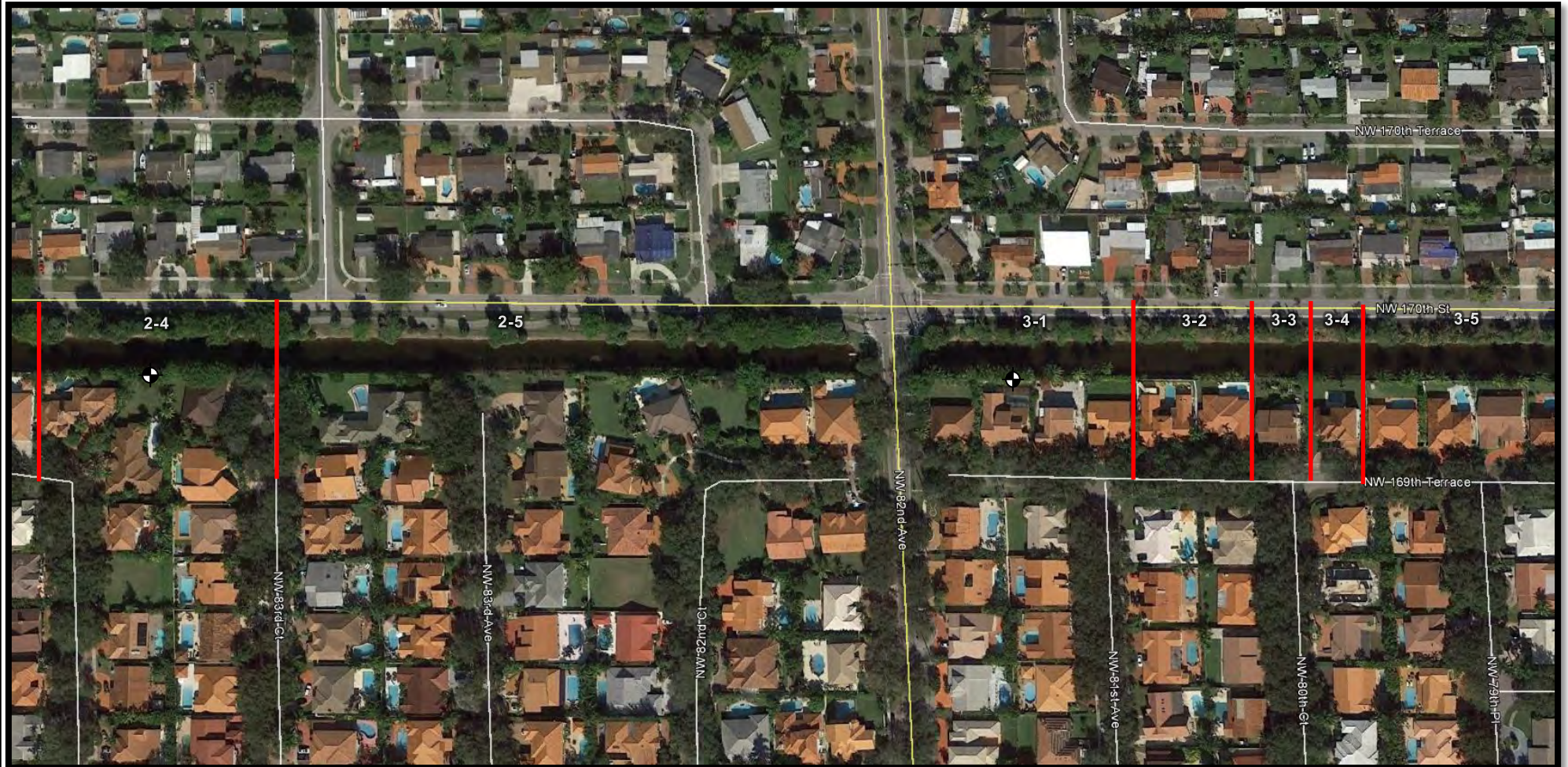


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT
INTENDED FOR CONSTRUCTION PURPOSES

Photograph Source: Google Earth Pro.

LEGEND

-  SPT Boring Locations
-  Hand Auger Boring Test Locations

Project Manager: HES
Drawn by: SDF
Checked by: HES
Approved by: HES

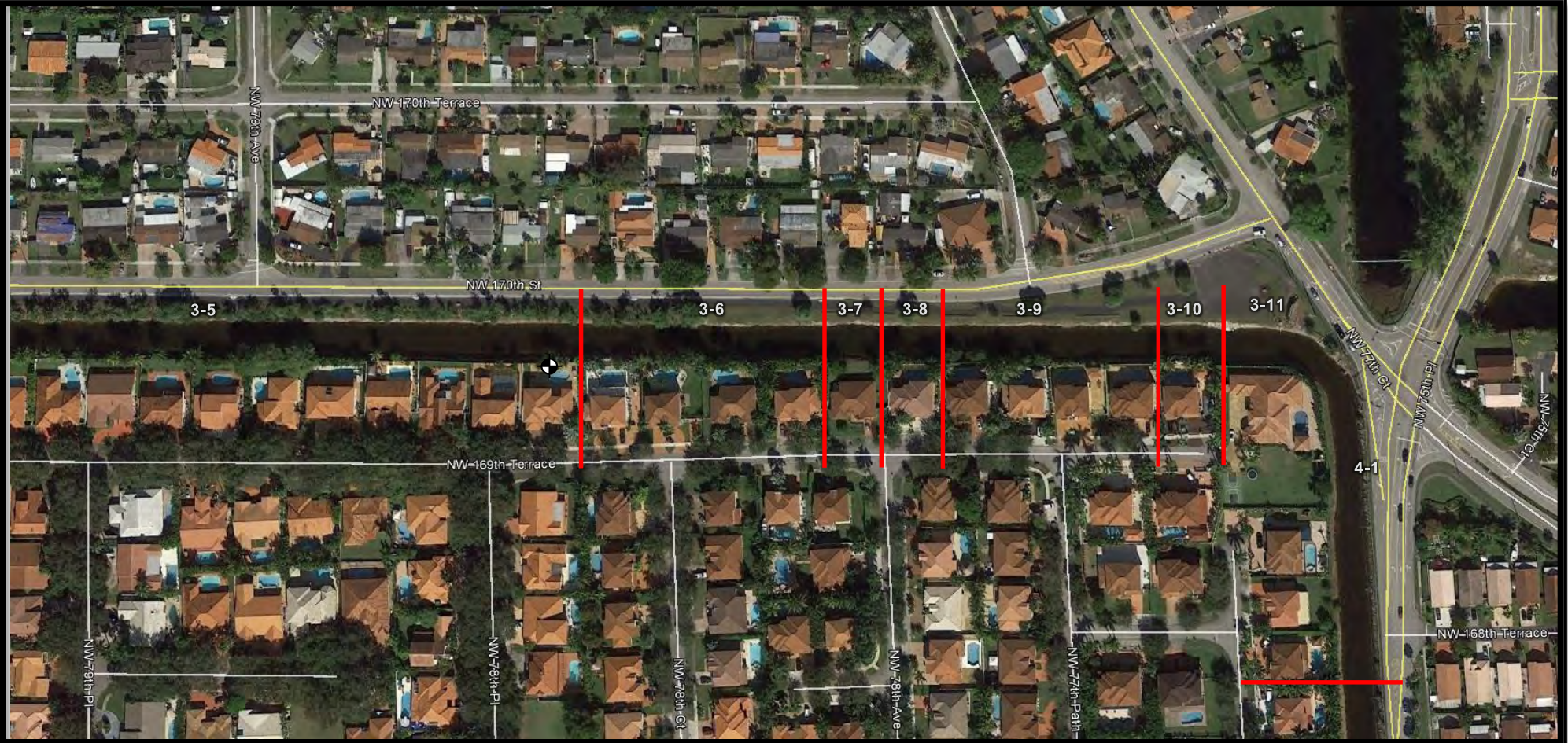
Project No: H8155009
Scale: N.T.S.
File Name: H8155009
Date: 5/20/2015

Terracon
Consulting Engineers & Scientists
3801 Molare Court, Suite A Columbia, Missouri 65202
PH: (573) 214-2877 FAX: (573) 214-2714

Visual Observations – Canal Sections 2 and 3
MIAMI LAKES CANAL BANK STABILIZATION
NW 170TH STREET
MIAMI LAKES, FLORIDA

Exhibit

A-4



Photograph Source: Google Earth Pro.



DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT
INTENDED FOR CONSTRUCTION PURPOSES.

LEGEND

-  SPT Boring Locations
-  Hand Auger Boring Test Locations

Project Manager: HES
Drawn by: SDF
Checked by: HES
Approved by: HES

Project No: H8155009
Scale: N.T.S.
File Name: H8155009
Date: 5/20/2015

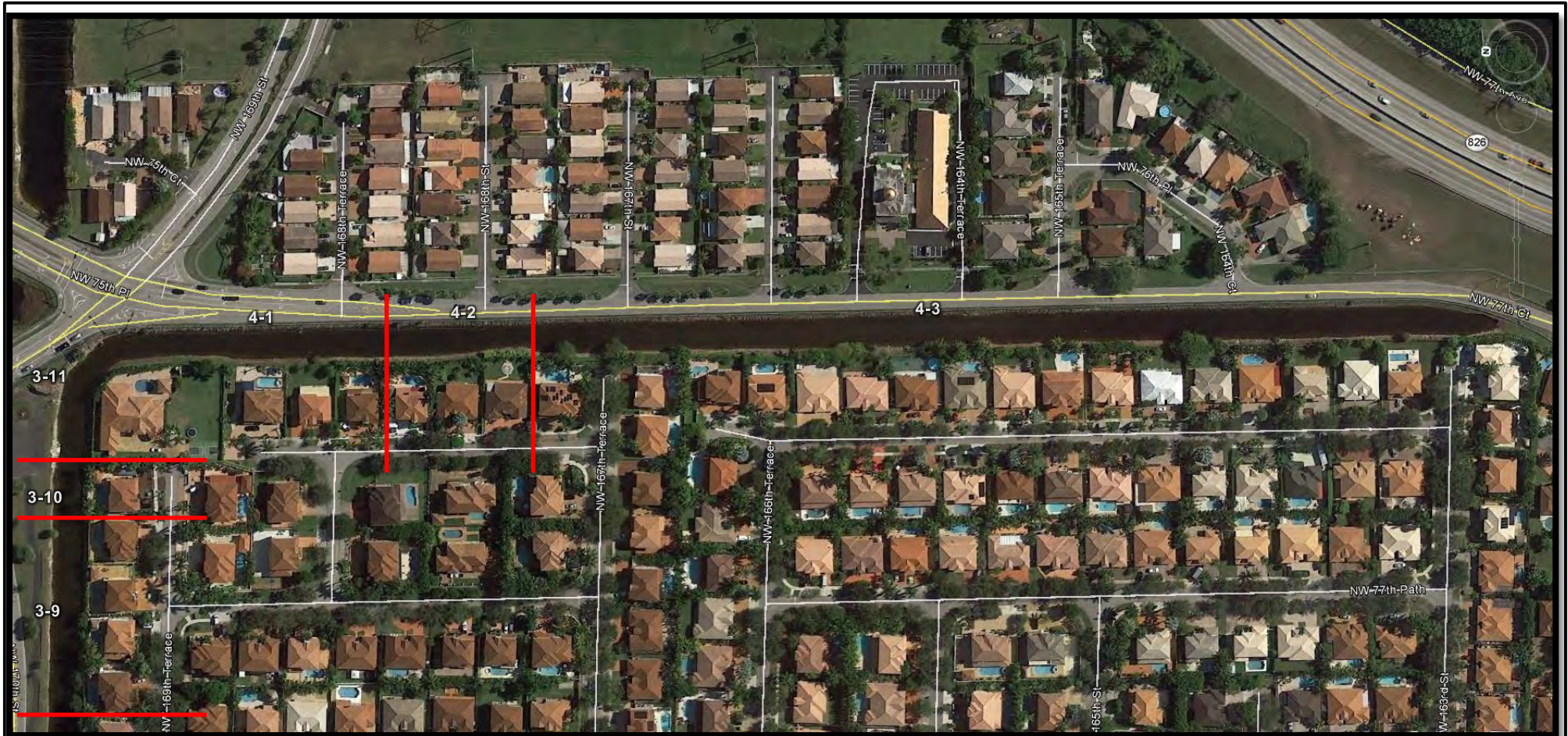
Terracon
Consulting Engineers & Scientists

3801 Molare Court, Suite A Columbia, Missouri 65202
PH: (573) 214-2877 FAX: (573) 214-2714

Visual Observations – Canal Section 3
MIAMI LAKES CANAL BANK STABILIZATION
NW 170TH STREET
MIAMI LAKES, FLORIDA

Exhibit

A-5



Photograph Source: Google Earth Pro.



DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT
INTENDED FOR CONSTRUCTION PURPOSES

LEGEND

-  SPT Boring Locations
-  Hand Auger Boring Test Locations

Project Manager: HES
Drawn by: SDF
Checked by: HES
Approved by: HES

Project No: H8155009
Scale: N.T.S.
File Name: H8155009
Date: 5/20/2015

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PH: (573) 214-2877 FAX: (573) 214-2714

Visual Observations – Canal Section 4
MIAMI LAKES CANAL BANK STABILIZATION
NW 170TH STREET
MIAMI LAKES, FLORIDA

Exhibit

A-6

Miami Lakes Canal (170th Street From I-75 to NW 87th Avenue)					
Section	Above Water Steepness of the canal slope (Gentle, Moderate, Steep, Vertical)	Below Water Steepness of the Canal Slope (Gentle, Moderate, Steep, Vertical)	Uniformity of the Top of Bank Location (Straight Line, Irregular, Very Irregular)	Maintenance (Good, Fair, Poor)	Proximity of Structures to top of bank (building, roads, fence) within 5 feet, 5-10 feet, more than 10 feet
1.1 (3 homes)	North Side: Gentle (minor slope erosion).	Moderate to gentle. (Some areas, exposed limestone formation was eroded).	Relatively straight.	North Side: Good.	South Side: Property fences within 10' feet of canal top bank
	South Side: Moderate.			South Side: Fair, concrete debri found at water level.	
1.2 (1 home)	North Side: Gentle (minor slope erosion).	Moderate to gentle. (Some areas, exposed limestone formation was eroded).	Relatively straight.	North Side: Good.	South Side: Property fences at edge of top bank
	South Side: Moderate.			South Side: Poor, dense vegetation growing and dumped on canal slope.	
1.3 (2 homes)	North Side: Gentle (minor slope erosion).	Moderate to gentle. (Some areas, exposed limestone formation was eroded)	Relatively straight.	North Side: Good.	South Side: Property fences at edge of top bank
	South Side: Moderate.			South Side: Fair, concrete debri found at water level.	

Miami Lakes Canal (170th Street From I-75 to NW 87th Avenue)					
Section	Above Water Steepness of the canal slope (Gentle, Moderate, Steep, Vertical)	Below Water Steepness of the Canal Slope (Gentle, Moderate, Steep, Vertical)	Uniformity of the Top of Bank Location (Straight Line, Irregular, Very Irregular)	Maintenance (Good, Fair, Poor)	Proximity of Structures to top of bank (building, roads, fence) within 5 feet, 5-10 feet, more than 10 feet
1.4 (3 homes)	North Side: Gentle (minor slope erosion).	Moderate to gentle. (Some areas, exposed limestone formation was eroded)	Relatively straight.	North Side: Good.	South Side: Property fences at edge of top bank
	South Side: Moderate.			South Side: Good, large palm trees growing on canal slope.	
1.5 (4 homes)	North Side: Gentle (minor erosion).	Moderate to gentle. (Some areas, exposed limestone formation was eroded)	Relatively straight.	North Side: Good.	South Side: Property fences at edge of top bank
	South Side: Moderate.			South Side: Fair, vegetation growing at top of bank. Concrete debris found at water level.	
1.6 (1 home)	North Side: Gentle (minor slope erosion).	Moderate to gentle. (Some areas, exposed limestone formation was eroded)	Relatively straight.	Large tree growing on canal slope and palm trees growing at edge of South side canal top bank.	South Side: No property fence.
	South Side: Moderate.				

Miami Lakes Canal (170th Street From I-75 to NW 87th Avenue)					
Section	Above Water Steepness of the canal slope (Gentle, Moderate, Steep, Vertical)	Below Water Steepness of the Canal Slope (Gentle, Moderate, Steep, Vertical)	Uniformity of the Top of Bank Location (Straight Line, Irregular, Very Irregular)	Maintenance (Good, Fair, Poor)	Proximity of Structures to top of bank (building, roads, fence) within 5 feet, 5-10 feet, more than 10 feet
1.7 (City Park)	North Side: Vertical (slope severely eroded).	Moderate to gentle. (Some areas, exposed limestone formation was eroded)	Relatively straight.	Good	North Side: Road Section at more than 5 feet.
	South Side: Moderate, canal top bank is lower compared to the rest of areas				South Side: Park fence at edge of top bank
1.8 (14 homes)	North Side: Moderate to steep (minor slope erosion).	Moderate to gentle. (Some areas, exposed limestone formation was eroded)	Relatively straight.	Fair, trees and vegetation growing on South side top of canal bank. Concrete debri found at random locations.	North Side: Road Section at more than 10 feet.
	South Side: Moderate to steep (minor slope erosion)				South Side: Property fences at edge of top bank
1.9 (1 home)	North Side: Moderate to steep (minor slope erosion).	Moderate to gentle. (Some areas, exposed limestone formation was eroded)	Relatively straight.	Good, palm trees growing on canal slope.	North Side: Road Section at more than 10 feet.
	South Side: Moderate, slope with some erosion 18" above canal water level.				South Side: Property fences on canal slope.

Miami Lakes Canal (170th Street From I-75 to NW 87th Avenue)					
Section	Above Water Steepness of the canal slope (Gentle, Moderate, Steep, Vertical)	Below Water Steepness of the Canal Slope (Gentle, Moderate, Steep, Vertical)	Uniformity of the Top of Bank Location (Straight Line, Irregular, Very Irregular)	Maintenance (Good, Fair, Poor)	Proximity of Structures to top of bank (building, roads, fence) within 5 feet, 5-10 feet, more than 10 feet
1.10 (1 home)	North Side: Moderate to steep (minor slope erosion).	Moderate to gentle. (Some areas, exposed limestone formation was eroded)	Relatively straight.	Fair, large palm tree on canal slope with other tree and vegetation. Property has a deck built on canal slope.	North Side: Road Section at more than 10 feet.
	South Side: Moderate, slope with some erosion 18" above canal water level.				South Side: Property fences at edge of top bank
1.11 (1 home)	North Side: Moderate to steep (minor slope erosion).	Moderate to gentle. (Some areas, exposed limestone formation was eroded)	Relatively straight.	Good.	North Side: Road Section at more than 10 feet.
	South Side: Moderate, slope with some erosion 18" above canal water level.				South Side: Property fences on canal slope.
1.12 (1 home)	North Side: Moderate to steep (minor slope erosion).	Moderate to gentle. (Some areas, exposed limestone formation was eroded)	Relatively straight.	Good, palm trees growing on canal slope.	North Side: Road Section at more than 10 feet.
	South Side: gentle to moderate, slope with some erosion 18" above canal water level.				South Side: Property fences on canal slope.

Miami Lakes Canal (170th Street From I-75 to NW 87th Avenue)					
Section	Above Water Steepness of the canal slope (Gentle, Moderate, Steep, Vertical)	Below Water Steepness of the Canal Slope (Gentle, Moderate, Steep, Vertical)	Uniformity of the Top of Bank Location (Straight Line, Irregular, Very Irregular)	Maintenance (Good, Fair, Poor)	Proximity of Structures to top of bank (building, roads, fence) within 5 feet, 5-10 feet, more than 10 feet
1.13 (2 homes)	North Side: Moderate to steep (minor slope erosion).	Moderate to gentle. (Some areas, exposed limestone formation was eroded)	Relatively straight.	Fair, Highly overgrown with vegetation.	North Side: Road Section at more than 10 feet.
	South Side: Steep, fabric form installed on canal slope at bridge section.				South Side No property fences, one gazebo structure within 10 feet of canal top bank.

Miami Lakes Canal (170th Street From NW 87th to NW 82nd Avenue)					
Section	Above Water Steepness of the canal slope (Gentle, Moderate, Steep, Vertical)	Below Water Steepness of the Canal Slope (Gentle, Moderate, Steep, Vertical)	Uniformity of the Top of Bank Location (Straight Line, Irregular, Very Irregular)	Maintenance (Good, Fair, Poor)	Proximity of Structures to top of bank (building, roads, fence) within 5 feet, 5-10 feet, more than 10 feet
2.1 (2 homes)	North Side: Moderate to gentle.	Moderate (Some areas, exposed limestone formation was eroded).	Relatively straight.	Good	North Side: Road Section at more than 10 feet.
	South Side: Moderate to gentle.				South Side: Concrete wall property fences within 5 feet from top of canal bank.
2.2 (7 homes)	North Side: Moderate.	Moderate (Some areas, exposed limestone formation was eroded).	Relatively straight.	Fair, Vegetation and palm trees at top of canal bank on both sides. Concrete debri found at random locations.	North Side: Road Section at more than 10 feet.
	South Side: Moderate (minor slope erosion)				South Side: Property fences within 5 feet from top of canal bank.
2.3 (8 homes)	North Side: Moderate to steep.	Moderate (Some areas, exposed limestone formation was eroded).	Relatively straight.	Fair, Vegetation and palm trees at top of canal bank on both sides. Concrete debri found at random locations. Cement-Sand bags were found at one section on the North side.	North Side: Road Section at more than 10 feet.
	South Side: Moderate to steep (minor slope erosion)				South Side: Property fences at edge of top bank.

Miami Lakes Canal (170th Street From NW 87th to NW 82nd Avenue)					
Section	Above Water Steepness of the canal slope (Gentle, Moderate, Steep, Vertical)	Below Water Steepness of the Canal Slope (Gentle, Moderate, Steep, Vertical)	Uniformity of the Top of Bank Location (Straight Line, Irregular, Very Irregular)	Maintenance (Good, Fair, Poor)	Proximity of Structures to top of bank (building, roads, fence) within 5 feet, 5-10 feet, more than 10 feet
2.4 (2 homes)	North Side: Moderate to steep.	Moderate to steep. (Some areas, exposed limestone formation was eroded).	Relatively straight.	Fair, Vegetation and palm trees at top of canal bank on both sides. Concrete debri found at random locations.	North Side: Road Section at more than 10 feet.
	South Side: Moderate to steep (minor slope erosion)				South Side: Property fences at edge of top bank.
2.5 (5 homes)	North Side: Moderate to steep.	Moderate to steep. (Some areas, exposed limestone formation was eroded).	Relatively straight.	Fair, Dense vegetation and palm trees on slopes and at top of canal bank on both sides. Concrete debri found at random locations.	North Side: Road Section at more than 10 feet.
	South Side: Steep - Some convexity notice along slope.				South Side: Property fences at edge of top bank.

Miami Lakes Canal (170th Street From NW 82nd to NW 77th Court)					
Section	Above Water Steepness of the canal slope (Gentle, Moderate, Steep, Vertical)	Below Water Steepness of the Canal Slope (Gentle, Moderate, Steep, Vertical)	Uniformity of the Top of Bank Location (Straight Line, Irregular, Very Irregular)	Maintenance (Good, Fair, Poor)	Proximity of Structures to top of bank (building, roads, fence) within 5 feet, 5-10 feet, more than 10 feet
3.1 (4 homes)	North Side: Moderate to gentle.	Moderate to steep. (Some areas, exposed limestone formation was eroded).	Relatively straight.	Good, palm trees and vegetation growing on slope and at top of canal bank on both sides.	North Side: Road Section at more than 10 feet.
	South Side: Moderate (minor erosion at water level)				South Side: Property fences at edge of top bank.
3.2 (2 homes)	North Side: Moderate to gentle.	Moderate to steep. (Some areas, exposed limestone formation was eroded).	Relatively straight.	Good, palm trees and minor vegetation growing on slope and at top of canal bank on both sides.	North Side: Road Section at more than 10 feet.
	South Side: Moderate (minor erosion at water level)				South Side: Property fences and retaining walls at edge of top bank.
3.3 (1 home)	North Side: Moderate to gentle	Moderate to steep. (Some areas, exposed limestone formation was eroded).	Relatively straight.	Good, palm trees and minor vegetation growing on slope and at top of canal bank on both sides.	North Side: Road Section at more than 10 feet.
	South Side: Moderate (minor erosion at water level)				South Side: No property fence.

Miami Lakes Canal (170th Street From NW 82nd to NW 77th Court)					
Section	Above Water Steepness of the canal slope (Gentle, Moderate, Steep, Vertical)	Below Water Steepness of the Canal Slope (Gentle, Moderate, Steep, Vertical)	Uniformity of the Top of Bank Location (Straight Line, Irregular, Very Irregular)	Maintenance (Good, Fair, Poor)	Proximity of Structures to top of bank (building, roads, fence) within 5 feet, 5-10 feet, more than 10 feet
3.4 (1 home)	North Side: Moderate to gentle	Moderate to steep. (Some areas, exposed limestone formation was eroded).	Relatively straight.	Good, palm trees and minor vegetation growing on slope and at top of canal bank on both sides.	North Side: Road Section at more than 10 feet.
	South Side: Moderate (minor erosion at water level)				South Side: Property fence at edge of top bank.
3.5 (11 homes)	North Side: Moderate to gentle.	Moderate to steep. (Some areas, exposed limestone formation was eroded).	Relatively straight.	Good, palm trees and minor vegetation growing on slope and at top of canal bank on both sides.	North Side: Road Section at more than 10 feet.
	South Side: Moderate to steep (minor erosion at water level). Some slope have been modified during retaining wall construction.				South Side: Property fences and retaining walls at edge of top bank.
3.6 (4 homes)	North Side: Moderate.	Moderate to steep. (Some areas, exposed limestone formation was eroded).	Relatively straight.	Fair, collapsed cement-sand bags noticed at one property. Palm trees and minor vegetation growing on slope and at top of canal bank on both sides.	North Side: Road Section at more than 10 feet.
	South Side: Moderate to steep (minor erosion at water level).				South Side: Property fences at edge of top bank.

Miami Lakes Canal (170th Street From NW 82nd to NW 77th Court)					
Section	Above Water Steepness of the canal slope (Gentle, Moderate, Steep, Vertical)	Below Water Steepness of the Canal Slope (Gentle, Moderate, Steep, Vertical)	Uniformity of the Top of Bank Location (Straight Line, Irregular, Very Irregular)	Maintenance (Good, Fair, Poor)	Proximity of Structures to top of bank (building, roads, fence) within 5 feet, 5-10 feet, more than 10 feet
3.7 (1 home)	North Side: Moderate to steep.	Moderate to steep. (Some areas, exposed limestone formation was eroded).	Relatively straight.	Good.	North Side: Road Section at more than 10 feet.
	South Side: Steep (minor slope erosion).				South Side: Property fence at edge of top bank.
3.8 (1 home)	North Side: Moderate to steep. (minor slope erosion)	Moderate to steep. (Some areas, exposed limestone formation was eroded).	Relatively straight.	Good	North Side: Road Section at more than 10 feet.
	South Side: Steep (minor slope erosion).				South Side: Property fence within 5 feet of top bank.
3.9 (3 homes)	North Side: Moderate to steep. (minor slope erosion)	Moderate to steep. (Some areas, exposed limestone formation was eroded).	Relatively straight.	Good, cement-sand bags noticed at one property.	North Side: Road Section at more than 10 feet.
	South Side: Steep (some slope erosion).				South Side: Property fences within 5 feet of top bank.

Miami Lakes Canal (170th Street From NW 82nd to NW 77th Court)					
Section	Above Water Steepness of the canal slope (Gentle, Moderate, Steep, Vertical)	Below Water Steepness of the Canal Slope (Gentle, Moderate, Steep, Vertical)	Uniformity of the Top of Bank Location (Straight Line, Irregular, Very Irregular)	Maintenance (Good, Fair, Poor)	Proximity of Structures to top of bank (building, roads, fence) within 5 feet, 5-10 feet, more than 10 feet
3.10 (1 home)	North Side: Moderate to steep. (minor slope erosion)	Moderate to steep. (Some areas, exposed limestone formation was eroded).	Relatively straight.	Good	North Side: Road Section at more than 10 feet.
	South Side: Steep (some slope erosion).				South Side: Property fences within 5 feet of top bank.
3.11 (1 home)	North Side: Moderate to steep. (minor slope erosion)	Moderate to steep. (Some areas, exposed limestone formation was eroded).	Relatively straight.	Fair, palm trees and minor vegetation growing at top bank on the South Side.	North Side: Road Section at more than 10 feet.
	South Side: Steep (some slope erosion). Stone dumped on slope				South Side: Property fences within 5 feet of top bank. Dog house built to the edge of top bank.

Miami Lakes Canal (77th court From NW 170th Street to NW 163rd Street)					
Section	Above Water Steepness of the canal slope (Gentle, Moderate, Steep, Vertical)	Below Water Steepness of the Canal Slope (Gentle, Moderate, Steep, Vertical)	Uniformity of the Top of Bank Location (Straight Line, Irregular, Very Irregular)	Maintenance (Good, Fair, Poor)	Proximity of Structures to top of bank (building, roads, fence) within 5 feet, 5-10 feet, more than 10 feet
4.1 (4 homes)	West Side: Steep to vertical (Some sections slope is severely eroded).	Moderate to steep. (Some areas, exposed limestone formation was eroded).	Relatively straight.	West Side: Fair.	West Side: Road section within 5 feet.
	East Side: Moderate to steep (minor slope erosion).			East Side: Good, some vegetation growing at top of canal bank.	East Side: Property fences at edge of top bank.
4.2 (3 homes)	West Side: Steep to vertical (Some sections slope is severely eroded).	Moderate to steep. (Some areas, exposed limestone formation was eroded).	Relatively straight.	West Side: Fair.	West Side: Road section within 5 feet.
	East Side: Moderate to steep (minor slope erosion).			East Side: Fair, some vegetation growing at top of canal bank, and concrete debri found at random locations.	East Side: Property fences at edge of top bank.
4.3 (17 homes)	West Side: Steep to vertical (Some sections slope is severely eroded).	Moderate to steep. (Some areas, exposed limestone formation was eroded).	Relatively straight.	West Side: Fair.	West Side: Road section within 5 feet.
	East Side: Moderate to steep (minor slope erosion).			East Side: Fair, some vegetation growing at top of canal bank and on slope. Concrete debri found on slope at below water level at random locations.	East Side: Property fences at edge of top bank. One home had a deck. Two outfall structures noticed.



Photo 1. Canal Section 1.1 – View is to Southeast, showing concrete debris at water level.



Photo 2. Canal Section 1.4 to 1.1 – View is to West, showing minor erosion.

Project Manager: HS	Project No. H8155009	 3601 Mojave Court, Suite A Columbia, Missouri 65202 PH. (573) 214-2677 FAX. (573) 214-2714	PHOTOGRAPHS	FIG No.
Drawn by: SDF	Scale: N.T.S		MIAMI LAKES CANAL BANK STABILIZATION	A-11
Checked by: HS	File Name: H8155009		NW 170TH STREET	
Approved by: HS	Date: 6/4/2015		MIAMI LAKES, FLORIDA	



Photo 3. Canal Section 1.2 – View is to South, showing existing vegetation.



Photo 4. Canal Section 1.3 – View is to South, showing concrete debris at water level..

Project Manager: HS	Project No. H8155009	 3601 Mojave Court, Suite A Columbia, Missouri 65202 PH. (573) 214-2677 FAX. (573) 214-2714	PHOTOGRAPHS	FIG No.
Drawn by: SDF	Scale: N.T.S		MIAMI LAKES CANAL BANK STABILIZATION	A-12
Checked by: HS	File Name: H8155009		NW 170TH STREET	
Approved by: HS	Date: 6/4/2015		MIAMI LAKES, FLORIDA	



Photo 5. Canal Section 1.4 – View is to South.



Photo 6. Canal Section 1.5 – View is to South, showing concrete debris at water level.

Project Manager: HS	Project No. H8155009	 3601 Mojave Court, Suite A Columbia, Missouri 65202 PH. (573) 214-2677 FAX. (573) 214-2714	PHOTOGRAPHS	FIG No.
Drawn by: SDF	Scale: N.T.S		MIAMI LAKES CANAL BANK STABILIZATION	A-13
Checked by: HS	File Name: H8155009		NW 170TH STREET	
Approved by: HS	Date: 6/4/2015		MIAMI LAKES, FLORIDA	



Photo 7. Canal Section 1.6 – View is to South. .



Photo 8. Canal Section 1.7 – View is to Southwest. .

Project Manager: HS	Project No. H8155009	 3601 Mojave Court, Suite A Columbia, Missouri 65202 PH. (573) 214-2677 FAX. (573) 214-2714	PHOTOGRAPHS	FIG No.
Drawn by: SDF	Scale: N.T.S		MIAMI LAKES CANAL BANK STABILIZATION	A-14
Checked by: HS	File Name: H8155009		NW 170TH STREET	
Approved by: HS	Date: 6/4/2015		MIAMI LAKES, FLORIDA	



Photo 9. Canal Section 1.7 – View is to North, showing severely eroded slope.



Photo 10. Canal Section 1.8 – View is to East, showing similar homes. .

Project Manager: HS	Project No. H8155009	 3601 Mojave Court, Suite A Columbia, Missouri 65202 PH. (573) 214-2677 FAX. (573) 214-2714	PHOTOGRAPHS	FIG No.
Drawn by: SDF	Scale: N.T.S		MIAMI LAKES CANAL BANK STABILIZATION	A-15
Checked by: HS	File Name: H8155009		NW 170TH STREET	
Approved by: HS	Date: 6/4/2015		MIAMI LAKES, FLORIDA	



Photo 11. Canal Section 1.9 – View is to South.



Photo 12. Canal Section 1.10 – View is to South.

Project Manager: HS	Project No. H8155009	 3601 Mojave Court, Suite A Columbia, Missouri 65202 PH. (573) 214-2677 FAX. (573) 214-2714	PHOTOGRAPHS	FIG No.
Drawn by: SDF	Scale: N.T.S		MIAMI LAKES CANAL BANK STABILIZATION	A-16
Checked by: HS	File Name: H8155009		NW 170TH STREET	
Approved by:	Date:		MIAMI LAKES, FLORIDA	
HS	6/4/2015			



Photo 13. Canal Section 1.11 – View is to South.



Photo 14. Canal Section 1.12 – View is to South.

Project Manager: HS	Project No. H8155009		PHOTOGRAPHS	FIG No.
Drawn by: SDF	Scale: N.T.S		MIAMI LAKES CANAL BANK STABILIZATION	A-17
Checked by: HS	File Name: H8155009		NW 170TH STREET	
Approved by: HS	Date: 6/4/2015		MIAMI LAKES, FLORIDA	

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Photo 15. Canal Section 1.13 – View is to Southwest.



Photo 16. Canal Section 1.13-1.8 – View is to West, showing North side similar slope conditions.

Project Manager: HS	Project No. H8155009		PHOTOGRAPHS	FIG No.
Drawn by: SDF	Scale: N.T.S		MIAMI LAKES CANAL BANK STABILIZATION	A-18
Checked by: HS	File Name: H8155009		NW 170TH STREET	
Approved by: HS	Date: 6/4/2015		MIAMI LAKES, FLORIDA	

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Photo 17. Canal Section 2.1 – View is to Southeast



Photo 18. Canal Section 2.2 – View is to Southwest.

Project Manager: HS	Project No. H8155009	 3601 Mojave Court, Suite A Columbia, Missouri 65202 PH. (573) 214-2677 FAX. (573) 214-2714	PHOTOGRAPHS	FIG No.
Drawn by: SDF	Scale: N.T.S		MIAMI LAKES CANAL BANK STABILIZATION	A-19
Checked by: HS	File Name: H8155009		NW 170TH STREET	
Approved by: HS	Date: 6/4/2015		MIAMI LAKES, FLORIDA	



Photo 19. Canal Section 2.3 – View is to Southwest, showing minor slope erosion.



Photo 20. Canal Section 2.4 – View is to Southeast, showing minor slope erosion.

Project Manager: HS	Project No. H8155009	 3601 Mojave Court, Suite A Columbia, Missouri 65202 PH. (573) 214-2677 FAX. (573) 214-2714	PHOTOGRAPHS	FIG No.
Drawn by: SDF	Scale: N.T.S		MIAMI LAKES CANAL BANK STABILIZATION	A-20
Checked by: HS	File Name: H8155009		NW 170TH STREET	
Approved by:	Date:		MIAMI LAKES, FLORIDA	
HS	6/4/2015			



Photo 21. Canal Section 2.1-2.2 – View is to East, showing similar slope conditions.



Photo 22. Canal Section 2.3-2.5 – View is to East, showing similar slope conditions.

Project Manager: HS	Project No. H8155009	 3601 Mojave Court, Suite A Columbia, Missouri 65202 PH. (573) 214-2677 FAX. (573) 214-2714	PHOTOGRAPHS	FIG No.
Drawn by: SDF	Scale: N.T.S		MIAMI LAKES CANAL BANK STABILIZATION	A-21
Checked by: HS	File Name: H8155009		NW 170TH STREET	
Approved by:	Date:		MIAMI LAKES, FLORIDA	
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Photo 23. Canal Section 3.1 – View is to Southeast, showing existing vegetation.



Photo 24. Canal Section 3.1-3.5 – View is to Northwest, showing similar north side slope conditions.

Project Manager: HS	Project No. H8155009	 3601 Mojave Court, Suite A Columbia, Missouri 65202 PH. (573) 214-2677 FAX. (573) 214-2714	PHOTOGRAPHS	FIG No.
Drawn by: SDF	Scale: N.T.S		MIAMI LAKES CANAL BANK STABILIZATION NW 170TH STREET MIAMI LAKES, FLORIDA	A-22
Checked by: HS	File Name: H8155009			
Approved by: HS	Date: 6/4/2015			



Photo 25. Canal Section 3.2 – View is to South.



Photo 26. Canal Section 3.3 – View is to South.

Project Manager: HS	Project No. H8155009	 3601 Mojave Court, Suite A Columbia, Missouri 65202 PH. (573) 214-2677 FAX. (573) 214-2714	PHOTOGRAPHS	FIG No.
Drawn by: SDF	Scale: N.T.S		MIAMI LAKES CANAL BANK STABILIZATION	A-23
Checked by: HS	File Name: H8155009		NW 170TH STREET	
Approved by:	Date:		MIAMI LAKES, FLORIDA	
HS	6/4/2015			



Photo 27. Canal Section 3.4 – View is to South.



Photo 28. Canal Section 3.5 – View is to West, showing similar homes.

Project Manager: HS	Project No. H8155009	 3601 Mojave Court, Suite A Columbia, Missouri 65202 PH. (573) 214-2677 FAX. (573) 214-2714	PHOTOGRAPHS MIAMI LAKES CANAL BANK STABILIZATION NW 170TH STREET MIAMI LAKES, FLORIDA	FIG No. A-24
Drawn by: SDF	Scale: N.T.S			
Checked by: HS	File Name: H8155009			
Approved by: HS	Date: 6/4/2015			



Photo 29. Canal Section 3.6 – View is to Southwest.



Photo 30. Canal Section 3.8 – View is to South.

Project Manager: HS	Project No. H8155009	 3601 Mojave Court, Suite A Columbia, Missouri 65202 PH. (573) 214-2677 FAX. (573) 214-2714	PHOTOGRAPHS	FIG No.
Drawn by: SDF	Scale: N.T.S		MIAMI LAKES CANAL BANK STABILIZATION	A-25
Checked by: HS	File Name: H8155009		NW 170TH STREET	
Approved by: HS	Date: 6/4/2015		MIAMI LAKES, FLORIDA	



Photo 31. Canal Section 3.9 – View is to South, showing minor slope erosion.



Photo 32. Canal Section 3.10 – View is to South, showing some slope erosion.

Project Manager: HS	Project No. H8155009	 3601 Mojave Court, Suite A Columbia, Missouri 65202 PH. (573) 214-2677 FAX. (573) 214-2714	PHOTOGRAPHS	FIG No.
Drawn by: SDF	Scale: N.T.S		MIAMI LAKES CANAL BANK STABILIZATION	A-26
Checked by: HS	File Name: H8155009		NW 170TH STREET	
Approved by: HS	Date: 6/4/2015		MIAMI LAKES, FLORIDA	



Photo 33. Canal Section 3.11 – View is to South, showing some erosion.



Photo 34. Canal Section 3.11-3.6 – View is to West, showing North side similar slope conditions.

Project Manager:	HS
Drawn by:	SDF
Checked by:	HS
Approved by:	HS
Project No.	H8155009
Scale:	N.T.S
File Name:	H8155009
Date:	6/4/2015

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PHOTOGRAPHS
MIAMI LAKES CANAL BANK STABILIZATION
NW 170TH STREET
MIAMI LAKES, FLORIDA

FIG No.
A-27



Photo 35. Canal Section 4.1 – View is to West.



Photo 36. Canal Section 4.1 – View is to East, showing severe slope erosion.

Project Manager: HS	Project No. H8155009	 3601 Mojave Court, Suite A Columbia, Missouri 65202 PH. (573) 214-2677 FAX. (573) 214-2714	PHOTOGRAPHS	FIG No.
Drawn by: SDF	Scale: N.T.S		MIAMI LAKES CANAL BANK STABILIZATION	A-28
Checked by: HS	File Name: H8155009		NW 170TH STREET	
Approved by:	Date: 6/4/2015		MIAMI LAKES, FLORIDA	
HS				



Photo 37. Canal Section 4.2 – View is to west, showing some slope erosion.



Photo 38. Canal Section 4.2 – View is to East, showing severe slope erosion.

Project Manager: HS	Project No. H8155009	 3601 Mojave Court, Suite A Columbia, Missouri 65202 PH. (573) 214-2677 FAX. (573) 214-2714	PHOTOGRAPHS	FIG No.
Drawn by: SDF	Scale: N.T.S		MIAMI LAKES CANAL BANK STABILIZATION	A-29
Checked by: HS	File Name: H8155009		NW 170TH STREET	
Approved by:	Date:		MIAMI LAKES, FLORIDA	
HS	6/4/2015			



Photo 39. Canal Section 4.3 – View is to West, showing deck on canal slope.



Photo 40. Canal Section 4.3 – View is to East, showing concrete debris on canal slope.

Project Manager: HS	Project No. H8155009		PHOTOGRAPHS MIAMI LAKES CANAL BANK STABILIZATION NW 170TH STREET MIAMI LAKES, FLORIDA	FIG No. A-30
Drawn by: SDF	Scale: N.T.S			
Checked by: HS	File Name: H8155009			
Approved by: HS	Date: 6/4/2015			

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 PH. (573) 214-2677 FAX. (573) 214-2714



Photo 41. Canal Section 4.3 – View is to west, showing storm water outfall structure.



Photo 42. Canal Section 4.3 – View is to East, showing some to severe slope erosion.

Project Manager: HS	Project No. H8155009		PHOTOGRAPHS	FIG No.
Drawn by: SDF	Scale: N.T.S		MIAMI LAKES CANAL BANK STABILIZATION	A-31
Checked by: HS	File Name: H8155009		NW 170TH STREET	
Approved by:	Date:		MIAMI LAKES, FLORIDA	
HS	6/4/2015			

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PH. (573) 214-2677 FAX. (573) 214-2714

APPENDIX B – SUBSURFACE EXPLORATION

Exhibit B-1 to B-5	Boring Location Plans
Exhibit B-6 to B-25	Boring Logs
Exhibit B-26	Subsurface Profile
Exhibit B-27	General Notes
Exhibit B-28	General Notes (Description of Rock Properties)
Exhibit B-29	Unified Soil Classification System

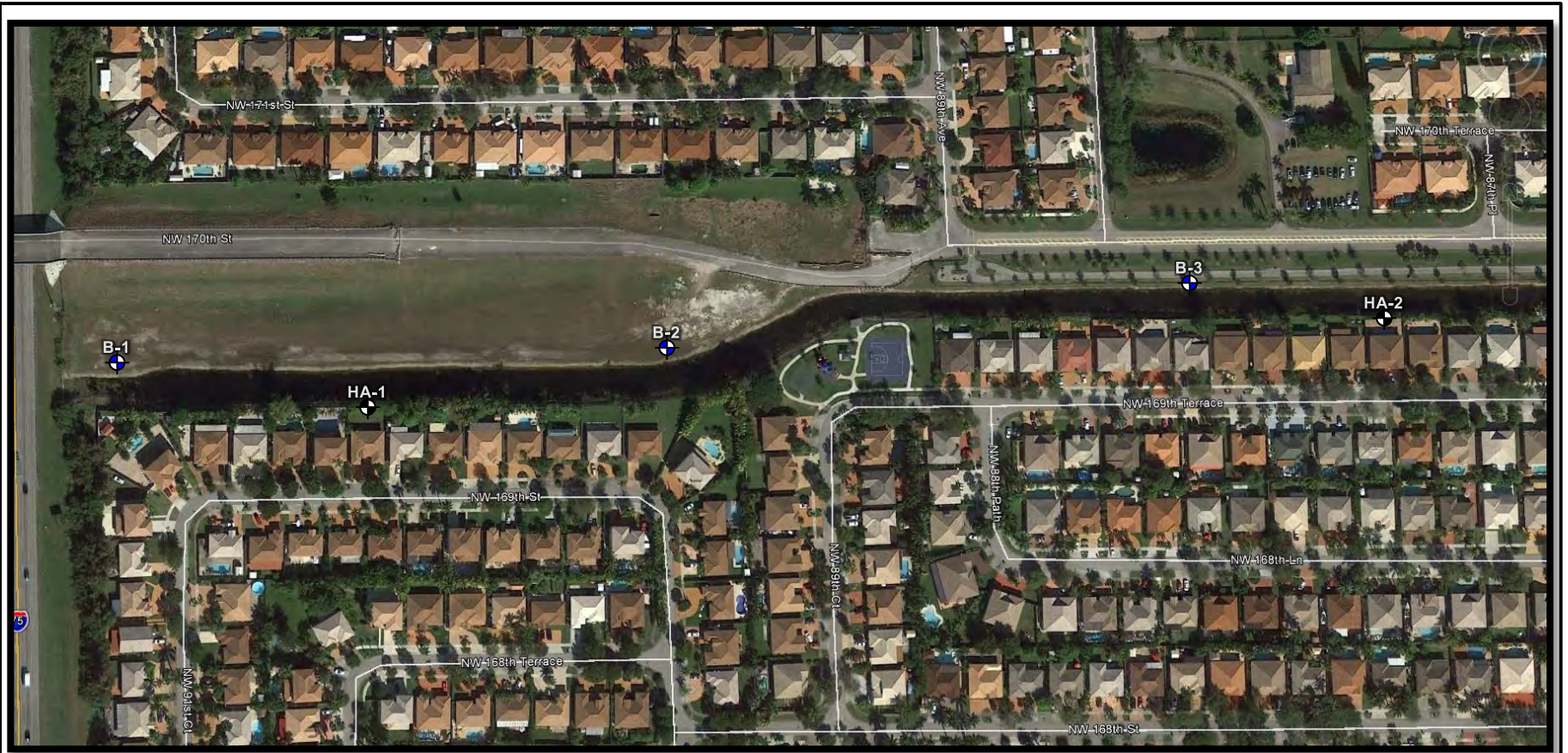


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT
INTENDED FOR CONSTRUCTION PURPOSES

LEGEND

-  SPT Boring Locations
-  Hand Auger Boring Test Locations

Project Manager: HES
Drawn by: SDF
Checked by: HES
Approved by: HES

Project No. H8155008
Scale: N.T.S.
File Name: H8155008
Date: 5/20/2015

Terracon
Consulting Engineers & Scientists

3601 Mojave Court, Suite A Columbia, Missouri 65202
PH: (573) 214-2677 FAX: (573) 214-2714

BORING LOCATION PLAN

MIAMI LAKES CANAL BANK STABILIZATION
NW 170TH STREET
MIAMI LAKES, FLORIDA

Exhibit

B-1

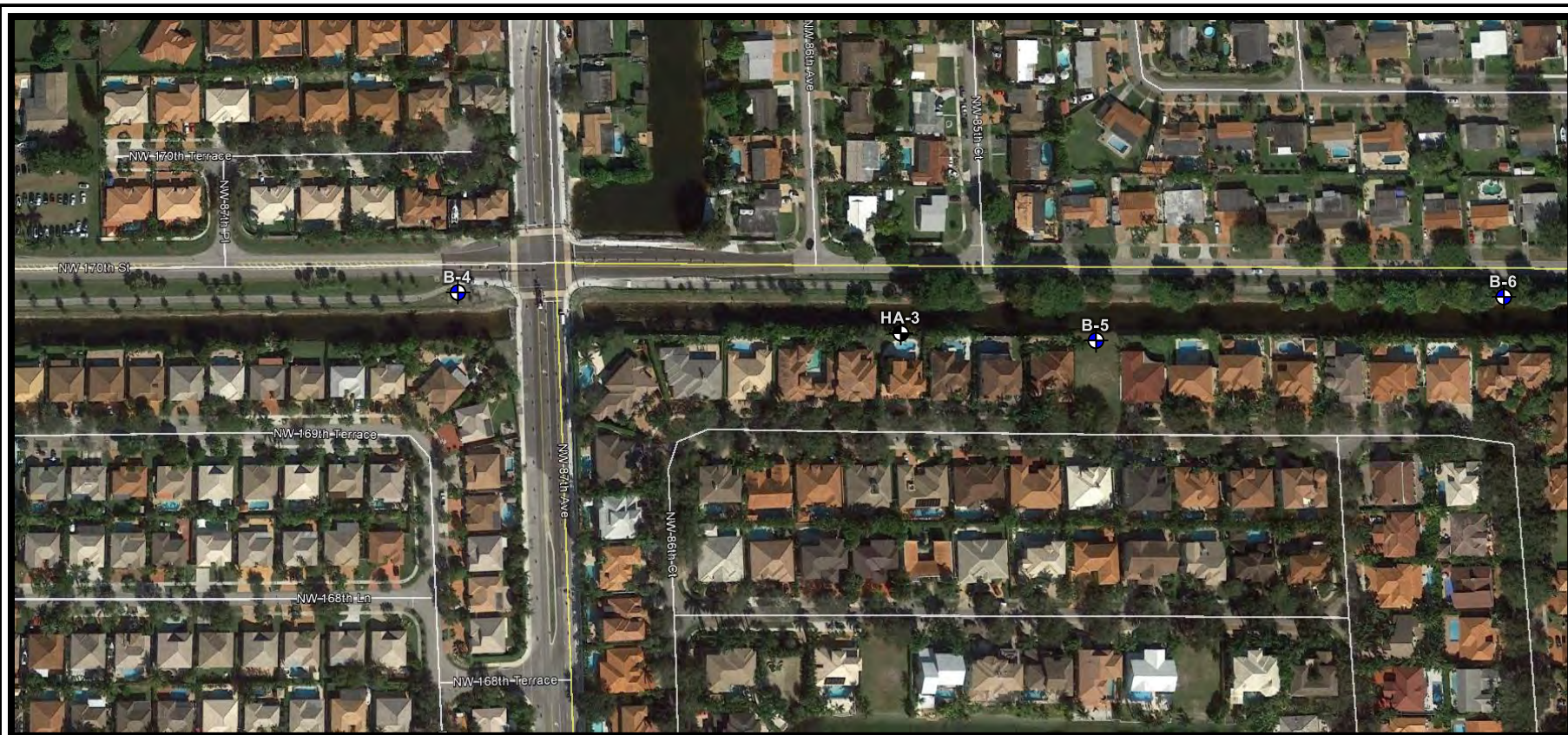


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT
INTENDED FOR CONSTRUCTION PURPOSES

LEGEND

-  SPT Boring Locations
-  Hand Auger Boring Test Locations

Project Manager: HES
Drawn by: SDF
Checked by: HES
Approved by: HES

Project No. H8155009
Scale: N.T.S.
File Name: H8155009
Date: 5/20/2015

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Consulting Engineers & Scientists

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PH: (573) 214-2677 FAX: (573) 214-2714

BORING LOCATION PLAN

MIAMI LAKES CANAL BANK STABILIZATION
NW 170TH STREET
MIAMI LAKES, FLORIDA

Exhibit

B-2



DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT
INTENDED FOR CONSTRUCTION PURPOSES

LEGEND	
	SPT Boring Locations
	Hand Auger Boring Test Locations

Project Manager:	HES
Drawn by:	SDF
Checked by:	HES
Approved by:	HES

Project No.	H8155009
Scale:	N.T.S.
File Name:	H8155009
Date:	5/20/2015

Terracon
Consulting Engineers & Scientists

3601 Mojave Court, Suite A Columbia, Missouri 65202
PH: (573) 214-2677 FAX: (573) 214-2714

BORING LOCATION PLAN	
MIAMI LAKES CANAL BANK STABILIZATION NW 170TH STREET MIAMI LAKES, FLORIDA	

Exhibit
B-3

BORING LOG NO. B-1

Page 1 of 1

PROJECT: Canal Bank Stabilization

CLIENT: City of Miami Lakes
Miami Lakes

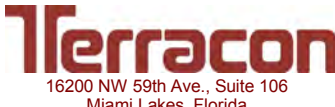
SITE: 16900-16948 NW 77th Ct
Miami Lakes, FL

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ENVIRONMENTAL SMART LOG H8155009 MIAMI LAKES.GPJ TERRACON2012.GDT 7/16/15

GRAPHIC LOG	LOCATION See Exhibit B-1 to B-5		DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	SPT N-VALUE
	DEPTH	MATERIAL DESCRIPTION				
		Surface Elev.: 4.54 (Ft.) ELEVATION (Ft.)				
	0.1	TOPSOIL , (1" thick)	4.4			11-6-5-6 N=11
	1.5	FILL - FINE TO MEDIUM SAND (SP) , few limerock fragments, brown	3			4-2-2-4 N=4
		ORGANIC SAND (OL) , black				5-5-3-5 N=8
	4.5		0			4-5-4-3 N=9
	6.0	FINE TO MEDIUM SAND (SP) , with limestone fragments, porous limestone, dark brown to brown	-1.5			9-8-4-3 N=12
		LIMESTONE , with fine sand, light brown				6-3-3 N=6
	10.0		-5.5			1-2-2 N=4
		LIMESTONE , very porous, with fine sand, light brown				1-1-2 N=3
	12.5		-8			7-23-20 N=43
		FINE TO MEDIUM SAND (SP) , light brown				5-17-15 N=32
	18.5		-14			25-23-14 N=37
		LIMESTONE , with fine sand, light brown				8-15-19 N=34
	30.0		-25.5			11-5-3 N=8
		Boring Terminated at 30 Feet	30			

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Hammer Type: Automatic

Advancement Method: Rotary Mud Drilling and Casing	See Appendices for description of field procedures. See Appendices for description of laboratory procedures and additional data (if any).	Notes: Complete loss circulation of fluid at 10'	
Abandonment Method: Borings backfilled with cement-bentonite grout upon completion.	See Appendices for explanation of symbols and abbreviations.		
WATER LEVEL OBSERVATIONS	 16200 NW 59th Ave., Suite 106 Miami Lakes, Florida	Boring Started: 4/15/2015	Boring Completed: 4/15/2015
 Water Initially Encountered at 2.8'		Drill Rig: CME 55	Driller: HA
		Project No.: H8155009	Exhibit: B-6

BORING LOG NO. HA-1

Page 1 of 1

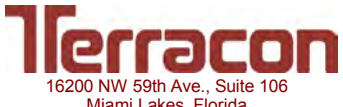
PROJECT: Canal Bank Stabilization

CLIENT: City of Miami Lakes
Miami Lakes

SITE: 16900-16948 NW 77th Ct
Miami Lakes, FL

GRAPHIC LOG	LOCATION See Exhibit B-1 to B-5		DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE
	DEPTH	MATERIAL DESCRIPTION			
		Surface Elev.: 3.63 (Ft.) ELEVATION (Ft.)			
	0.2	TOPSOIL , (2" thick)	3.4		
	2.0	ORGANIC SAND (OL) , few limerock fragments, black	1.6		
		FINE TO MEDIUM SAND (SP) , brown			
	4.0		-0.4		
	4.1	LIMESTONE , with fine sand, light brown	-0.5		
		Auger Refusal at 4.1 Feet			

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method: Hand Auger	See Appendices for description of field procedures. See Appendices for description of laboratory procedures and additional data (if any). See Appendices for explanation of symbols and abbreviations.	Notes:	
Abandonment Method: Borings backfilled with existing soil			
WATER LEVEL OBSERVATIONS	 16200 NW 59th Ave., Suite 106 Miami Lakes, Florida	Boring Started: 4/21/2015	Boring Completed: 4/21/2015
 Water Initially Encountered at 2.5'		Drill Rig:	Driller: DG
		Project No.: H8155009	Exhibit: B-7

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ENVIRONMENTAL SMART LOG H8155009 MIAMI LAKES.GPJ TERRACON2012.GDT 7/16/15

Page 1 of 1

**CLIENT: City of Miami Lakes
Miami Lakes**

SITE: 16900-16948 NW 77th Ct
Miami Lakes, FL

GRAPHIC LOG	LOCATION See Exhibit B-1 to B-5		DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	SPT N-VALUE
	DEPTH	MATERIAL DESCRIPTION				
		Surface Elev.: 3.13 (Ft.) ELEVATION (Ft.)				
	0.2	<u>TOPSOIL</u> , (2" thick)	2.9			5-12-13-10 N=25
		<u>FINE TO MEDIUM SAND (SP)</u> , trace silt, light brown				
	3.7		-0.6			6-6-5-5 N=11
		<u>FINE TO MEDIUM SAND (SP)</u> , with limestone fragments, trace silt, porous limestone, brown to light brown				
	6.0		-2.9			3-3-4-7 N=7
		<u>LIMESTONE</u> , with fine sand, light brown				
	8.0		-4.9			8-11-10-7 N=21
		<u>LIMESTONE</u> , very porous, with fine sand, light brown				
	9.5		-6.4			9-5-4-4 N=9
		<u>FINE TO MEDIUM SAND (SP)</u> , with limestone fragments, porous limestone, light brown				
						3-2-2 N=4
						4-3-4 N=7
						4-3-3 N=6
	18.5		-15.4			
		<u>LIMESTONE</u> , with fine sand, light brown				13-11-11 N=22
						11-11-12 N=23
						14-40-17 N=57
						10-17-21 N=38
						10-9-13 N=22
	30.0		-26.9			
	Boring Terminated at 30 Feet					

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Hammer Type: Automatic

Advancement Method:	Rotary Mud Drilling and Casing
---------------------	--------------------------------

See Appendices for description of field procedures.

See Appendices for description of laboratory procedures and additional data (if any).

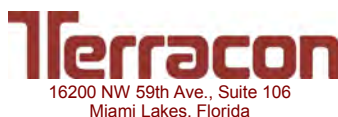
See Appendices for explanation of symbols and abbreviations.

Notes:

Complete loss circulation of fluid at 9'

Abandonment Method:
Borings backfilled with cement-bentonite grout upon completion.

WATER LEVEL OBSERVATIONS	
	Water Initially Encountered at 1.8'



Boring Started: 4/15/2015

Boring Completed: 4/15/2015

Drill Rig: CME 55

Driller: HA

Project No.: H8155009

Exhibit: B-8

BORING LOG NO. B-3

Page 1 of 1

PROJECT: Canal Bank Stabilization

CLIENT: City of Miami Lakes
Miami Lakes

SITE: 16900-16948 NW 77th Ct
Miami Lakes, FL

GRAPHIC LOG	LOCATION See Exhibit B-1 to B-5		DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	SPT N-VALUE
	DEPTH	MATERIAL DESCRIPTION				
		Surface Elev.: 4.8 (Ft.) ELEVATION (Ft.)				
	0.3	TOPSOIL, (3" thick)	4.5			
	1.5	FILL - FINE TO MEDIUM SAND (SP), few limerock fragments, trace organic, brown to black	3.3			4-2-2-2 N=4
	2.4	ORGANIC SAND (OL), black	2.4			
	3.0	FINE TO MEDIUM SAND (SP), trace organic, dark brown	1.8			1-4-6-5 N=10
		LIMESTONE, with fine sand, light brown				
			5			7-7-6-5 N=13
						8-10-14-17 N=24
			10			12-19-17-12 N=36
						10-10-8 N=18
						4-5-3 N=8
	15.0	FINE TO MEDIUM SAND (SP), with limestone fragments, porous limestone, light brown	-10.2			
			15			4-5-4 N=9
						4-8-19 N=27
	21.0	LIMESTONE, with fine sand, light brown	-16.2			
			20			7-10-15 N=25
						13-12-9 N=21
			25			10-15-21 N=36
						6-12-8 N=20
	30.0	Boring Terminated at 30 Feet	-25.2			

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Hammer Type: Automatic

Advancement Method:
Rotary Mud Drilling and Casing

See Appendices for description of field procedures.
See Appendices for description of laboratory procedures and additional data (if any).
See Appendices for explanation of symbols and abbreviations.

Notes:
Complete loss of fluid at 10 feet

Abandonment Method:
Borings backfilled with cement-bentonite grout upon completion.

WATER LEVEL OBSERVATIONS

Water Initially Encountered at 2.6'

Terracon
16200 NW 59th Ave., Suite 106
Miami Lakes, Florida

Boring Started: 4/15/2015

Boring Completed: 4/15/2015

Drill Rig: CME 55

Driller: HA

Project No.: H8155009

Exhibit: B-9

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ENVIRONMENTAL SMART LOG H8155009 MIAMI LAKES.GPJ TERRACON2012.GDT 7/16/15

BORING LOG NO. HA-2

Page 1 of 1

PROJECT: Canal Bank Stabilization

CLIENT: City of Miami Lakes
Miami Lakes

SITE: 16900-16948 NW 77th Ct
Miami Lakes, FL

GRAPHIC LOG	LOCATION See Exhibit B-1 to B-5		DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE
	DEPTH	MATERIAL DESCRIPTION			
	0.2	TOPSOIL, (2" thick)	3.4		
	2.0	FINE TO MEDIUM SAND (SP), with limerock fragments, trace organics, brown	1.6	▽	
	3.0	ORGANIC SILTY SAND (OL), black	0.6		
	4.0	FINE TO MEDIUM SAND (SP), with limestone fragments, porous limestone, light brown	-0.4		
	4.1	LIMESTONE, with fine sand, light brown	-0.5		
	Auger Refusal at 4.1 Feet				

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method: Hand Auger	See Appendices for description of field procedures. See Appendices for description of laboratory procedures and additional data (if any). See Appendices for explanation of symbols and abbreviations.	Notes:	
Abandonment Method: Borings backfilled with existing soil			
WATER LEVEL OBSERVATIONS	16200 NW 59th Ave., Suite 106 Miami Lakes, Florida	Boring Started: 4/21/2015	Boring Completed: 4/21/2015
▽ Water Initially Encountered at 2.0'		Drill Rig:	Driller: DG
		Project No.: H8155009	Exhibit: B-10

BORING LOG NO. B-4

Page 1 of 1

PROJECT: Canal Bank Stabilization

CLIENT: City of Miami Lakes
Miami Lakes

SITE: 16900-16948 NW 77th Ct
Miami Lakes, FL

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ENVIRONMENTAL SMART LOG H8155009 MIAMI LAKES.GPJ TERRACON2012.GDT 7/16/15

GRAPHIC LOG	LOCATION See Exhibit B-1 to B-5		DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	SPT N-VALUE
	DEPTH	MATERIAL DESCRIPTION				
		Surface Elev.: 5.38 (Ft.) ELEVATION (Ft.)				
	1.8	FILL - FINE TO MEDIUM SAND (SP) , few limerock fragments, trace organic, brown to black	3.6			4-5-3-2 N=8
	4.0	ORGANIC SAND (OL) , black	1.4	▽		2-2-3-10 N=5
	6.0	FINE TO MEDIUM SAND (SP) , dark brown	-0.6			7-8-10-9 N=18
	9.0	LIMESTONE , with fine sand, light brown	-3.6			4-4-5-4 N=9
	11.0	FINE TO MEDIUM SAND (SP) , light brown	-5.6			7-4-3-2 N=7
	13.5	FINE TO MEDIUM SAND (SP) , with limestone fragments, trace silt, porous limestone, light brown	-8.1			2-2-7 N=9
	16.0	LIMESTONE , with fine sand, light brown	-10.6			3-3-2 N=5
	17.5	LIMESTONE , very porous, with fine sand, light brown	-12.1			3-4-4 N=8
	23.5	FINE TO MEDIUM SAND (SP) , light brown	-18.1			8-7-8 N=15
		LIMESTONE , with fine sand, light brown				10-8-8 N=16
						6-6-5 N=11
						10-17-22 N=39
						10-13-15 N=28
	30.0	Boring Terminated at 30 Feet	-24.6			

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Hammer Type: Automatic

Advancement Method:
Rotary Mud Drilling and Casing

See Appendices for description of field procedures.
See Appendices for description of laboratory procedures and additional data (if any).
See Appendices for explanation of symbols and abbreviations.

Notes:

Abandonment Method:
Borings backfilled with cement-bentonite grout upon completion.

WATER LEVEL OBSERVATIONS

▽ Water Initially Encountered at 3'

Terracon
16200 NW 59th Ave., Suite 106
Miami Lakes, Florida

Boring Started: 4/16/2015

Drill Rig: CME 55

Project No.: H8155009

Boring Completed: 4/16/2015

Driller: HA

Exhibit: B-11

BORING LOG NO. HA-3

Page 1 of 1

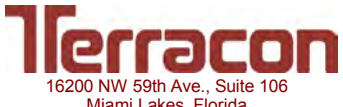
PROJECT: Canal Bank Stabilization

CLIENT: City of Miami Lakes
Miami Lakes

SITE: 16900-16948 NW 77th Ct
Miami Lakes, FL

GRAPHIC LOG	LOCATION See Exhibit B-1 to B-5		DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE
	DEPTH	MATERIAL DESCRIPTION			
	0.5	TOPSOIL , (2" thick)	2.6		
		FINE TO MEDIUM SAND (SP) , brown			
	3.5		-0.4		
	3.6	LIMESTONE , with fine sand, light brown	-0.5		
		Auger Refusal at 3.5 Feet			

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method: Hand Auger	See Appendices for description of field procedures. See Appendices for description of laboratory procedures and additional data (if any). See Appendices for explanation of symbols and abbreviations.	Notes:	
Abandonment Method: Borings backfilled with existing soil			
WATER LEVEL OBSERVATIONS	 16200 NW 59th Ave., Suite 106 Miami Lakes, Florida	Boring Started: 4/21/2015	Boring Completed: 4/21/2015
 Water Initially Encountered at 0.5'		Drill Rig:	Driller: DG
		Project No.: H8155009	Exhibit: B-12

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ENVIRONMENTAL SMART LOG H8155009 MIAMI LAKES.GPJ TERRACON2012.GDT 7/16/15

BORING LOG NO. B-5

Page 1 of 1

PROJECT: Canal Bank Stabilization

CLIENT: City of Miami Lakes
Miami Lakes

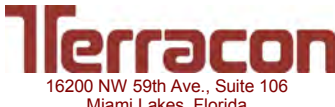
SITE: 16900-16948 NW 77th Ct
Miami Lakes, FL

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ENVIRONMENTAL SMART LOG H8155009 MIAMI LAKES.GPJ TERRACON2012.GDT 7/16/15

GRAPHIC LOG	LOCATION See Exhibit B-1 to B-5		DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	SPT N-VALUE
	DEPTH	MATERIAL DESCRIPTION				
	0.3	TOPSOIL , (1" thick)	7.2			4-9-13-9 N=22
		FILL - FINE TO MEDIUM SAND (SP) , with limerock fragments, dark brown to brown				4-5-6-5 N=11
	6.0		1.5			4-3-2-1 N=5
	8.0	FINE TO MEDIUM SAND (SP) , with limestone fragments, porous limestone, brown				4-6-9-10 N=15
		LIMESTONE , with fine sand, light brown	-0.5			5-6-6-6 N=12
			10			8-5-3 N=8
			15			6-9-16 N=25
						5-7-6 N=13
	18.0		-10.5			3-4-9 N=13
		FINE TO MEDIUM SAND (SP) , light brown				5-6-6 N=12
			20			5-6-6 N=12
			25			12-7-17 N=24
	26.0	LIMESTONE , with fine sand, light brown	-18.5			12-35-8 N=43
	30.0		-22.5			
		Boring Terminated at 30 Feet	30			

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Hammer Type: Automatic

Advancement Method: Rotary Mud Drilling and Casing	See Appendices for description of field procedures. See Appendices for description of laboratory procedures and additional data (if any).	Notes:	
Abandonment Method: Borings backfilled with cement-bentonite grout upon completion.	See Appendices for explanation of symbols and abbreviations.		
WATER LEVEL OBSERVATIONS	 16200 NW 59th Ave., Suite 106 Miami Lakes, Florida	Boring Started: 4/18/2015	Boring Completed: 4/18/2015
 Water Initially Encountered at 5.2'		Drill Rig: CME 55	Driller: HA
		Project No.: H8155009	Exhibit: B-13

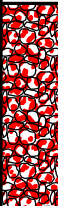
BORING LOG NO. B-6

Page 1 of 1

PROJECT: Canal Bank Stabilization

CLIENT: City of Miami Lakes
Miami Lakes

SITE: 16900-16948 NW 77th Ct
Miami Lakes, FL

GRAPHIC LOG	LOCATION	DEPTH (ft)		WATER LEVEL OBSERVATIONS	SAMPLE TYPE	SPT N-VALUE
	See Exhibit B-1 to B-5	DEPTH	MATERIAL DESCRIPTION	Surface Elev.: 7.16 (Ft.) ELEVATION (Ft.)		
			FILL - FINE TO MEDIUM SAND (SP) , few limerock fragments, trace silt, brown			3-3-3-4 N=6
						3-4-4-3 N=8
		5.5		1.7		3-1-3-2 N=4
		6.0	ORGANIC SAND (OL) , dark brown	1.2		3-4-4-5 N=8
			LIMESTONE , with fine sand, light brown			7-8-9-9 N=17
						7-6-5 N=11
		13.0	LIMESTONE , very porous, with fine sand, light brown	-5.8		5-2-3 N=5
		15.0	FINE TO MEDIUM SAND (SP) , light brown	-7.8		2-2-2 N=4
						5-6-8 N=14
		21.0	FINE TO MEDIUM SAND (SP) , with limestone fragments, porous limestone, light brown	-13.8		6-8-7 N=15
		23.0	FINE TO MEDIUM SAND (SP) , light brown	-15.8		6-5-5 N=10
						4-4-9 N=13
		27.0	LIMESTONE , with fine sand, light brown	-19.8		9-13-16 N=29
		30.0	Boring Terminated at 30 Feet	-22.8		

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Hammer Type: Automatic

Advancement Method:
Rotary Mud Drilling and Casing

See Appendices for description of field procedures.
See Appendices for description of laboratory procedures and additional data (if any).
See Appendices for explanation of symbols and abbreviations.

Notes:

Abandonment Method:
Borings backfilled with cement-bentonite grout upon completion.

WATER LEVEL OBSERVATIONS

 Water Initially Encountered at 5'

Terracon
16200 NW 59th Ave., Suite 106
Miami Lakes, Florida

Boring Started: 4/16/2015

Boring Completed: 4/16/2015

Drill Rig: CME 55

Driller: HA

Project No.: H8155009

Exhibit: B-14

BORING LOG NO. HA-4

Page 1 of 1

PROJECT: Canal Bank Stabilization

CLIENT: City of Miami Lakes
Miami Lakes

SITE: 16900-16948 NW 77th Ct
Miami Lakes, FL

GRAPHIC LOG	LOCATION See Exhibit B-1 to B-5		DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE
	DEPTH	MATERIAL DESCRIPTION			
	0.2	TOPSOIL, (2" thick)	2.4		
	1.5	FINE TO MEDIUM SAND (SP), with limerock fragments, some organics, black to dark brown	1.1		
	1.6	LIMESTONE, with fine sand, light brown			
	Auger Refusal at 1.6 Feet				

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method: Hand Auger	See Appendices for description of field procedures. See Appendices for description of laboratory procedures and additional data (if any). See Appendices for explanation of symbols and abbreviations.	Notes:	
Abandonment Method: Borings backfilled with existing soil			
WATER LEVEL OBSERVATIONS	 16200 NW 59th Ave., Suite 106 Miami Lakes, Florida	Boring Started: 4/21/2015	Boring Completed: 4/21/2015
 Water Initially Encountered at 0.5'		Drill Rig:	Driller: DG
		Project No.: H8155009	Exhibit: B-15

BORING LOG NO. B-7

Page 1 of 1

PROJECT: Canal Bank Stabilization

CLIENT: City of Miami Lakes
Miami Lakes

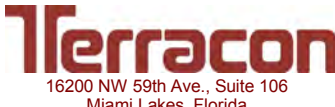
SITE: 16900-16948 NW 77th Ct
Miami Lakes, FL

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ENVIRONMENTAL SMART LOG H8155009 MIAMI LAKES.GPJ TERRACON2012.GDT 7/16/15

GRAPHIC LOG	LOCATION See Exhibit B-1 to B-5		DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	SPT N-VALUE
	DEPTH	MATERIAL DESCRIPTION				
	0.2	TOPSOIL, (2" thick)				3-9-7-8 N=16
		FILL - FINE TO MEDIUM SAND (SP), few limerock fragments, brown				5-6-4-6 N=10
	4.0		3.3			3-2-1-2 N=3
		ORGANIC SAND (OL), black				2-2-2-2 N=4
	8.5		-1.2			3-3-3-3 N=6
		LIMESTONE, with fine sand, light brown				4-3-4 N=7
	12.5		-5.2			3-2-3 N=5
		FINE TO MEDIUM SAND (SP), with limestone fragments, porous limestone, light brown				3-3-3 N=6
	15.0		-7.7			3-4-6 N=10
		FINE SAND (SP), trace silt, light brown				5-4-7 N=11
	23.5		-16.2			10-6-6 N=12
		LIMESTONE, with fine sand, light brown				8-11-14 N=25
	30.0		-22.7			9-50/5"
		Boring Terminated at 30 Feet	30			

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Hammer Type: Automatic

Advancement Method: Rotary Mud Drilling and Casing	See Appendices for description of field procedures. See Appendices for description of laboratory procedures and additional data (if any).	Notes:	
Abandonment Method: Borings backfilled with cement-bentonite grout upon completion.	See Appendices for explanation of symbols and abbreviations.		
WATER LEVEL OBSERVATIONS	 16200 NW 59th Ave., Suite 106 Miami Lakes, Florida	Boring Started: 4/17/2015	Boring Completed: 4/17/2015
 Water Initially Encountered at 5.3'		Drill Rig: CME 55	Driller: HA
		Project No.: H8155009	Exhibit: B-16

BORING LOG NO. HA-5

Page 1 of 1

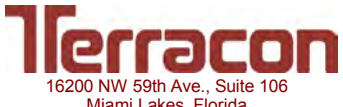
PROJECT: Canal Bank Stabilization

CLIENT: City of Miami Lakes
Miami Lakes

SITE: 16900-16948 NW 77th Ct
Miami Lakes, FL

GRAPHIC LOG	LOCATION See Exhibit B-1 to B-5		DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE
	DEPTH	MATERIAL DESCRIPTION			
	0.2	TOPSOIL , (2" thick)	1.9		
	2.0	FINE TO MEDIUM SAND (SP) , some organics, dark brown	0.1		
	2.5	LIMESTONE , with fine sand, light brown	-0.4		
	Auger Refusal at 2.5 Feet				

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method: Hand Auger	See Appendices for description of field procedures. See Appendices for description of laboratory procedures and additional data (if any). See Appendices for explanation of symbols and abbreviations.	Notes:	
Abandonment Method: Borings backfilled with existing soil			
WATER LEVEL OBSERVATIONS	 16200 NW 59th Ave., Suite 106 Miami Lakes, Florida	Boring Started: 4/21/2015	Boring Completed: 4/21/2015
 <i>Water Initially Encountered at 0.5'</i>		Drill Rig:	Driller: DG
		Project No.: H8155009	Exhibit: B-17

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ENVIRONMENTAL SMART LOG H8155009 MIAMI LAKES.GPJ TERRACON2012.GDT 7/16/15

BORING LOG NO. B-8

Page 1 of 1

PROJECT: Canal Bank Stabilization

CLIENT: City of Miami Lakes
Miami Lakes

SITE: 16900-16948 NW 77th Ct
Miami Lakes, FL

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ENVIRONMENTAL SMART LOG H8155009 MIAMI LAKES.GPJ TERRACON2012.GDT 7/16/15

GRAPHIC LOG	LOCATION See Exhibit B-1 to B-5	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	SPT N-VALUE
	DEPTH MATERIAL DESCRIPTION Surface Elev.: 8.19 (Ft.) ELEVATION (Ft.)				
	0.2 TOPSOIL, (2" thick)				2-6-12-10 N=18
	FILL - FINE TO MEDIUM SAND (SP), some limerock fragments, trace silt, brown				12-11-10-10 N=21
		5			6-8-8-8 N=16
					2-2-3-5 N=5
	8.0 LIMESTONE, very porous, with fine sand, light brown				4-4-4-5 N=8
		10			5-4-5 N=9
					7-4-4 N=8
	15.0 FINE TO MEDIUM SAND (SP), with limestone fragments, porous limestone, light brown				3-4-4 N=8
		15			4-6-8 N=14
	18.5 FINE TO MEDIUM SAND (SP), light brown				6-5-6 N=11
		20			4-5-6 N=11
					4-7-5 N=12
	27.5 LIMESTONE, with fine sand, light brown				8-10-14 N=24
		25			
		30			
	30.0 Boring Terminated at 30 Feet				

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Hammer Type: Automatic

Advancement Method: Rotary Mud Drilling and Casing	See Appendices for description of field procedures. See Appendices for description of laboratory procedures and additional data (if any).	Notes:	
Abandonment Method: Borings backfilled with cement-bentonite grout upon completion.	See Appendices for explanation of symbols and abbreviations.		
WATER LEVEL OBSERVATIONS	Terracon 16200 NW 59th Ave., Suite 106 Miami Lakes, Florida	Boring Started: 4/17/2015	Boring Completed: 4/17/2015
Water Initially Encountered at 6.2'		Drill Rig: CME 55	Driller: HA
		Project No.: H8155009	Exhibit: B-18

BORING LOG NO. B-9

Page 1 of 1

PROJECT: Canal Bank Stabilization

CLIENT: City of Miami Lakes
Miami Lakes

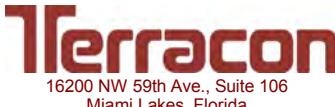
SITE: 16900-16948 NW 77th Ct
Miami Lakes, FL

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ENVIRONMENTAL SMART LOG H8155009 MIAMI LAKES.GPJ TERRACON2012.GDT 7/16/15

GRAPHIC LOG	LOCATION See Exhibit B-1 to B-5		DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	SPT N-VALUE
	DEPTH	MATERIAL DESCRIPTION				
	0.2	TOPSOIL , (2" thick)	8.9			3-9-14-15 N=23
		FILL - FINE TO MEDIUM SAND (SP) , few limerock fragments, brown				11-11-12-11 N=23
	6.0		3.1	5		7-6-3-3 N=9
		FINE SAND (SP) , lenses of limestone, trace silt, brown				5-10-8-6 N=18
						3-4-3-3 N=7
						5-5-6 N=11
	13.5		-4.4	15		8-6-5 N=11
		LIMESTONE , very porous, with fine sand, light brown				4-5-4 N=9
	17.5		-8.4	20		4-4-4 N=8
		FINE TO MEDIUM SAND (SP) , light brown				4-6-5 N=11
						5-5-8 N=13
	24.5		-15.4	25		6-9-8 N=17
	LIMESTONE , with fine sand, light brown				8-10-10 N=20	
30.0		-20.9	30			
	Boring Terminated at 30 Feet					

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Hammer Type: Automatic

Advancement Method: Rotary Mud Drilling and Casing	See Appendices for description of field procedures. See Appendices for description of laboratory procedures and additional data (if any).	Notes:	
Abandonment Method: Borings backfilled with cement-bentonite grout upon completion.	See Appendices for explanation of symbols and abbreviations.		
WATER LEVEL OBSERVATIONS	 16200 NW 59th Ave., Suite 106 Miami Lakes, Florida	Boring Started: 4/17/2015	Boring Completed: 4/17/2015
 Water Initially Encountered at 7.4'		Drill Rig: CME 55	Driller: HA
		Project No.: H8155009	Exhibit: B-19

BORING LOG NO. HA-6

Page 1 of 1

PROJECT: Canal Bank Stabilization

CLIENT: City of Miami Lakes
Miami Lakes

SITE: 16900-16948 NW 77th Ct
Miami Lakes, FL

GRAPHIC LOG	LOCATION See Exhibit B-1 to B-5		DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE
	DEPTH	MATERIAL DESCRIPTION			
	0.2	<u>TOPSOIL</u> , (2" thick)	3		
		<u>FINE TO MEDIUM SAND (SP)</u> , trace organics, dark brown			
	3.0		0.2		
	3.1	<u>LIMESTONE</u> , with fine sand, light brown	0.7		
		Auger Refusal at 3.1 Feet			

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method: Hand Auger	See Appendices for description of field procedures. See Appendices for description of laboratory procedures and additional data (if any). See Appendices for explanation of symbols and abbreviations.	Notes:	
Abandonment Method: Borings backfilled with existing soil			
WATER LEVEL OBSERVATIONS	 16200 NW 59th Ave., Suite 106 Miami Lakes, Florida	Boring Started: 4/21/2015	Boring Completed: 4/21/2015
 Water Initially Encountered at 1.0'		Drill Rig:	Driller: DG
		Project No.: H8155009	Exhibit: B-20

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ENVIRONMENTAL SMART LOG H8155009 MIAMI LAKES.GPJ TERRACON2012.GDT 7/16/15

BORING LOG NO. B-10

Page 1 of 1

PROJECT: Canal Bank Stabilization

CLIENT: City of Miami Lakes
Miami Lakes

SITE: 16900-16948 NW 77th Ct
Miami Lakes, FL

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ENVIRONMENTAL SMART LOG H8155009 MIAMI LAKES.GPJ TERRACON2012.GDT 7/16/15

GRAPHIC LOG	LOCATION See Exhibit B-1 to B-5	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	SPT N-VALUE
	DEPTH MATERIAL DESCRIPTION Surface Elev.: 7.34 (Ft.) ELEVATION (Ft.)				
	0.2 TOPSOIL, (2" thick)	7.1			6-9-12-9 N=21
	FILL - FINE TO MEDIUM SAND (SP), few limerock fragments, brown to dark brown				7-5-3-3 N=8
					2-2-3-3 N=5
	6.0 FINE TO MEDIUM SAND (SP), brown	1.3			5-5-6-5 N=11
	8.0 FINE TO MEDIUM SAND (SP), with limestone fragments, porous limestone, light brown	-0.7			4-4-4-4 N=8
	11.0 LIMESTONE, very porous, with fine sand, light brown	-3.7			3-3-4 N=7
	15.5 FINE TO MEDIUM SAND (SP), with limestone fragments, trace silt, porous limestone, light brown	-8.2			5-5-4 N=9
	20.5 FINE TO MEDIUM SAND (SP), light brown	-13.2			3-3-5 N=8
	25.5 LIMESTONE, with fine sand, light brown	-18.2			6-6-9 N=15
	30.0 Boring Terminated at 30 Feet	-22.7			7-10-12 N=22
					5-5-9 N=14
					6-5-7 N=12
					10-10-17 N=27

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Hammer Type: Automatic

Advancement Method:
Rotary Mud Drilling and Casing

See Appendices for description of field procedures.
See Appendices for description of laboratory procedures and additional data (if any).
See Appendices for explanation of symbols and abbreviations.

Notes:

Abandonment Method:
Borings backfilled with cement-bentonite grout upon completion.

WATER LEVEL OBSERVATIONS

Water Initially Encountered at 6.0'

Terracon
16200 NW 59th Ave., Suite 106
Miami Lakes, Florida

Boring Started: 4/17/2015

Boring Completed: 4/17/2015

Drill Rig: CME 55

Driller: HA

Project No.: H8155009

Exhibit: B-21

BORING LOG NO. B-11

Page 1 of 1

PROJECT: Canal Bank Stabilization

CLIENT: City of Miami Lakes
Miami Lakes

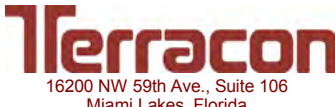
SITE: 16900-16948 NW 77th Ct
Miami Lakes, FL

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ENVIRONMENTAL SMART LOG H8155009 MIAMI LAKES.GPJ TERRACON2012.GDT 7/16/15

GRAPHIC LOG	LOCATION See Exhibit B-1 to B-5		DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	SPT N-VALUE
	DEPTH	MATERIAL DESCRIPTION				
	0.2	<u>TOPSOIL</u> , (2" thick)	7.5			6-5-5-5 N=10
	4.0	<u>FILL - FINE TO MEDIUM SAND (SP)</u> , few limerock fragments, trace organic, dark brown	3.7			4-5-4-5 N=9
	6.0	<u>FILL - FINE TO MEDIUM SAND (SP)</u> , few limerock fragments, few organic, black	1.7			4-5-3-4 N=8
	7.3	<u>FINE TO MEDIUM SAND (SP)</u> , few limerock fragments, few organic, dark brown	0.4			3-2-6-6 N=8
	8.0	<u>FINE TO MEDIUM SAND (SP)</u> , brown	-0.3			3-2-3-3 N=5
		<u>LIMESTONE</u> , with fine sand, light brown				3-4-4 N=8
	15.5		-7.8			4-4-4 N=8
		<u>FINE TO MEDIUM SAND (SP)</u> , with limestone fragments, porous limestone, light brown				5-4-4 N=8
	23.0		-15.3			5-7-8 N=15
		<u>FINE TO MEDIUM SAND (SP)</u> , light brown				4-5-5 N=10
	28.0		-20.3			5-6-10 N=16
		<u>LIMESTONE</u> , with fine sand, light brown				6-8-11 N=19
	30.0		-22.3			6-5-10 N=15
		Boring Terminated at 30 Feet				

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Hammer Type: Automatic

Advancement Method: Rotary Mud Drilling and Casing	See Appendices for description of field procedures. See Appendices for description of laboratory procedures and additional data (if any).	Notes:	
Abandonment Method: Borings backfilled with cement-bentonite grout upon completion.	See Appendices for explanation of symbols and abbreviations.		
WATER LEVEL OBSERVATIONS	 16200 NW 59th Ave., Suite 106 Miami Lakes, Florida	Boring Started: 4/16/2015	Boring Completed: 4/16/2015
 Water Initially Encountered at 5.4'		Drill Rig: CME 55	Driller: HA
		Project No.: H8155009	Exhibit: B-22

BORING LOG NO. B-12

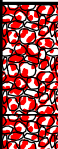
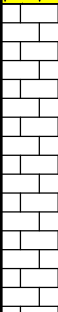
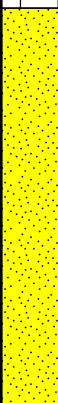
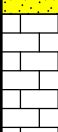
Page 1 of 1

PROJECT: Canal Bank Stabilization

CLIENT: City of Miami Lakes
Miami Lakes

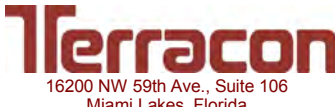
SITE: 16900-16948 NW 77th Ct
Miami Lakes, FL

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ENVIRONMENTAL SMART LOG H8155009 MIAMI LAKES.GPJ TERRACON2012.GDT 7/16/15

GRAPHIC LOG	LOCATION	See Exhibit B-1 to B-5		DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	SPT N-VALUE
	DEPTH	MATERIAL DESCRIPTION	Surface Elev.: 7.2 (Ft.) ELEVATION (Ft.)				
	3.0	FILL - FINE SAND (SP) , some limerock fragments, trace silt, dark brown	4.2	5			4-4-5-6 N=9
	4.0	FILL - FINE TO MEDIUM SAND (SP) , few limerock fragments, trace organic, dark brown	3.2				4-4-3-6 N=7
	7.0	FINE TO MEDIUM SAND (SP) , brown	0.2	10			6-6-5-6 N=11
		LIMESTONE , very porous, with fine sand, light brown					5-7-7-5 N=14
	15.5		-8.3	15			4-7-10-11 N=17
		FINE TO MEDIUM SAND (SP) , light brown					8-13-10 N=23
	26.5		-19.3	20			6-7-5 N=12
		LIMESTONE , with fine sand, light brown					4-5-8 N=13
	30.0		-22.8	25			5-9-12 N=21
							5-5-7 N=12
				30			6-6-8 N=14
							5-7-10 N=17
		Boring Terminated at 30 Feet					9-30-14 N=44

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Hammer Type: Automatic

Advancement Method: Rotary Mud Drilling and Casing	See Appendices for description of field procedures. See Appendices for description of laboratory procedures and additional data (if any).	Notes:	
Abandonment Method: Borings backfilled with cement-bentonite grout upon completion.	See Appendices for explanation of symbols and abbreviations.		
WATER LEVEL OBSERVATIONS  Water Initially Encountered at 5.2'	 16200 NW 59th Ave., Suite 106 Miami Lakes, Florida	Boring Started: 4/21/2015	Boring Completed: 4/21/2015
		Drill Rig: CME 55	Driller: HA
		Project No.: H8155009	Exhibit: B-23

BORING LOG NO. B-13

Page 1 of 1

PROJECT: Canal Bank Stabilization

CLIENT: City of Miami Lakes
Miami Lakes

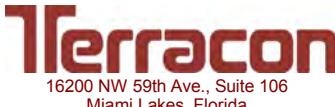
SITE: 16900-16948 NW 77th Ct
Miami Lakes, FL

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ENVIRONMENTAL SMART LOG H8155009 MIAMI LAKES.GPJ TERRACON2012.GDT 7/16/15

GRAPHIC LOG	LOCATION See Exhibit B-1 to B-5		DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	SPT N-VALUE
	DEPTH	MATERIAL DESCRIPTION				
		Surface Elev.: 7.32 (Ft.) ELEVATION (Ft.)				
	0.3	TOPSOIL , (3" thick)				6-7-10-12 N=17
	1.7	FILL - FINE TO MEDIUM SAND (SP) , trace organic, dark brown to black				6-6-6-5 N=12
	2.0	FILL - LIMEROCK (GP) , with fine sand, trace organic, brown				8-8-9-12 N=17
	2.0	FILL - FINE TO MEDIUM SAND (SP) , few limerock fragments, trace organic, brown				8-9-9-10 N=18
	4.0					10-10-8-6 N=18
	5.0	FINE TO MEDIUM SAND (SP) , brown				8-10-7 N=17
		LIMESTONE , very porous, with fine sand, light brown				5-4-4 N=8
	15.5					5-5-6 N=11
		FINE TO MEDIUM SAND (SP) , light brown				3-6-9 N=15
	20.5					5-8-8 N=16
		FINE TO MEDIUM SAND (SP) , with limestone fragments, porous limestone, light brown				7-9-8 N=17
	23.0					7-9-7 N=16
		FINE TO MEDIUM SAND (SP) , light brown				5-4-4 N=8
	28.0					
		LIMESTONE , with fine sand, light brown				
	30.0					
		Boring Terminated at 30 Feet				

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Hammer Type: Automatic

Advancement Method: Rotary Mud Drilling and Casing	See Appendices for description of field procedures. See Appendices for description of laboratory procedures and additional data (if any).	Notes:	
Abandonment Method: Borings backfilled with cement-bentonite grout upon completion.	See Appendices for explanation of symbols and abbreviations.		
WATER LEVEL OBSERVATIONS	 16200 NW 59th Ave., Suite 106 Miami Lakes, Florida	Boring Started: 4/21/2015	Boring Completed: 4/21/2015
 Water Initially Encountered at 5.3'		Drill Rig: CME 55	Driller: HA
		Project No.: H8155009	Exhibit: B-24

BORING LOG NO. B-14

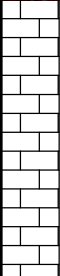
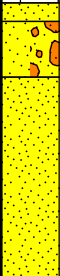
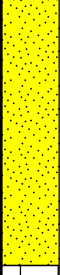
Page 1 of 1

PROJECT: Canal Bank Stabilization

CLIENT: City of Miami Lakes
Miami Lakes

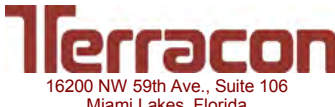
SITE: 16900-16948 NW 77th Ct
Miami Lakes, FL

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ENVIRONMENTAL SMART LOG H8155009 MIAMI LAKES.GPJ TERRACON2012.GDT 7/16/15

GRAPHIC LOG	LOCATION See Exhibit B-1 to B-5			DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	SPT N-VALUE
	DEPTH	MATERIAL DESCRIPTION					
	0.2	TOPSOIL , (2" thick)		7.1			20-25-33-45 N=58
		FILL - LIMEROCK (GP) , with fine sand, trace organic, brown to light brown					19-27-29-40 N=56
	4.0	FINE TO MEDIUM SAND (SP) , with limerock, light brown		3.3			20-16-14-17 N=30
	6.0	LIMESTONE , very porous with fine sand, light brown		1.3			11-11-9-6 N=20
							6-5-5-5 N=10
							6-5-4 N=9
	13.5			-6.2			
	14.0	FINE TO MEDIUM SAND (SP) , dark brown		-6.7			4-5-5 N=10
		FINE TO MEDIUM SAND (SP) , with limestone fragments, light brown					5-7-10 N=17
	15.5	FINE TO MEDIUM SAND (SP) , light brown		-8.2			4-6-7 N=13
							6-8-6 N=14
							2-2-1 N=3
						2-2-2 N=4	
	28.0	LIMESTONE , with fine sand, light brown		-20.7		3-6-7 N=13	
	30.0	Boring Terminated at 30 Feet		-22.7			

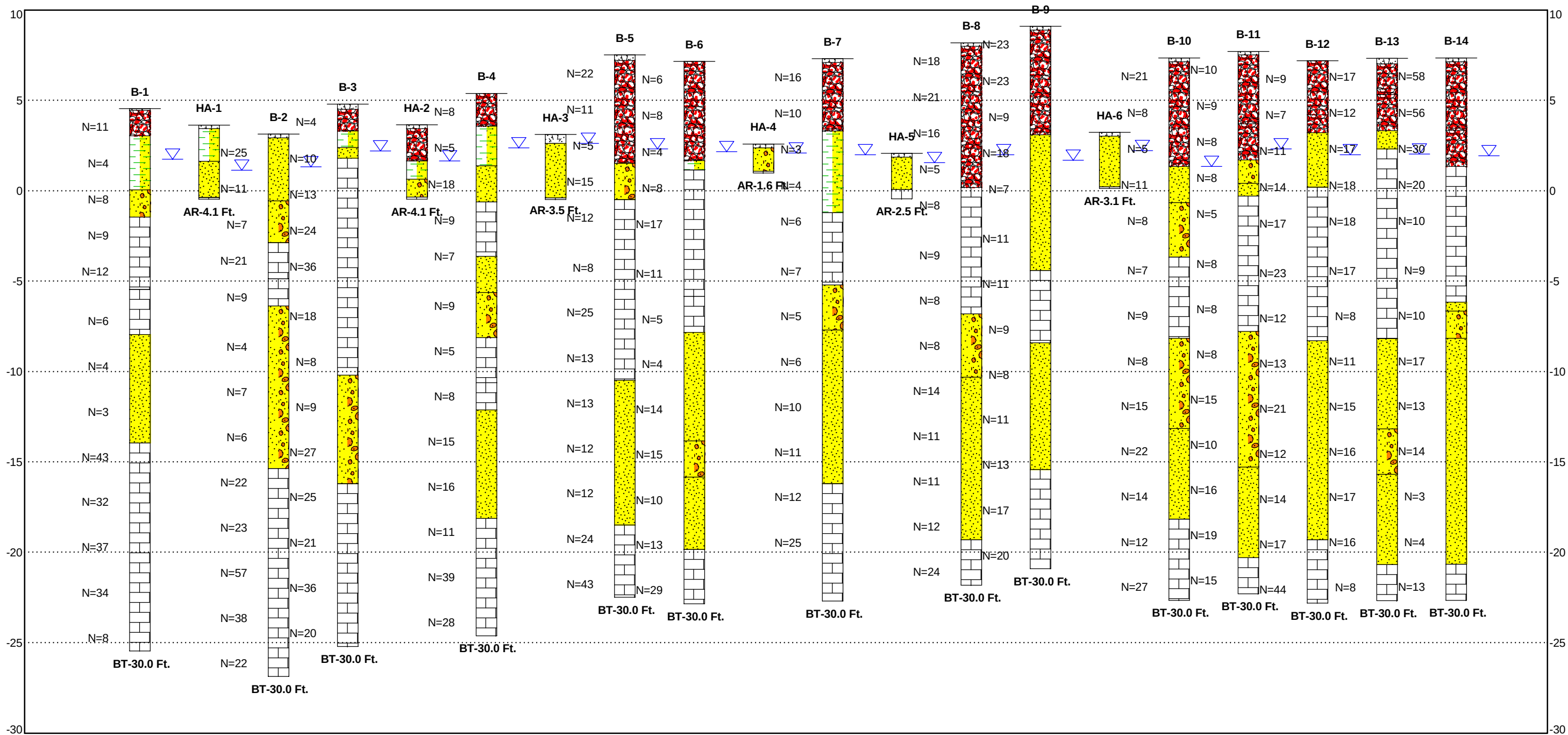
The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Hammer Type: Automatic

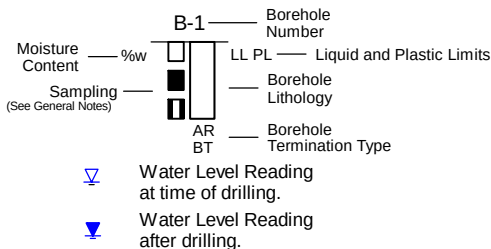
Advancement Method: Rotary Mud Drilling and Casing	See Appendices for description of field procedures. See Appendices for description of laboratory procedures and additional data (if any).	Notes:	
Abandonment Method: Borings backfilled with cement-bentonite grout upon completion.	See Appendices for explanation of symbols and abbreviations.		
WATER LEVEL OBSERVATIONS		Boring Started: 4/18/2015	Boring Completed: 4/18/2015
 Water Initially Encountered at 5.4'		Drill Rig: CME 55	Driller: HA
		Project No.: H8155009	Exhibit: B-25

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. SMART FENCE H8155009 MIAMI LAKES.GPJ TERRACON2012.GDT 7/16/15

Elevation - Feet



Explanation



NOTES:
See Exhibit B-1 to B-5 for orientation of soil profile.
See General Notes in Appendix B-7 for symbols and soil classifications.
Soil profile provided for illustration purposes only.
Soils between borings may differ.
AR - Auger Refusal
BT - Boring Termination

Project Manager:
Drawn by: SDF
Approved by: HES
Date: 7/16/2015

Project No.: H8155009
Scale: N.T.S.
File Name: H8155009

Terracon
16200 NW 59th Ave., Suite 106
Miami Lakes, Florida
PH. 305-820-1997 FAX. 305-820-1998

SUBSURFACE PROFILE

CANAL BANK STABILIZATION
16900-16948 NW 77TH CT
MIAMI LAKES, FL

EXHIBIT

B-26

GENERAL NOTES

DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

SAMPLING		Auger Cuttings	WATER LEVEL		Water Initially Encountered	FIELD TESTS	(HP)	Hand Penetrometer	
		Rock Core			Water Level After a Specified Period of Time		(T)	Torvane	
		Grab Sample			Water Level After a Specified Period of Time		(DCP)	Dynamic Cone Penetrometer	
		Shelby Tube		Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.			(PID)	Photo-Ionization Detector	
		No Recovery					(OVA)	Organic Vapor Analyzer	
		Standard Penetration Test							

DESCRIPTIVE SOIL CLASSIFICATION

Soil classification is based on the Unified Soil Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally described as clays if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

LOCATION AND ELEVATION NOTES

Unless otherwise noted, Latitude and Longitude are approximately determined using a hand-held GPS device. The accuracy of such devices is variable. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

STRENGTH TERMS	RELATIVE DENSITY OF COARSE-GRAINED SOILS		CONSISTENCY OF FINE-GRAINED SOILS		
	(More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance		(50% of more passing the No. 200 sieve) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance		
	Descriptive Term (Density)	Automatic Hammer SPT N-Value (Blows/Ft.)	Descriptive Term (Consistency)	Unconfined Compressive Strength q_u , (psf)	Automatic Hammer SPT N-Value (Blows/Ft.)
	Very Loose	< 3	Very Soft	Less than 500	< 1
	Loose	3 – 8	Soft	500 to 1,000	1 – 3
	Medium Dense	8 – 24	Medium Stiff	1,000 to 2,000	3 – 6
	Dense	24 – 40	Stiff	2,000 to 4,000	6 – 12
	Very Dense	> 40	Very Stiff	4,000 to 8,000	12 – 24
			Hard	> 8,000	> 24

RELATIVE PROPORTIONS OF SAND AND GRAVEL

<u>Descriptive Term(s) of other constituents</u>	<u>Percent of Dry Weight</u>
Trace	< 15
With	15 – 29
Modifier	> 30

GRAIN SIZE TERMINOLOGY

<u>Major Component of Sample</u>	<u>Particle Size</u>
Boulders	Over 12 in. (300 mm)
Cobble	12 in. to 3 in. (300 mm to 75 mm)
Gravel	3 in. to #4 sieve (75 mm to 4.75 mm)
Sand	#4 to #200 sieve (4.75mm to 0.075mm)
Silt or Clay	Passing #200 sieve (0.075mm)

RELATIVE PROPORTIONS OF FINES

<u>Descriptive Term(s) of other constituents</u>	<u>Percent of Dry Weight</u>
Trace	< 5
With	5 – 12
Modifier	> 12

PLASTICITY DESCRIPTION

<u>Term</u>	<u>Particle Size</u>
Non-Plastic	0
Low	1 – 10
Medium	11 – 30
High	> 30

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GENERAL NOTES

Description of Rock Properties

WEATHERING

Fresh	Rock fresh, crystals bright, few joints may show slight staining. Rock rings under hammer if crystalline.
Very slight	Rock generally fresh, joints stained, some joints may show thin clay coatings, crystals in broken face show bright. Rock rings under hammer if crystalline.
Slight	Rock generally fresh, joints stained, and discoloration extends into rock up to 1 in. Joints may contain clay. In granitoid rocks some occasional feldspar crystals are dull and discolored. Crystalline rocks ring under hammer.
Moderate	Significant portions of rock show discoloration and weathering effects. In granitoid rocks, most feldspars are dull and discolored; some show clayey. Rock has dull sound under hammer and shows significant loss of strength as compared with fresh rock.
Moderately severe	All rock except quartz discolored or stained. In granitoid rocks, all feldspars dull and discolored and majority show kaolinization. Rock shows severe loss of strength and can be excavated with geologist's pick.
Severe	All rock except quartz discolored or stained. Rock "fabric" clear and evident, but reduced in strength to strong soil. In granitoid rocks, all feldspars kaolinized to some extent. Some fragments of strong rock usually left.
Very severe	All rock except quartz discolored or stained. Rock "fabric" discernible, but mass effectively reduced to "soil" with only fragments of strong rock remaining.
Complete	Rock reduced to "soil". Rock "fabric" not discernible or discernible only in small, scattered locations. Quartz may be present as dikes or stringers.

HARDNESS (for engineering description of rock – not to be confused with Moh's scale for minerals)

Very hard	Cannot be scratched with knife or sharp pick. Breaking of hand specimens requires several hard blows of geologist's pick.
Hard	Can be scratched with knife or pick only with difficulty. Hard blow of hammer required to detach hand specimen.
Moderately hard	Can be scratched with knife or pick. Gouges or grooves to ¼ in. deep can be excavated by hard blow of point of a geologist's pick. Hand specimens can be detached by moderate blow.
Medium	Can be grooved or gouged 1/16 in. deep by firm pressure on knife or pick point. Can be excavated in small chips to pieces about 1-in. maximum size by hard blows of the point of a geologist's pick.
Soft	Can be gouged or grooved readily with knife or pick point. Can be excavated in chips to pieces several inches in size by moderate blows of a pick point. Small thin pieces can be broken by finger pressure.
Very soft	Can be carved with knife. Can be excavated readily with point of pick. Pieces 1-in. or more in thickness can be broken with finger pressure. Can be scratched readily by fingernail.

Joint, Bedding and Foliation Spacing in Rock^a

Spacing		Joints	Bedding/Foliation
Less than 2 in.		Very close	Very thin
2 in. – 1 ft.		Close	Thin
1 ft. – 3 ft.		Moderately close	Medium
3 ft. – 10 ft.		Wide	Thick
More than 10 ft.		Very wide	Very thick

Rock Quality Designator (RQD) ^b		Joint Openness Descriptors	
RQD, as a percentage	Diagnostic description	Openness	Descriptor
Exceeding 90	Excellent	No Visible Separation	Tight
90 – 75	Good	Less than 1/32 in.	Slightly Open
75 – 50	Fair	1/32 to 1/8 in.	Moderately Open
50 – 25	Poor	1/8 to 3/8 in.	Open
Less than 25	Very poor	3/8 in. to 0.1 ft.	Moderately Wide
		Greater than 0.1 ft.	Wide

- Spacing refers to the distance normal to the planes, of the described feature, which are parallel to each other or nearly so.
- RQD (given as a percentage) = length of core in pieces 4 in. and longer/length of run.

References: American Society of Civil Engineers. Manuals and Reports on Engineering Practice - No. 56. Subsurface Investigation for Design and Construction of Foundations of Buildings. New York: American Society of Civil Engineers, 1976.

U.S. Department of the Interior, Bureau of Reclamation, Engineering Geology Field Manual.

UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests ^A				Soil Classification		
				Group Symbol	Group Name ^B	
Coarse Grained Soils: More than 50% retained on No. 200 sieve	Gravels: More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels: Less than 5% fines ^C	$Cu \geq 4$ and $1 \leq Cc \leq 3$ ^E	GW	Well-graded gravel ^F	
			$Cu < 4$ and/or $1 > Cc > 3$ ^E	GP	Poorly graded gravel ^F	
		Gravels with Fines: More than 12% fines ^C	Fines classify as ML or MH	GM	Silty gravel ^{F,G,H}	
			Fines classify as CL or CH	GC	Clayey gravel ^{F,G,H}	
	Sands: 50% or more of coarse fraction passes No. 4 sieve	Clean Sands: Less than 5% fines ^D	$Cu \geq 6$ and $1 \leq Cc \leq 3$ ^E	SW	Well-graded sand ^I	
			$Cu < 6$ and/or $1 > Cc > 3$ ^E	SP	Poorly graded sand ^I	
		Sands with Fines: More than 12% fines ^D	Fines classify as ML or MH	SM	Silty sand ^{G,H,I}	
			Fines classify as CL or CH	SC	Clayey sand ^{G,H,I}	
Fine-Grained Soils: 50% or more passes the No. 200 sieve	Silts and Clays: Liquid limit less than 50	Inorganic:	$PI > 7$ and plots on or above "A" line ^J	CL	Lean clay ^{K,L,M}	
			$PI < 4$ or plots below "A" line ^J	ML	Silt ^{K,L,M}	
		Organic:	Liquid limit - oven dried	< 0.75	OL	Organic clay ^{K,L,M,N}
			Liquid limit - not dried			Organic silt ^{K,L,M,O}
	Silts and Clays: Liquid limit 50 or more	Inorganic:	PI plots on or above "A" line	CH	Fat clay ^{K,L,M}	
			PI plots below "A" line	MH	Elastic Silt ^{K,L,M}	
		Organic:	Liquid limit - oven dried	< 0.75	OH	Organic clay ^{K,L,M,P}
			Liquid limit - not dried			Organic silt ^{K,L,M,Q}
Highly organic soils:	Primarily organic matter, dark in color, and organic odor			PT	Peat	

^A Based on the material passing the 3-in. (75-mm) sieve

^B If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

^C Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

^D Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay

$$^E Cu = D_{60}/D_{10} \quad Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$$

^F If soil contains $\geq 15\%$ sand, add "with sand" to group name.

^G If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

^H If fines are organic, add "with organic fines" to group name.

^I If soil contains $\geq 15\%$ gravel, add "with gravel" to group name.

^J If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

^K If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

^L If soil contains $\geq 30\%$ plus No. 200 predominantly sand, add "sandy" to group name.

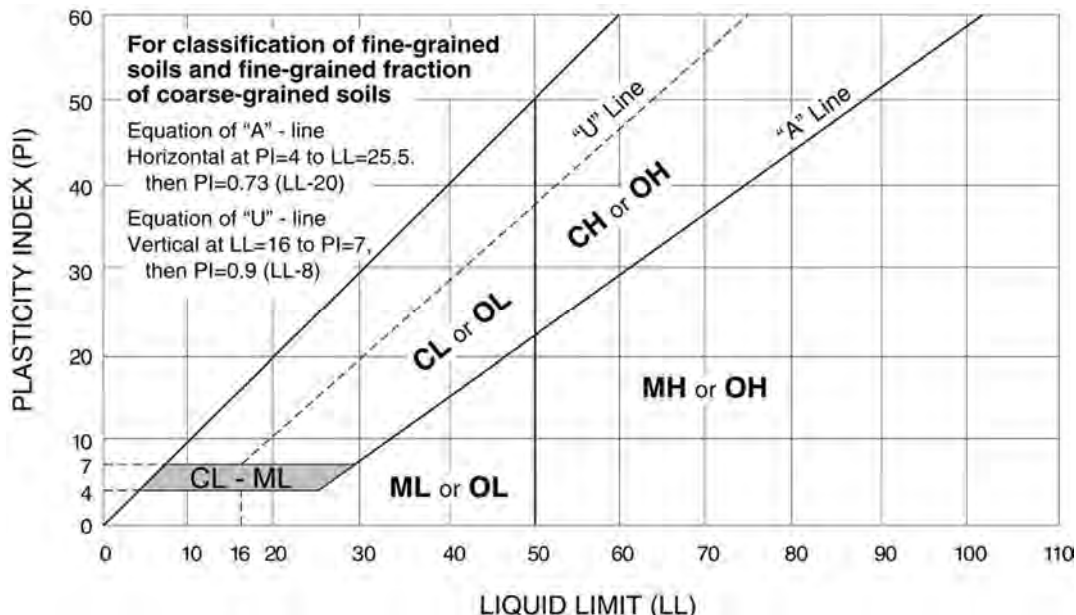
^M If soil contains $\geq 30\%$ plus No. 200, predominantly gravel, add "gravelly" to group name.

^N $PI \geq 4$ and plots on or above "A" line.

^O $PI < 4$ or plots below "A" line.

^P PI plots on or above "A" line.

^Q PI plots below "A" line.



APPENDIX C – LABORATORY TEST RESULTS

Exhibit C-1 Laboratory Testing Results

Exhibit C-2 to C-11 Grain Size Distribution Curves

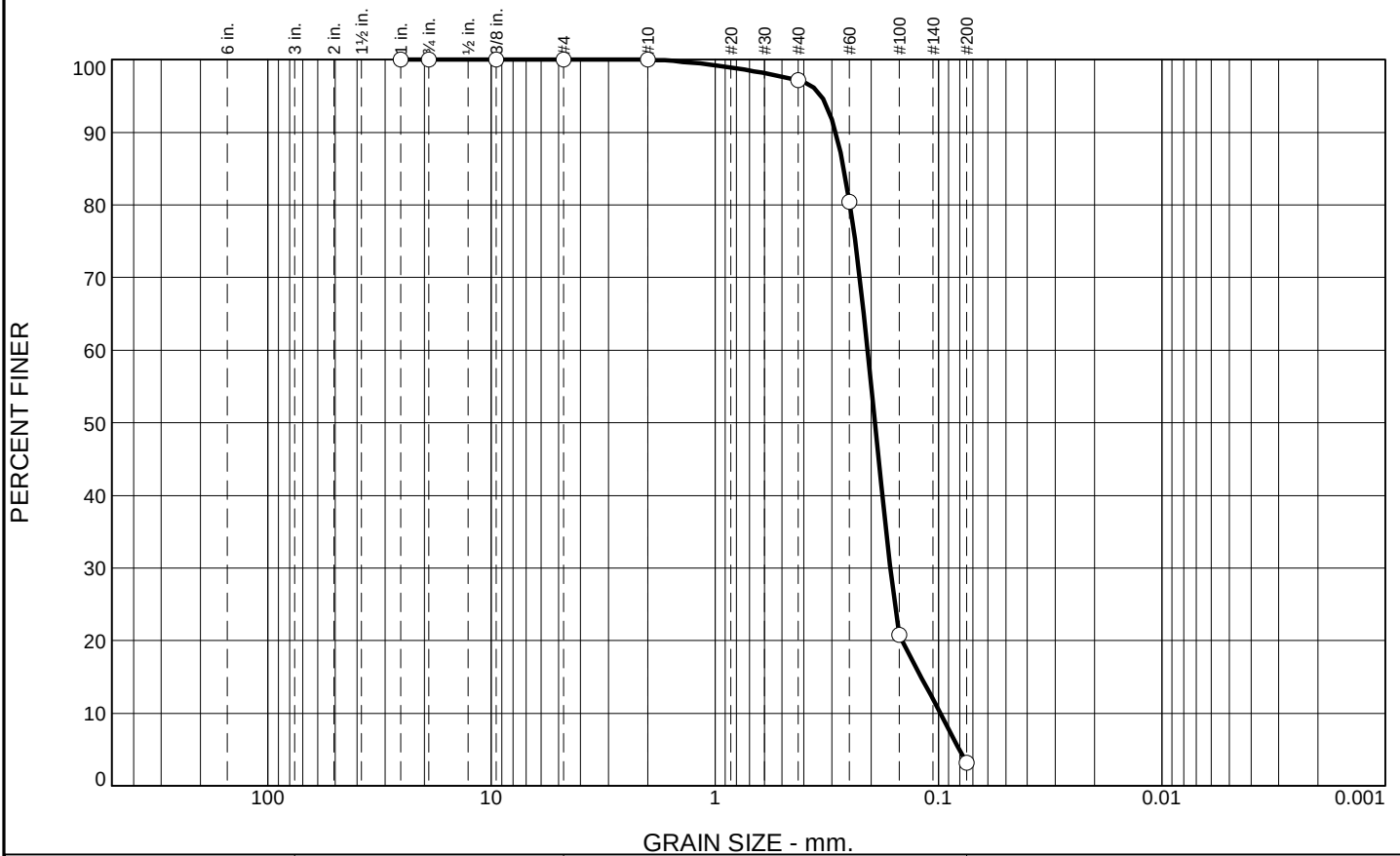
Project Name: Canal Bank Stabilization
Project Number: H8155009
Project Manager: H. S.
Technician: R. J.



LABORATORY TESTING RESULTS

Boring No.	Depth (feet)	Moisture Content (%)	Organic Content (%)	Amount Passing Sieve Size (%)								
				1	3/4"	3/8"	No. 4	No. 10	No. 40	No. 60	No. 100	No. 200
B-1	2.0 - 4.0	48	14.1	-	-	-	-	-	-	-	-	1.6
B-2	0.2 - 2.0	19	-	100	100	100	100	100	97.1	80.4	20.8	3.2
B-2	3.7 - 4.0	10	-	83.4	78.6	61.9	54.1	48	37.3	24.9	6.3	1.6
B-3	1.5 - 2.0	244	56.4	-	-	-	-	-	-	-	-	9.8
B-4	2.0 - 3.5	231	34.5	-	-	-	-	-	-	-	-	6.5
B-4	11.0 - 12.5	10	-	100	100	80.9	63.7	49.4	33	21.4	6.8	2.5
B-6	5.5 - 6.0	29	12.9	-	-	-	-	-	-	-	-	1.1
B-6	4.0 - 5.5	13	-	86	75.6	72.9	69.3	66.7	52.7	33.8	6.2	1.5
B-7	16.0 - 17.5	19	-	100	100	100	99.9	99.6	93.8	74.2	14	3.9
B-8	2.0 - 4.0	11	-	67.2	67.2	64.2	57.3	51.4	40	27.6	6	1.5
B-9	8.0 - 10.0	20	-	100	99.4	99.4	99	98.7	93.6	71.7	15.3	2.9
B-9	13.5 - 14.0	32	0.5	-	-	-	-	-	-	-	-	0.8
B-10	16.5 - 17.5	18	-	97.2	97.2	93.3	90.6	88.8	80.3	53.6	10.3	1.1
B-11	4.0 - 6.0	18	4.9	-	-	-	-	-	-	-	-	2
B-11	7.0 - 7.3	71	6.9	-	-	-	-	-	-	-	-	5.5
B-12	1.0 - 2.0	8	-	100	82.3	70.1	60.5	54.2	45.5	28.9	7.8	2.2
B-12	3.0 - 4.0	17	0.2	-	-	-	-	-	-	-	-	6.4
B-14	6.0 - 8.0	15	-	88.5	81.8	77.3	73.7	70.9	63.8	48.5	15.3	6.7
HA-1	1.0 - 2.0	59	7.5	-	-	-	-	-	-	-	-	2.5
HA-2	2.0 - 3.0	149	20	-	-	-	-	-	-	-	-	3.3
HA-4	0.2 - 1.0	38	-	-	-	-	-	-	-	-	-	2.2
HA-6	2.0 - 3.0	33	3.5	-	-	-	-	-	-	-	-	5.9

Particle Size Distribution Report (AASHTO T27/T11)



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	2.9	93.9	3.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.0"	100.0		
3/4"	100.0		
3/8"	100.0		
#4	100.0		
#10	100.0		
#40	97.1		
#60	80.4		
#100	20.8		
#200	3.2		

* (no specification provided)

Material Description

Light Brown Fine SAND, Trace Silt

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 0.2883

D₈₅= 0.2649

D₆₀= 0.2078

D₅₀= 0.1922

D₃₀= 0.1638

D₁₅= 0.1194

D₁₀= 0.0980

C_u= 2.12

C_c= 1.32

Classification

USCS= SP

AASHTO= A-3

Remarks

Moisture Content (%): 19

F.M.=0.90

Location: B-2
Depth: 0.2' - 2.0'

Date: 5/5/2015

Terracon Consultants, Inc.

Client: City of Miami Lakes
Project: Canal Bank Stabilization

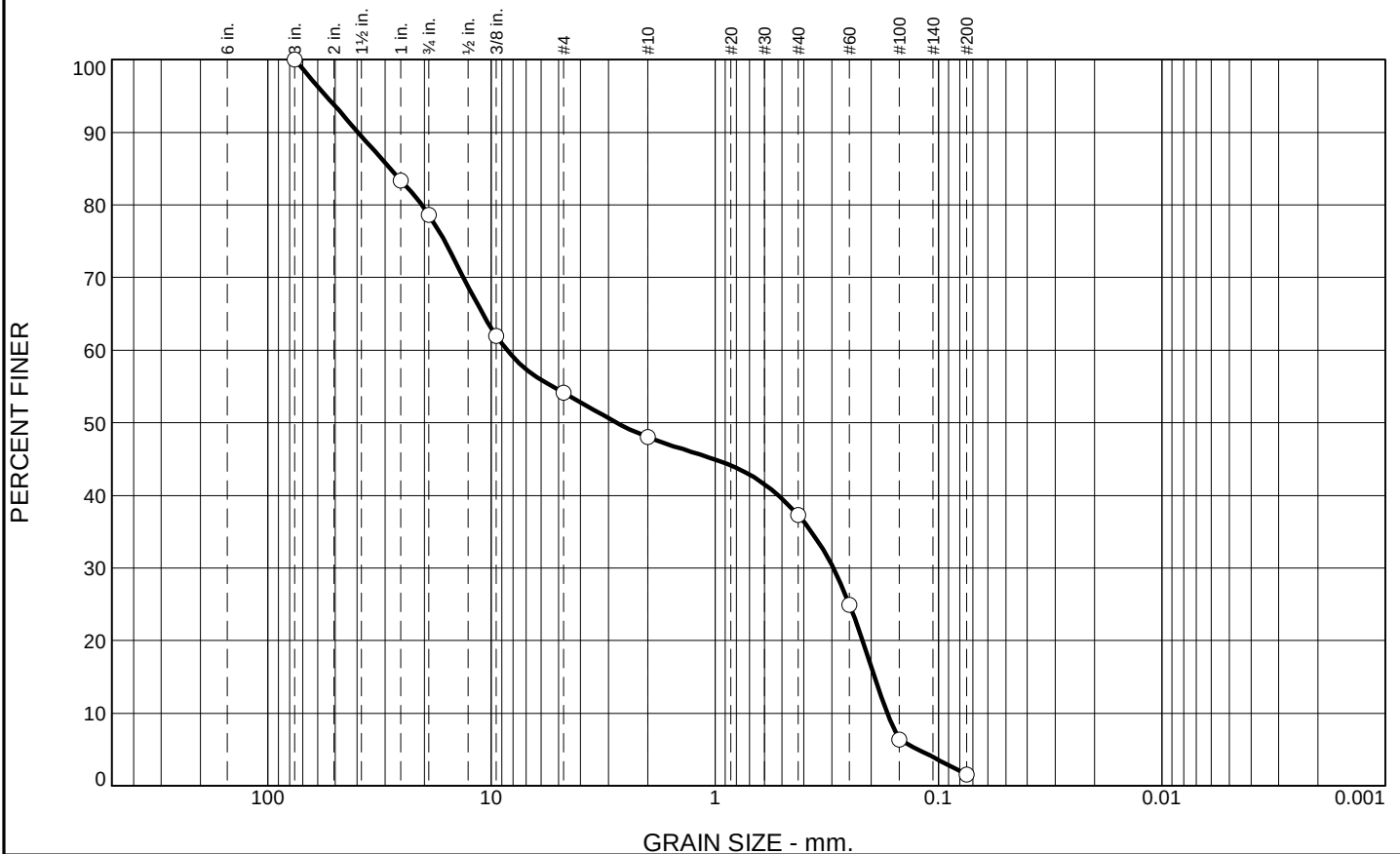
ProjectNo:E H8155009

xhibit

C-2

Tested By: R. Jurado

Particle Size Distribution Report (AASHTO T27/T11)



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	21.4	24.5	6.1	10.7	35.7	1.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3.0"	100.0		
1.0"	83.4		
3/4"	78.6		
3/8"	61.9		
#4	54.1		
#10	48.0		
#40	37.3		
#60	24.9		
#100	6.3		
#200	1.6		

* (no specification provided)

Material Description

Brown to Light Brown Fine to Medium SAND, Some Limestone Fragments, Trace Silt

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 39.5014

D₈₅= 28.3299

D₆₀= 8.5434

D₅₀= 2.7440

D₃₀= 0.2957

D₁₅= 0.1931

D₁₀= 0.1689

C_u= 50.59

C_c= 0.06

Classification

USCS= SP

AASHTO= A-1-b

Remarks

Moisture Content (%): 10

F.M.=4.43

Location: B-2
Depth: 3.7' - 4.0'

Date: 5/5/2015

Terracon Consultants, Inc.

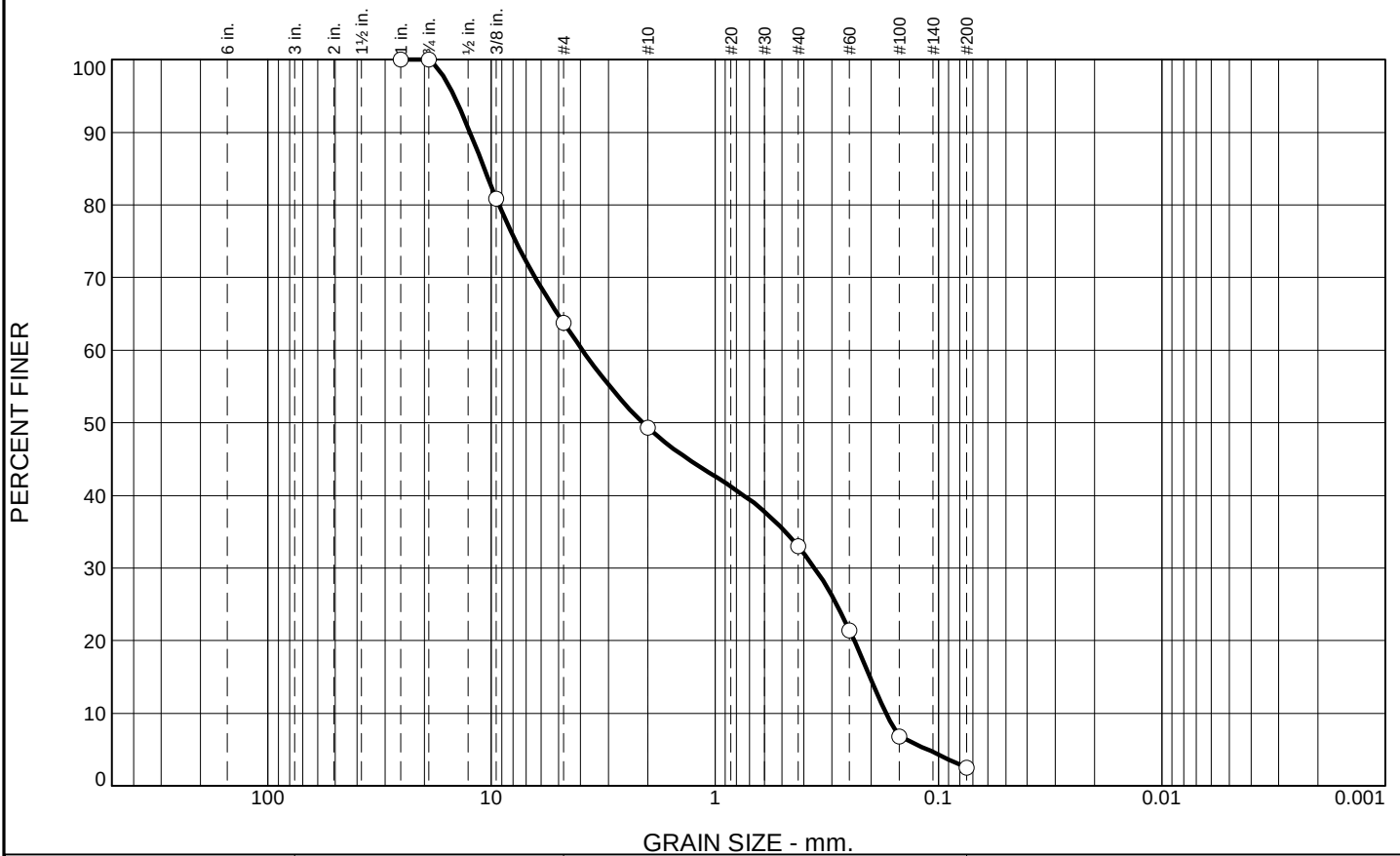
Client: City of Miami Lakes
Project: Canal Bank Stabilization

ProjectNo: H8155009

Exhibit C-3

Tested By: R. Jurado

Particle Size Distribution Report (AASHTO T27/T11)



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	36.3	14.3	16.4	30.5	2.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.0"	100.0		
3/4"	100.0		
3/8"	80.9		
#4	63.7		
#10	49.4		
#40	33.0		
#60	21.4		
#100	6.8		
#200	2.5		

* (no specification provided)

Material Description

Light Brown Fine to Coarse SAND, Some Limestone Fragments, Trace Silt

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 12.4985

D₈₅= 10.7860

D₆₀= 3.9166

D₅₀= 2.1046

D₃₀= 0.3584

D₁₅= 0.2027

D₁₀= 0.1711

C_u= 22.89

C_c= 0.19

Classification

USCS= SP

AASHTO= A-1-b

Remarks

Moisture Content (%): 10

F.M.=3.89

Location: B-4
Depth: 11.0' - 12.5'

Date: 5/5/2015

Terracon Consultants, Inc.

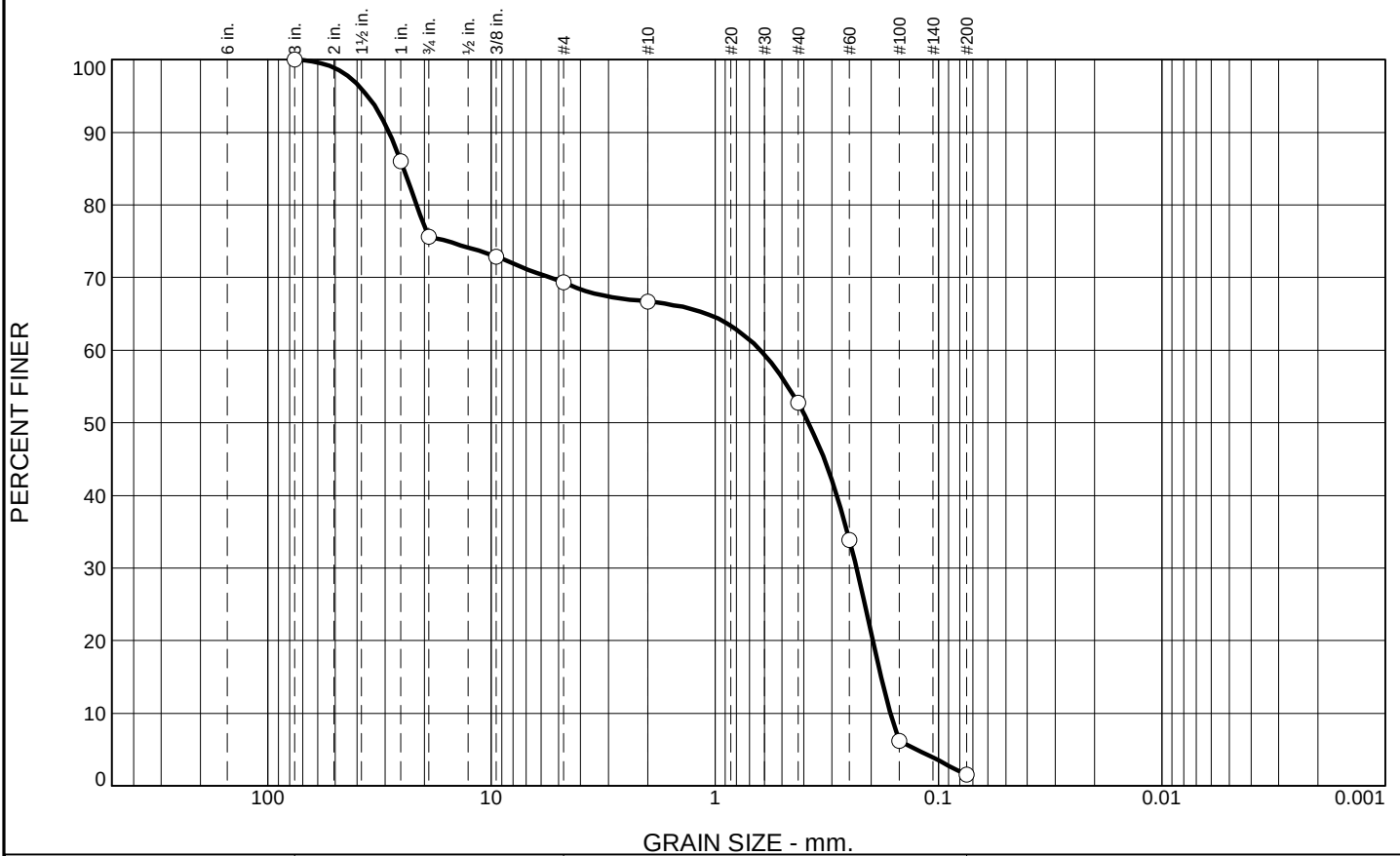
Client: City of Miami Lakes
Project: Canal Bank Stabilization

ProjectNo: H8155009

Exhibit C-4

Tested By: R. Jurado

Particle Size Distribution Report (AASHTO T27/T11)



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	24.4	6.3	2.6	14.0	51.2	1.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3.0"	100.0		
1.0"	86.0		
3/4"	75.6		
3/8"	72.9		
#4	69.3		
#10	66.7		
#40	52.7		
#60	33.8		
#100	6.2		
#200	1.5		

* (no specification provided)

Material Description

Brown Fine to Medium SAND, Few Limerock Fragments, Trace Silt

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 28.7298

D₈₅= 24.6859

D₆₀= 0.6281

D₅₀= 0.3817

D₃₀= 0.2331

D₁₅= 0.1802

D₁₀= 0.1637

C_u= 3.84

C_c= 0.53

Classification

USCS= SP

AASHTO= A-3

Remarks

Moisture Content (%): 13

F.M.=3.46

Location: B-6
Depth: 4.0' - 5.5'

Date: 5/5/2015

Terracon Consultants, Inc.

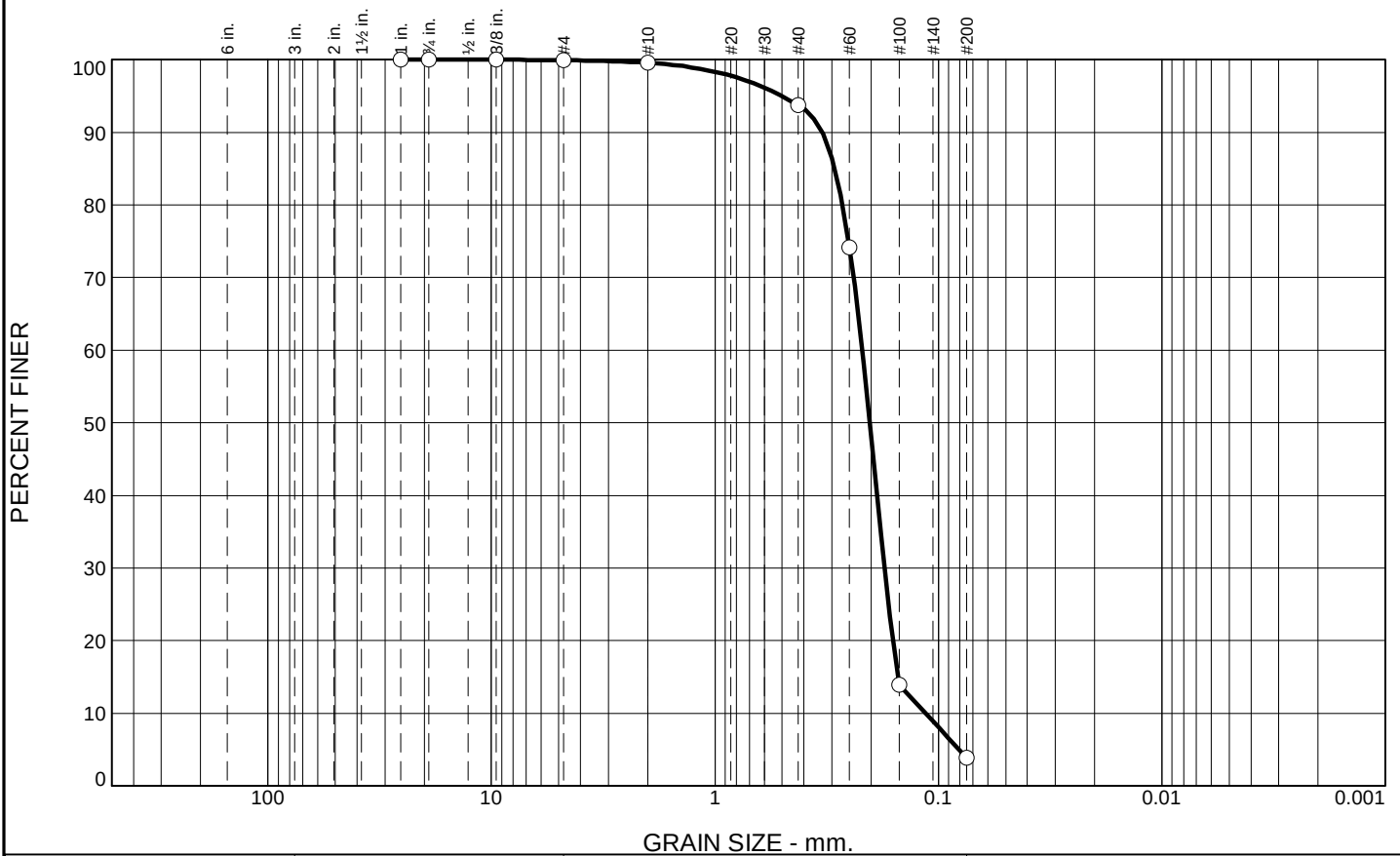
Client: City of Miami Lakes
Project: Canal Bank Stabilization

ProjectNo: H8155009

Exhibit C-5

Tested By: R. Jurado

Particle Size Distribution Report (AASHTO T27/T11)



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.3	5.8	89.9	3.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.0'	100.0		
3/4"	100.0		
3/8"	100.0		
#4	99.9		
#10	99.6		
#40	93.8		
#60	74.2		
#100	14.0		
#200	3.9		

* (no specification provided)

Material Description

Light Brown Fine SAND, Trace Silt

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 0.3311

D₈₅= 0.2913

D₆₀= 0.2196

D₅₀= 0.2030

D₃₀= 0.1739

D₁₅= 0.1517

D₁₀= 0.1143

C_u= 1.92

C_c= 1.20

Classification

USCS= SP

AASHTO= A-3

Remarks

Moisture Content (%): 19

F.M.=1.05

Location: B-7
Depth: 16.0' - 17.5'

Date: 5/5/2015

Terracon Consultants, Inc.

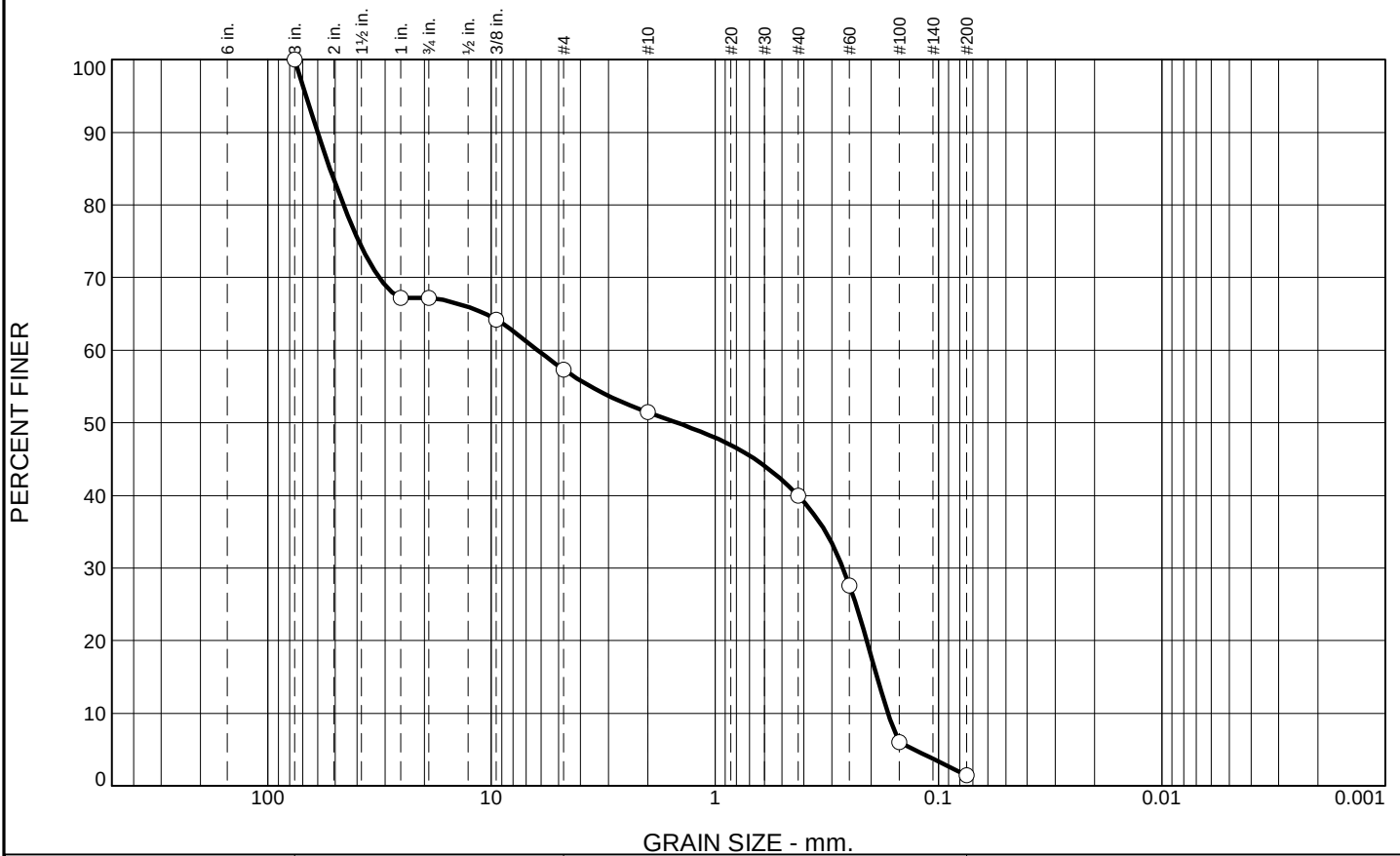
Client: City of Miami Lakes
Project: Canal Bank Stabilization

ProjectNo: H8155009

Exhibit C-6

Tested By: R. Jurado

Particle Size Distribution Report (AASHTO T27/T11)



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	32.8	9.9	5.9	11.4	38.5	1.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3.0"	100.0		
1.0"	67.2		
3/4"	67.2		
3/8"	64.2		
#4	57.3		
#10	51.4		
#40	40.0		
#60	27.6		
#100	6.0		
#200	1.5		

* (no specification provided)

Material Description

Brown Fine to Medium SAND, Some Limerock Fragments, Trace Silt

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 59.8721

D₈₅= 52.7014

D₆₀= 6.2184

D₅₀= 1.4839

D₃₀= 0.2674

D₁₅= 0.1882

D₁₀= 0.1677

C_u= 37.08

C_c= 0.07

Classification

USCS= SP

AASHTO= A-1-b

Remarks

Moisture Content (%): 11

F.M.=4.52

Location: B-8
Depth: 2.0' - 4.0'

Date: 5/5/15

Terracon Consultants, Inc.

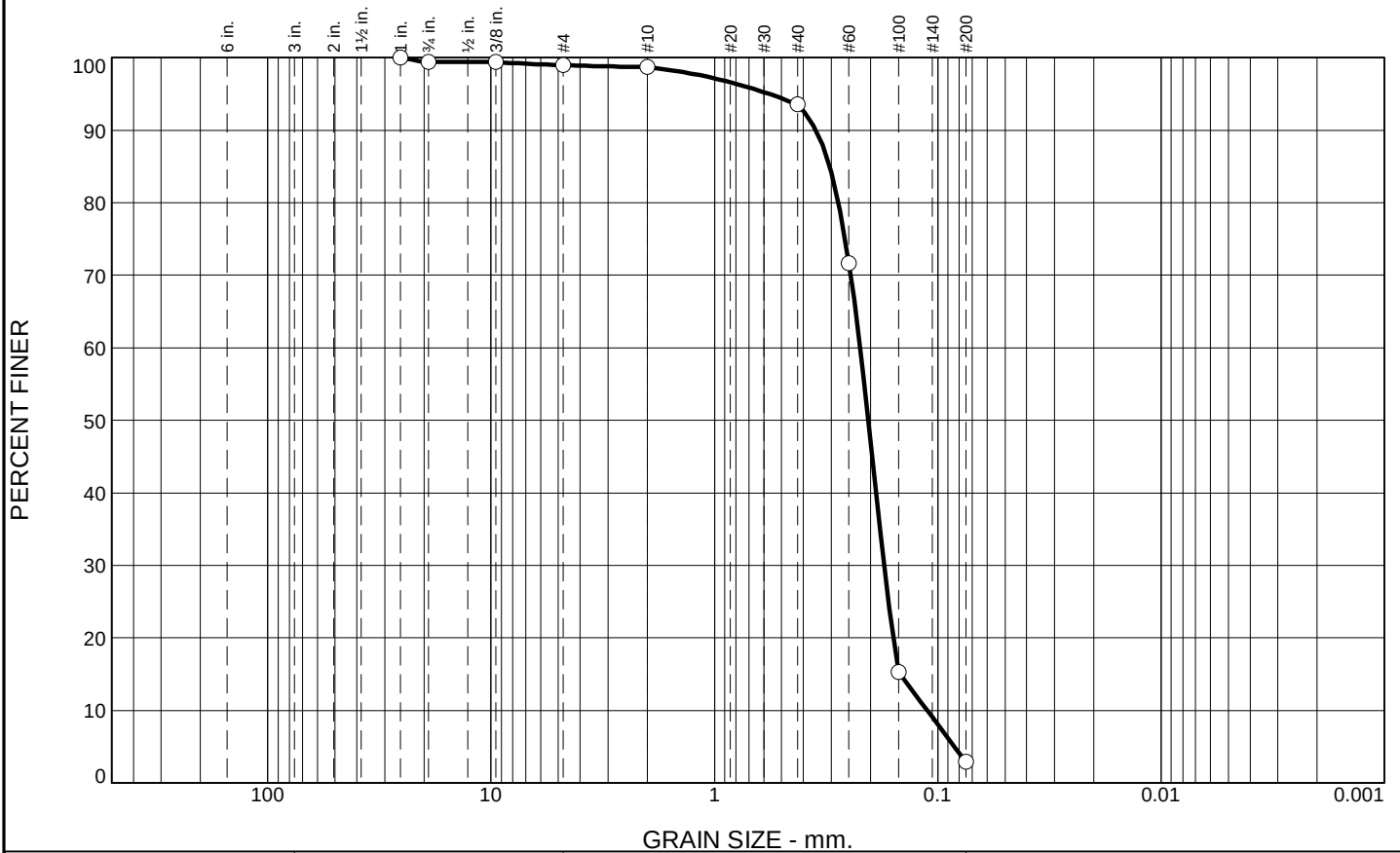
Client: City of Miami Lakes
Project: Canal Bank Stabilization

ProjectNo: H8155009

Exhibit C-7

Tested By: R. Jurado

Particle Size Distribution Report (AASHTO T27/T11)



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.6	0.4	0.3	5.1	90.7	2.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.0"	100.0		
3/4"	99.4		
3/8"	99.4		
#4	99.0		
#10	98.7		
#40	93.6		
#60	71.7		
#100	15.3		
#200	2.9		

* (no specification provided)

Material Description

Brown Fine SAND, Lenses of Limestone, Trace Silt

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 0.3515

D₈₅= 0.3054

D₆₀= 0.2231

D₅₀= 0.2049

D₃₀= 0.1735

D₁₅= 0.1477

D₁₀= 0.1116

C_u= 2.00

C_c= 1.21

Classification

USCS= SP

AASHTO= A-3

Remarks

Moisture Content (%): 20

F.M.=1.11

Location: B-9
Depth: 8.0' - 10.0'

Date: 5/5/2015

Terracon Consultants, Inc.

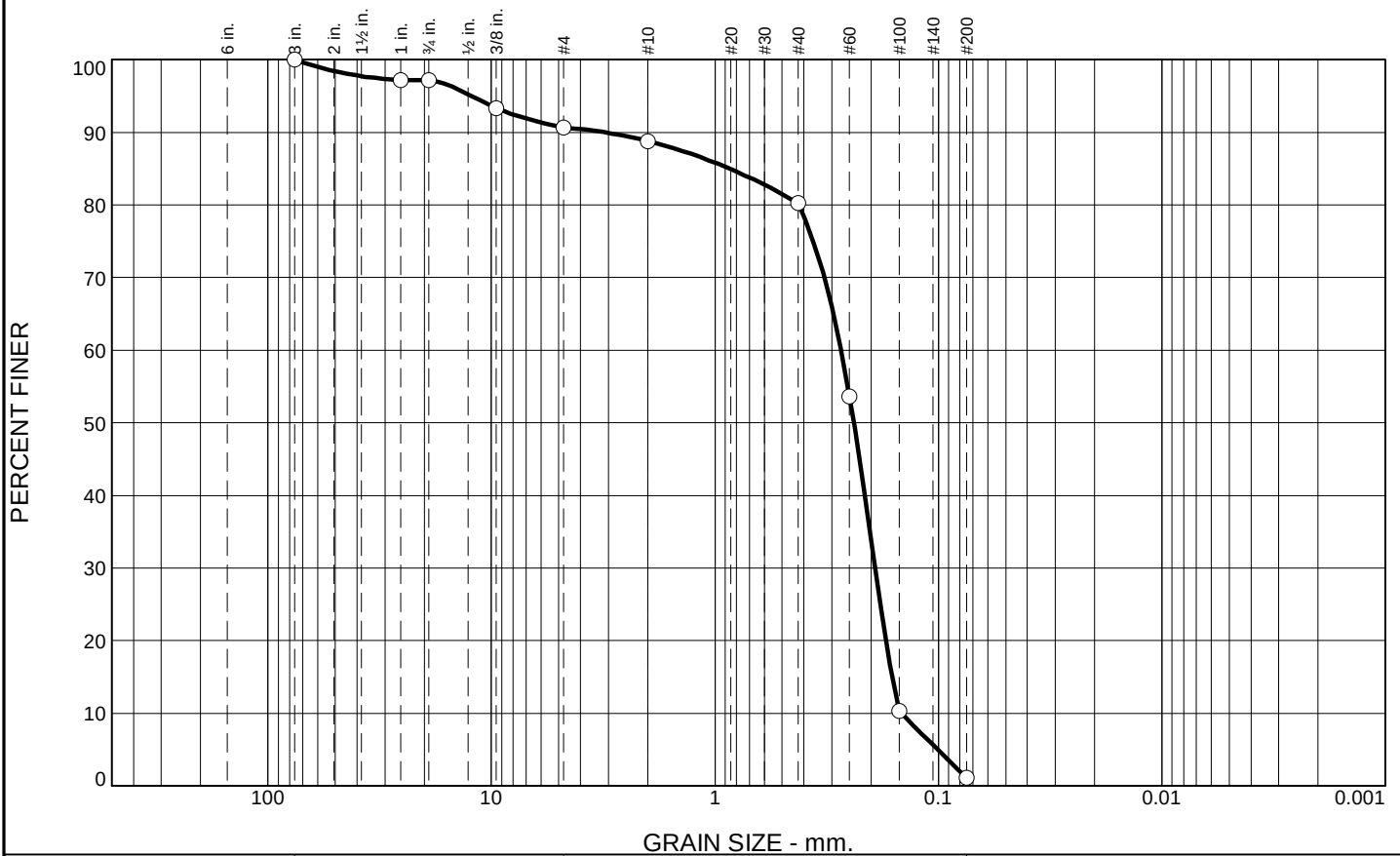
Client: City of Miami Lakes
Project: Canal Bank Stabilization

ProjectNo: H8155009

Exhibit C-8

Tested By: R. Jurado

Particle Size Distribution Report (AASHTO T27/T11)



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	2.8	6.6	1.8	8.5	79.2	1.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3.0"	100.0		
1.0"	97.2		
3/4"	97.2		
3/8"	93.3		
#4	90.6		
#10	88.8		
#40	80.3		
#60	53.6		
#100	10.3		
#200	1.1		

* (no specification provided)

<u>Material Description</u>		
Light Brown Fine SAND, Few Limestone Fragments, Trace Silt		
<u>Atterberg Limits</u>		
PL=	LL= NV	PI=
<u>Coefficients</u>		
D ₉₀ = 3.1257	D ₈₅ = 0.8623	D ₆₀ = 0.2726
D ₅₀ = 0.2391	D ₃₀ = 0.1919	D ₁₅ = 0.1608
D ₁₀ = 0.1468	C _u = 1.86	C _c = 0.92
<u>Classification</u>		
USCS= SP	AASHTO=	
<u>Remarks</u>		
Moisture Content (%): 18		
F.M.=1.86		

Location: B-10
Depth: 16.5' - 17.5'

Date: 5/5/15

Terracon Consultants, Inc.

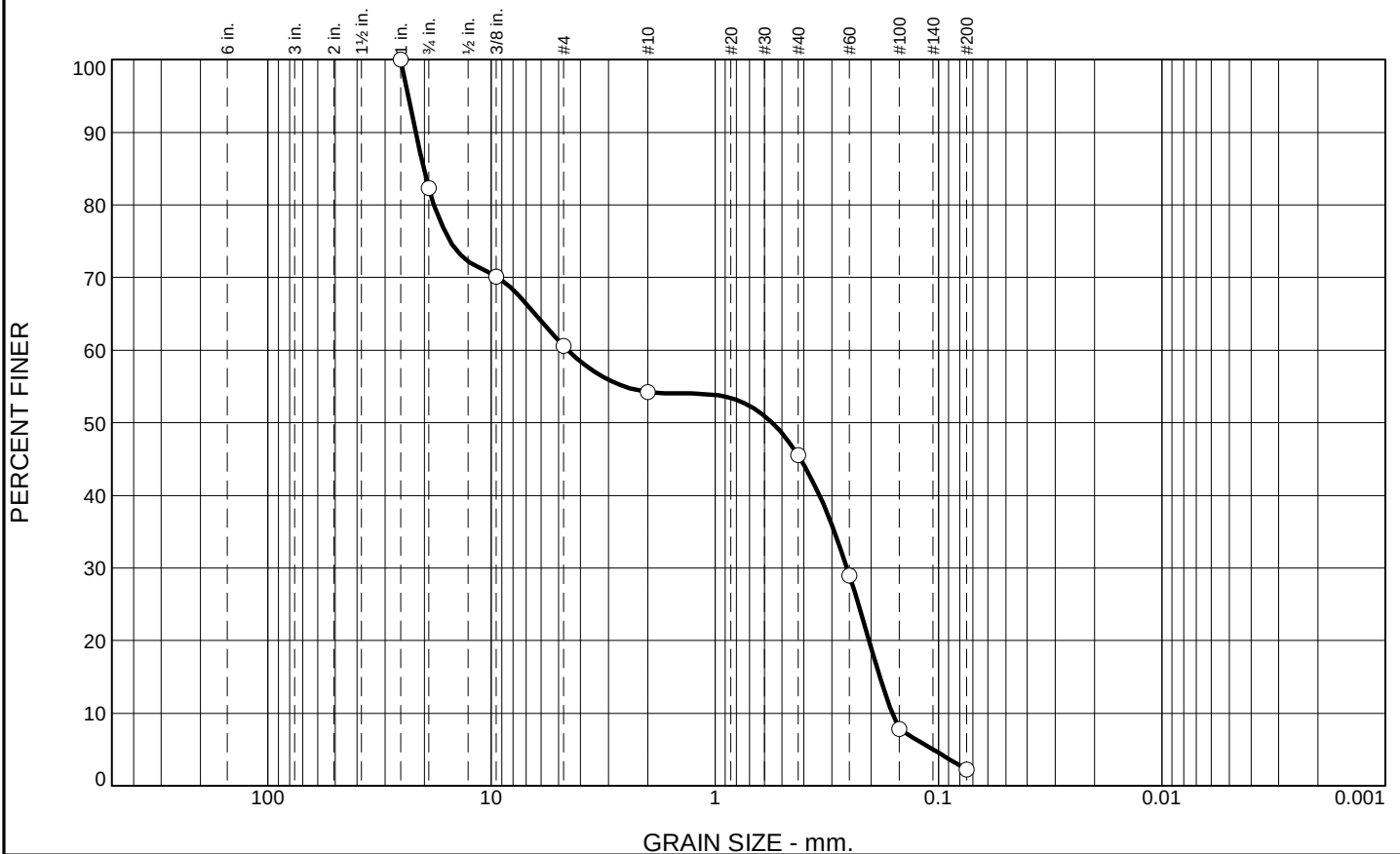
Client: City of Miami Lakes
Project: Canal Bank Stabilization

ProjectNo: H8155009

Exhibit C-9

Tested By: R. Jurado

Particle Size Distribution Report (AASHTO T27/T11)



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	17.7	21.8	6.3	8.7	43.3	2.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.0"	100.0		
3/4"	82.3		
3/8"	70.1		
#4	60.5		
#10	54.2		
#40	45.5		
#60	28.9		
#100	7.8		
#200	2.2		

* (no specification provided)

Material Description

Dark Brown to Brown Fine SAND, Some Limerock Fragments, Trace Silt

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 21.8564

D₈₅= 20.0776

D₆₀= 4.5608

D₅₀= 0.5539

D₃₀= 0.2565

D₁₅= 0.1826

D₁₀= 0.1606

C_u= 28.39

C_c= 0.09

Classification

USCS= SP

AASHTO= A-1-b

Remarks

Moisture Content (%): 8

F.M.=3.84

Location: B-12
Depth: 1.0' - 2.0'

Date: 5/5/15

Terracon Consultants, Inc.

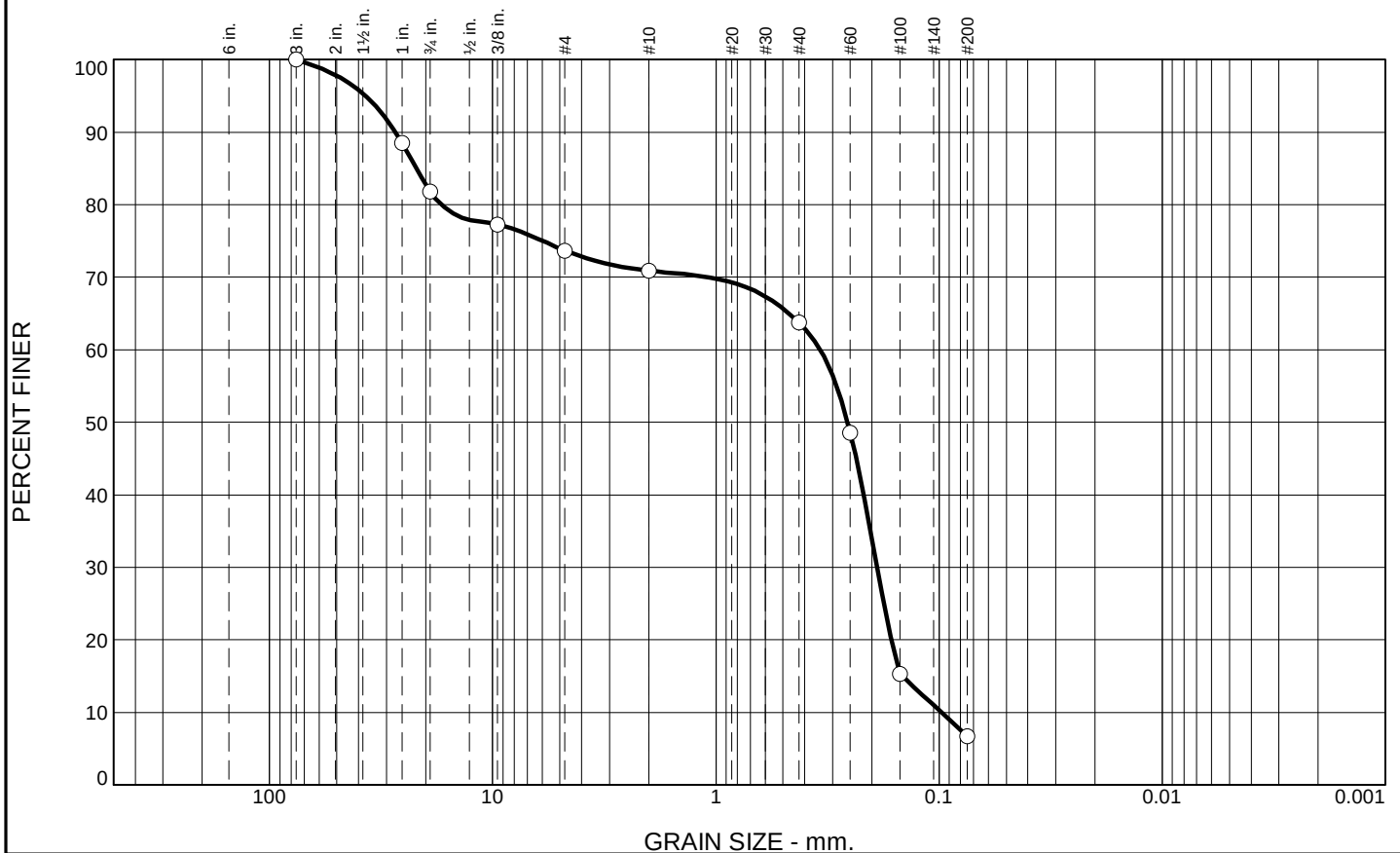
Client: City of Miami Lakes
Project: Canal Bank Stabilization

ProjectNo: H8155009

Exhibit C-10

Tested By: R. Jurado

Particle Size Distribution Report (AASHTO T27/T11)



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	18.2	8.1	2.8	7.1	57.1	6.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3.0"	100.0		
1.0"	88.5		
3/4"	81.8		
3/8"	77.3		
#4	73.7		
#10	70.9		
#40	63.8		
#60	48.5		
#100	15.3		
#200	6.7		

* (no specification provided)

Material Description

Light Brown Slightly Silty Fine SAND, Few Limerock Fragments

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 27.2568

D₈₅= 21.9974

D₆₀= 0.3407

D₅₀= 0.2570

D₃₀= 0.1894

D₁₅= 0.1462

D₁₀= 0.0976

C_u= 3.49

C_c= 1.08

Classification

USCS= SP-SM

AASHTO= A-3

Remarks

Moisture Content (%): 15

F.M.=2.92

Location: B-14
Depth: 6.0' - 8.0'

Date: 5/5/15

Terracon Consultants, Inc.

Client: City of Miami Lakes
Project: Canal Bank Stabilization

ProjectNo: H8155009

Exhibit C-11

Tested By: R. Jurado