

July 16, 2015

BOARD OF COUNTY COMMISSIONERS
ORANGE COUNTY, FLORIDA

ADDENDUM NO. 2 / IFB NO. Y15-792-J2
PEPPERMILL POND EROSION CONTROL

BID OPENING DATE: July 28, 2015

This addendum is hereby incorporated into the bid documents of the project referenced above. The following items are clarifications, corrections, additions, deletions and/or revisions to and shall take precedence over the original documents. Additions are indicated by underlining, deletions are indicated by ~~strikethrough~~.

THE BID OPENING DATE REMAINS UNCHANGED.

1. **The following represents a change to the IFB.**
 - A. Regarding Part G, Supplemental Conditions / Special Provisions; **DELETE** entire existing Part G, Supplemental Conditions / Special Provisions and **REPLACE** with the attached "Revised Part G, Supplemental Conditions / Special Provisions".
2. **All other terms, conditions and specifications remain the same.**
3.
 - a. **The Bidder shall acknowledge receipt of this addendum by completing the applicable section in the solicitation or by completion of the acknowledgement information on the addendum. Either form of acknowledgement must be completed and returned not later than the date and time for receipt of the bid.**
 - b. **Receipt acknowledged by:**

Authorized Signature

Date Signed

Title

Name of Firm

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ARTICLE 1 – CONTRACT

GENERAL CONDITION, PART F, ARTICLE 1, CONTRACT, is appended as follows:

All specifications, drawings and copies thereof furnished by the COUNTY shall remain the property of the COUNTY. They shall not be used on another project and, with the exception of those sets, which have been signed in connection with execution of the Agreement, shall be returned to the COUNTY upon completion of the project.

Duties and obligations imposed by these General Conditions and the rights and remedies available hereunder, and, in particular but without limitation, the warrants, guarantees and obligations imposed upon the CONTRACTOR and the rights and remedies available to the COUNTY thereunder shall be in addition to and not a limitation of any otherwise imposed or available by law, by special guarantee or other provisions of Contract Documents.

This is a Unit Price Contract, and the base bid is the sum of all pay item totals. The COUNTY reserves the right to correct errors in the pay item totals arising from incorrect extensions. See Part C, Paragraph 5, "Bid Errors".

ARTICLE 2 - DEFINITIONS

GENERAL CONDITION, PART F, ARTICLE 2, DEFINITIONS, "**Specifications**", is appended as follows:

"**Specifications**" or "**Standard Specifications**" shall mean the 2013 edition of the Florida Department of Transportation (FDOT) Standard Specifications for Road and Bridge Construction, and supplements thereto (unless otherwise noted), and the Orange County Road Construction Specifications latest edition as specified in the contract and/or contract documents and modified herein. In the event of a conflict between the FDOT Standard Specifications and the General Conditions or Supplemental Conditions provided in the Contract Documents, the Contract Documents shall prevail.

When reference is made to a Division, Section, or Article, it shall mean a Division, Section, or Article of said "**Specifications**" or "**Orange County Road Construction Specifications**", but shall not be construed to include the Division, Section or Article in its entirety unless so directed by the ENGINEER.

Each reference to Basis of Payment in said "**Specifications**" is superseded by the conditions contained in the Technical Provisions and all other conditions related to Basis of Payment contained in these specifications, unless otherwise directed by the Engineer.

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GENERAL CONDITION, PART F, ARTICLE 2, DEFINITIONS, "**Project Manager**", is appended as follows:

When references are made to PROJECT MANAGER, other terms that may be substituted / used are PROJECT ENGINEER, ENGINEER, PROJECT ADMINISTRATOR, and RESIDENT PROJECT REPRESENTATIVE.

ARTICLE 3 – NO ASSIGNMENT OF CONTRACT

No changes. See PART F GENERAL CONDITIONS.

ARTICLE 4 – QUALIFICATIONS OF SUBCONTRACTORS AND SUPPLIERS

No changes. See PART F GENERAL CONDITIONS.

ARTICLE 5 – STARTING THE WORK

No changes. See PART F GENERAL CONDITIONS.

ARTICLE 6 – INTERPRETATION AND INTENT OF THE CONTRACT DOCUMENTS

GENERAL CONDITION, PART F, ARTICLE 6, INTERPRETATION AND INTENT OF THE CONSTRUCTION DOCUMENTS, is appended as follows:

The project shall be constructed in accordance with these Supplemental Conditions, Special Provisions and the Florida Department of Transportation (FDOT) "Standard Specifications for Road and Bridge Construction," 2013 edition, the "Supplemental Specifications for Road and Bridge Construction," 2013 edition, and the "Orange County Road Construction Specifications," latest edition, hereafter referred to as the "Specifications".

Wherever the terms "APPROVE", "APPROVED", "APPROVAL", "ACCEPT", "ACCEPTED", "ACCEPTANCE" or other derivations of these terms are used within these specification or references therein in the context of actions to be taken by the COUNTY or its representatives with respect to submittals made by, or work performed by the CONTRACTOR, they shall mean that the COUNTY or its representative finds no exception with the submittal or the work provided/performed by the CONTRACTOR. Acceptance or approval by the COUNTY or its representative shall NOT relieve the CONTRACTOR of any responsibility for conformance to the intent of the plans and specifications, for the accuracy of dimensions and details, for conformity of dimensions and details, or for adherence to generally accepted engineering and construction practices.

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ARTICLE 7 – REFERENCE POINTS

GENERAL CONDITION, PART F, ARTICLE 7, REFERENCE POINTS, “Reference Points” is appended as follows:

General: The CONTRACTOR shall employ a Professional Surveyor and Mapper (PS&M), registered in the State of Florida and satisfactory to the COUNTY, to lay out the work for bench marks, points and lines noted on the Contract Documents, established at the site, or supplied by the COUNTY. The CONTRACTOR shall provide to the COUNTY at the pre-construction conference, the name of the Professional Surveyor and Mapper to perform Project survey work. All work of every description shall be laid out and checked by the CONTRACTOR who will be held solely responsible for its correctness.

Work may be checked by the PROJECT MANAGER and, in the event of a discrepancy, the PROJECT MANAGER'S decision shall be final.

No special compensation will be made to the CONTRACTOR to defray costs of surveys and measurements, but such costs shall be considered as having been included in the price stipulated for the several items of work to be done under this contract.

Prior to the beginning of any construction the CONTRACTOR shall submit to the COUNTY a set of field notes verifying the existing benchmark elevations relative to the reference benchmarks shown on the construction plans. The CONTRACTOR shall also verify ties from project control points to reference points as shown on the construction plans. A set of field notes for all additional benchmark and reference point ties shall be submitted to the PROJECT MANAGER. All submittals shall be signed and sealed by a Professional Surveyor and Mapper registered in the State of Florida.

Within twenty-one (21) calendar days after receiving the Notice to Proceed, the CONTRACTOR shall have a licensed Professional Surveyor and Mapper establish in the field the right-of-way and construction easements using wooden 1" x 4" x 4'0" stakes at a maximum spacing of 100 feet. Stations shall be marked on each stake and shall be of sufficient size and clarity that they can be easily read by the unaided eye at a distance of 150 feet. Right-of-way and construction easement staking shall be maintained by the CONTRACTOR throughout construction. No invoice for payment will be processed until the right-of-way has been staked to the satisfaction of the ENGINEER. Payment is included in the price for bid item number 101-1 “Mobilization”. The CONTRACTOR shall pay all expenses in connection with this work.

All survey work shall comply with Chapter 5J-17, Florida Administrative Code (F.A.C.), regarding minimum technical standards for land surveying in the State of Florida.

The CONTRACTOR shall perform all calculations required, and set all stakes needed such as grade stakes, offset stakes, reference point stakes, slope stakes, and other reference marks or points necessary to provide lines and grades for construction of all roadway, bridge, and miscellaneous items.

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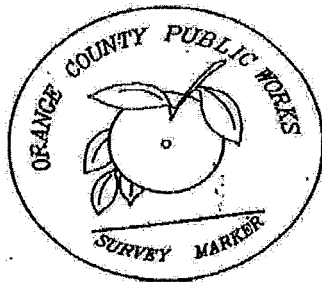
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When performing utility construction as part of the project, the CONTRACTOR will establish all horizontal and vertical controls necessary to carry out such work.

Benchmarks: During construction the CONTRACTOR shall provide a Control Point Metal Disk set in concrete (e.g. in headwalls, back of sidewalks, back of inlets, etc.) at the beginning and end of the project and at a maximum of 1100 feet between existing or established benchmarks along the project alignment. The CONTRACTOR'S Professional Surveyor and Mapper (PS&M) shall conduct a three wire leveling run through the benchmarks based on Orange County Datum NAVD88 (or other datum as specified on the Engineering plans). The level work will be performed to Second Order, Class II standards (or better) and the maximum allowable error will be no more than 8 mm times the square root of "K", where "K" is the total distance in kilometers. This is also approximately equivalent to 0.035 feet times the square root of "K", where "K" is the total distance in miles. The level run will be performed with a geodetic automatic level or better whose three wires will be read to 0.001 meters or 0.001 feet. Invar rods are preferred but not required. Digital automatic levels with associated bar code rods are also acceptable. Prior to the issuance of final completion, the CONTRACTOR shall submit a copy of the field notes certified by the PS&M to the PROJECT MANAGER. Benchmark elevations shall be expressed in English units.

Orange County survey monuments shall be aluminum or brass stamped as shown on the attached sketch. The contractor shall procure the monuments from any commercial supplier of survey monuments. The contractor is advised that the County obtains its monuments from Berntsen International, Inc.; www.berntsen.com Berntsen disc no. C35D-(3-1/2" domed) Logo no. B9119 (800-356-7388).



Public Land Corners: All public land corners within the limits of construction shall be protected. If a corner monument is in danger of being destroyed or disturbed, the CONTRACTOR shall notify the PROJECT MANAGER, and the COUNTY SURVEYOR, without delay, by telephone. The CONTRACTOR shall provide written follow-up confirmation within forty-eight (48) hours of telephone notification. In the event that a land corner is disturbed or damaged it will be reset with a 4" x 4" concrete monument, which shall be protected in a cast iron valve box, if in pavement.

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Prior to the issuance of final completion, the CONTRACTOR shall submit certified corner records, prepared by a Professional Surveyor and Mapper, for all altered, reset and/or relocated public land corners to the Florida Department of Environmental Protection, Bureau of Survey and Mapping, in accordance with the requirements of Chapter 177.507 of the Florida Statutes. A certified copy shall also be provided to the PROJECT MANAGER. Furthermore, the Professional Surveyor and Mapper will note on the AS-BUILT PLANS the location of all corners set or found and submit copies of all field notes to the County Surveyor or his/her agent.

National Geodetic Survey (N.G.S.) / United States Coast & Geodetic Survey (U.S.C. & G.S.) Monuments: The CONTRACTOR shall immediately notify the PROJECT MANAGER of any N.G.S. / U.S.C. & G.S. monuments which may be in danger of being disturbed. For instructions on how to relocate any N.G.S. monuments the CONTRACTOR shall notify in writing:

State Geodetic Advisor
Bureau of Surveying and Mapping
3900 Commonwealth Blvd., Suite 105
Tallahassee, FL 32399-3000
Phone: (850) 245-2606
Fax: (850) 245-2645

Orange County Surveyor
Engineering Division, Public Works Dept
4200 S. John Young Parkway
Orlando, FL 32839-9205
Phone: (407) 836-7941
Fax: (407) 836-8024

The CONTRACTOR shall bear all costs of establishing, relocating or re-establishing all disturbed N.G.S. S. monuments, public land corners, property corners, or right-of-way monuments.

The complete survey field book shall be submitted to the County Surveyor concurrently with the submission of the CONTRACTOR'S requisition for final payment. When a data collector is used, the CONTRACTOR shall submit a paper copy of the raw data files bound in a book, together with the electronic copy on a disk.

ARTICLE 8 – BONDS, INSURANCE AND INDEMNIFICATION

No changes. See PART F GENERAL CONDITIONS.

ARTICLE 9 – CONTRACTOR'S RESPONSIBILITIES

GENERAL CONDITION, PART F, ARTICLE 9, CONTRACTOR'S RESPONSIBILITIES, "Supervision and Superintendence", second paragraph, is appended as follows:

The CONTRACTOR shall provide a competent superintendent at the site at all times while work is in progress to act as the CONTRACTOR'S agent. The superintendent shall be capable of properly interpreting the Contract Documents, have sufficient experience in related construction, and be able to speak and understand English. The superintendent shall have full authority to receive

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instructions from the PROJECT MANAGER and to execute the orders or directions of the PROJECT MANAGER, including promptly supplying any materials, tools, equipment, labor, and incidentals that may be required. The CONTRACTOR shall furnish the qualifications of the proposed superintendent to the PROJECT MANAGER at the preconstruction conference. The COUNTY shall be the sole determiner of whether or not the experience of the superintendent is sufficient for the purposes of this paragraph. At least one other responsible person who speaks and understands English shall be on the project during all working hours.

GENERAL CONDITION, PART F, ARTICLE 9, CONTRACTOR'S RESPONSIBILITIES, "**Supervision and Superintendence**", is appended as follows:

Supervision for Emergencies: A responsible person, who speaks and understands English, shall be available at or reasonably near the worksite on a 24 hour basis, seven days a week. This person shall be designated as the point of contact for emergencies and in cases that require immediate action to maintain traffic or to resolve any other problem that might arise. A list of the phone numbers and names of personnel designated to be contacted in cases of emergency, along with a description of the project location, shall be submitted, by certified mail, to the Florida Highway Patrol and all other local law enforcement agencies.

GENERAL CONDITION, PART F, ARTICLE 9, CONTRACTOR'S RESPONSIBILITIES, "**Permits**", is appended as follows:

Certifications/Permit Compliance: The CONTRACTOR shall prepare and submit all certifications required by regulatory agencies having jurisdiction over the project, including Engineer's Certifications and as-built drawings required by the Water Management District(s). The final 5 percent retainage shall not be released, and/or the final pay request shall not be accepted until all required certifications have been submitted and accepted by the regulatory agencies.

GENERAL CONDITION, PART F, ARTICLE 9, CONTRACTOR'S RESPONSIBILITIES, "**Record Drawings**", is appended as follows:

As-Built Plans: AS-BUILT PLANS shall be used for no other purpose than recording changes, shall be updated at least once weekly, and stored separate and apart from plans used on a routine basis. They shall show locations and elevations of paving, swales, ditches, gabions, pipes and structures constructed and all relocated or reset property corners, section corners and ¼ section corners. The AS-BUILT PLANS shall be available to the PROJECT MANAGER upon request. Upon the completion of the project the CONTRACTOR shall submit to the PROJECT MANAGER one set of signed and sealed AS-BUILT PLANS and PDF file on CD. These AS-BUILT PLANS shall delineate all revised information in bold notation.

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DELIVERABLES AS FOLLOWS:

- A paper copy of the plans available at all times at the job site during the entire duration of the project marked up in red by the CONTRACTOR, and showing all deviations from the design locations and elevations.
- The CONTRACTOR shall submit an updated copy (paper or pdf file on CD) of the red line As-Built Plan concurrent with each application for progress payment. The update red line As-Built Plan shall focus on the period from the last red line As-Built Plan to the current red line As-Built Plan submitted with the application for progress payment. The updated red line As-Built Plan shall be reviewed and approved by the Orange County Inspector prior to the CONTRACTOR'S submittal. The CONTRACTOR'S failure to submit an updated copy (paper or pdf file on CD) of the red line As-Built Plan as described herein with an application for progress payment shall be sufficient reason for rejection of the progress payment request. Should the Project Manager reject the updated red line As-Built Plan submitted, the entire progress payment request shall be rejected and must be resubmitted.
- A PDF file of the "As-Built Plans" prepared by an appropriately licensed professional on a CD of the construction drawings showing the design horizontal location and elevation of all facilities constructed or incorporated into the project with changed values struck through with a single line to maintain legibility and the new value added. Facilities constructed in a modified fashion from that shown on the construction plans shall be shown and identified in their originally designed and final as-constructed configurations. Facilities added shall be shown and identified.
- One (1) paper copies of the "As-Built Plans", as described below, signed and sealed by the appropriately licensed professional that prepared them

Upon the completion of the project the CONTRACTOR shall submit the AS-BUILT PLANS as an electronic file in PDF format and (1) One, (see above) - 22"x34" paper Full Size Drawings which shall have Statements of Certification certifying that the project was constructed according to the Construction Plans and Specifications, and that the AS-BUILT PLANS are a correct representation of what was constructed. The CONTRACTOR shall include the Statement of Certification on either the cover sheets of the AS-BUILT PLANS certifying all of the sheets or certify each individual sheet. The Statements of Certification shall be signed and sealed by a Professional Engineer and/or a Professional Surveyor and Mapper, both registered in the State of Florida.

The CONTRACTOR'S failure to maintain current and accurate AS-BUILT PLANS may result in withholding payments to cover costs of obtaining and recording information sufficient to fully document construction varying from the bid documents. The COUNTY'S cost, including consultant fees, of obtaining as-built information will be deducted from the contract amount. The CONTRACTOR'S request for final payment shall be accompanied by one complete, legible set of

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AS-BUILT PLANS and PDF file on disc. The cost of the AS-BUILT PLANS and pdf file shall be included in the pay item 900-1, As Built Certification – Lump Sum. This cost covers roadway bid items only and does not cover the Orange County Utilities or other third party AS-BUILT PLANS.

GENERAL CONDITION, PART F, ARTICLE 9, CONTRACTOR'S RESPONSIBILITIES, "Safety And Protection", is appended as follows:

Protection of Property: The CONTRACTOR shall be responsible for any damage whatsoever whether occurring within or outside of the boundaries of the PROJECT including any property adjacent to the PROJECT when such damage is caused in whole or in part by any act of the CONTRACTOR or any employee, agent or subcontractor working under, with or in privity to the CONTRACTOR. The CONTRACTOR and all the aforementioned parties shall stay off private property adjacent to the PROJECT unless the CONTRACTOR receives from the affected property owner a written release, which specifically releases the COUNTY from any liability for any damage to such property caused by any acts other than those of the COUNTY. This written release must be acceptable in form to the PROJECT MANAGER and delivered to and accepted by the PROJECT MANAGER before the CONTRACTOR makes any entry upon such private property. The CONTRACTOR shall also obtain all necessary permits and approvals from all regulatory agencies for all activities to be conducted by the CONTRACTOR on the private property. Necessary approvals may include, but are not limited to the United States Army Corps of Engineers, the United States Environmental Protection Agency, the Florida Department of Environmental Protection, the Florida Department of Transportation, the applicable Water Management District, the Orange County Environment Protection Division (EPD), and applicable municipal agencies for properties located within incorporated areas. The CONTRACTOR shall provide written documentation to the PROJECT MANAGER of the necessary approvals and permits having been obtained.

At the preconstruction conference, CONTRACTOR shall submit to the PROJECT MANAGER a current aerial map (11" x 17" minimum size) depicting at a minimum the temporary staging area including property lines, easement lines, and right-of-way lines. The PROJECT MANAGER will submit the aerial map to the Manager of the Orange County Environmental Protection Division (EPD) with a request to perform a cursory review of the CONTRACTOR'S proposed temporary staging area. Within 30 calendar days of receipt of the request, EPD will provide a summary to the PROJECT MANAGER of any natural resource issues or concerns that occur on the site for the CONTRACTOR'S consideration. CONTRACTOR is hereby notified that the proposed temporary staging area shall not be utilized until such time as EPD completes their cursory review and all other items within the contract documents pertaining to the temporary staging area are satisfied. No additional time or special compensation will be made to the CONTRACTOR to defray costs of any of the work or delays for complying with the requirements of the above.

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GENERAL CONDITION, PART F, ARTICLE 9, CONTRACTOR'S RESPONSIBILITIES, is appended as follows:

Site Investigation: The CONTRACTOR shall be responsible for satisfactorily determining, prior to the submission of a bid, the nature and location of the work, the conformation of the ground, the character and quality of the substrata, the types and quantity of materials to be encountered, the nature of the groundwater conditions and all other matters which can in any way affect the work under this contract. The prices established for the work to be done will reflect all costs pertaining to the work. Any claims for extras based on substrata or groundwater table conditions will not be allowed.

Information available to the COUNTY on subsoil conditions is available to bidders as information only and solely for the convenience of bidders. This information may not accurately reflect actual soil conditions as to the depth, extent or character of the material to be encountered in construction of the project. The CONTRACTOR agrees that he will make no claims against the COUNTY if, in carrying out the work, he finds that actual conditions encountered do not conform to those indicated.

Information shown on the plans as to the location of existing utilities has been prepared from the most reliable data available to the Engineer. The information may not reflect actual conditions or be all inclusive regarding all utilities in the area, either in service or abandoned, or that the utilities are in the horizontal or vertical locations shown. It shall be the CONTRACTOR'S responsibility to determine the location, character and depth of any existing utilities and to assist the utility companies, by every means possible, to determine said locations. Extreme caution shall be exercised to eliminate any possibility of any damage to utilities resulting from the CONTRACTOR'S activities.

Unless otherwise noted, the CONTRACTOR will take ownership of all materials encountered which are designated to be removed or not incorporated into the Work, such as paving materials, paving brick, asphalt block, RAP/Milled material, concrete slab, sidewalk, curb and gutter, pipe materials, etc., excavated in the removal of existing pavements, and dispose of them outside of the right-of-way. Payment for this item shall be included in Pay Item No. 110-1 Clearing and Grubbing.

GENERAL CONDITION, PART F, ARTICLE 9, CONTRACTOR'S RESPONSIBILITIES, "Use of Public Roads and Streets", is added as follows:

Use of Public Roads and Streets: Use of public streets shall be such as to provide a minimum of inconvenience to the public and to traffic. Any earth or excavated material spilled from trucks shall be removed by the CONTRACTOR and streets cleaned to the satisfaction of the PROJECT MANAGER. Cleaning may include street sweeping and/or washing, if so directed by the PROJECT MANAGER.

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The CONTRACTOR shall provide vehicular access to each residence, subdivision and other public roads at all times.

GENERAL CONDITION, PART F, ARTICLE 9, CONTRACTOR'S RESPONSIBILITIES, "**Care of trees, Shrubs and Grass**", is added as follows:

Care of trees, Shrubs and Grass: The CONTRACTOR shall be fully responsible for maintaining in good condition all cultivated grass plots, trees and shrubs beyond the grading limits of this Contract. After completion of the work, the CONTRACTOR shall replace or restore to the original condition all destroyed or damaged shrubbery or grass areas. Tree limbs, which interfere with equipment operation and are approved for pruning, shall be neatly trimmed and the tree cut coated with tree paint.

GENERAL CONDITION, PART F, ARTICLE 9, CONTRACTOR'S RESPONSIBILITIES, "**Use of Explosives**", is added as follows:

Use of Explosives: No blasting shall be done except upon approval by the COUNTY and the governmental agency or political subdivision having jurisdiction. When the use of explosives is approved by the COUNTY as necessary for the execution of the work, the CONTRACTOR shall use the utmost care so as not to endanger life or property, and assume responsibility for any such damage resulting from his blasting operations, and whenever directed, the number and size of the charges shall be reduced.

All explosives shall be stored in a secure manner and all such storage places shall be clearly marked, "**DANGER EXPLOSIVES**" and shall be in care of competent watchmen. All permits required for the use of explosives shall be obtained by the CONTRACTOR at his expense. All requirements of the governmental agency issuing permit shall be observed.

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GENERAL CONDITION, PART F, ARTICLE 9, CONTRACTOR'S RESPONSIBILITIES, "**Damage to Existing Structures and Utilities**", is added as follows:

Damage to Existing Structures and Utilities: The CONTRACTOR shall be responsible for and make good all damage resulting from his activities, both within and beyond the limits of this contract, to buildings, telephone, power or other cables, water pipes, storm sewer facilities, sanitary pipes, gas lines, traffic signalization, or other utilities or structures, which may be encountered, whether or not shown on the plans.

GENERAL CONDITION, PART F, ARTICLE 9, CONTRACTOR'S RESPONSIBILITIES, "**Cleaning Up**", is appended as follows:

Final Clean Up: Streets used for access shall be cleaned by sweeping or washing, as determined by the PROJECT MANAGER, prior to final acceptance.

ARTICLE 10 – WORK BY OTHERS AND UTILITY COORDINATION

GENERAL CONDITION, PART F, ARTICLE 10, WORK BY OTHERS, is appended as follows:

The CONTRACTOR shall cooperate with owners of any underground or overhead utilities in their removal and relocation operations, in order that these operations may progress in a timely, reasonable and orderly manner and that service rendered by these parties will not be interrupted.

Excavators shall comply with Florida Statutes, Chapter 553.851, regarding notification of existing gas and oil pipeline company owners prior to excavating. **Evidence of such notice shall be furnished to the PROJECT MANAGER prior to excavating.** During the period of this contract the CONTRACTOR shall coordinate all utility relocations and adjustments necessary for the project. The CONTRACTOR shall conduct meetings at a frequency approved by the Engineer with all affected Utility Owners, and the minutes of those meetings shall be distributed to each Utility owner, the PROJECT MANAGER, and any other affected entity. CONTRACTOR shall not be entitled to additional compensation from COUNTY as a result of failure of any utility to remove, relocate, or install their facilities within any particular time frame.

ARTICLE 11 – PROJECT OWNER STATUS DURING CONSTRUCTION

No changes. See PART F GENERAL CONDITIONS.

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ARTICLE 12 – CHANGES IN THE WORK

No changes. See PART F GENERAL CONDITIONS.

ARTICLE 13 – CHANGE OF CONTRACT AMOUNT AND CONTRACT TIME

GENERAL CONDITION, PART F, ARTICLE 13, CHANGE OF CONTRACT AMOUNT AND CONTRACT TIME, is appended as follows:

The number of days of any change to the contract time incorporated by Change Order shall be applied to both the Substantial Completion time and the Final Completion time, unless otherwise established by the COUNTY in these specifications.

ARTICLE 14 – CONDITION OF MATERIALS AND PACKAGING

No changes. See PART F GENERAL CONDITIONS.

ARTICLE 15 – ASBESTOS FREE MATERIALS

No changes. See PART F GENERAL CONDITIONS.

ARTICLE 16 – WARRANTY AND GUARANTEE. ACCEPTANCE OF DEFECTIVE WORK

GENERAL CONDITION, PART F, ARTICLE 16, WARRANTY AND GUARANTEE, ACCEPTANCE OF DEFECTIVE WORK, “**Tests and Inspections**”, is appended as follows:

The cost of laboratory testing routinely performed on the job site or subsequent to samples typically retrieved from the job site, shall be borne by the COUNTY, except for testing called for in the Technical Provisions to be provided by the CONTRACTOR. Concrete and Soil-Cement mix design, and groundwater testing costs shall be borne by the CONTRACTOR.

All testing, except Soil-Cement testing, shall be in accordance with the applicable portions of Division I, Section 6 of the STANDARD SPECIFICATIONS. Soil-Cement testing shall be in accordance with Part H, Technical Provision 270 (TP-270).

The Record Laboratory is the testing laboratory contracted by the COUNTY. Only results of testing by the Record Laboratory shall be considered in evaluating the CONTRACTOR'S compliance with contract requirements.

The CONTRACTOR may be required to reimburse the COUNTY for the cost of all failed tests, including consultant fees, when the percentage of failed tests exceeds 15% of all tests taken. At the COUNTY'S discretion these costs may be deducted from the contract amount.

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ARTICLE 17 – DELAYS AND EXTENSION OF TIME

No changes. See PART F GENERAL CONDITIONS.

ARTICLE 18 – PAYMENT AND COMPLETION

No changes. See PART F GENERAL CONDITIONS.

ARTICLE 19 – SUSPENSION OF WORK AND TERMINATION

No changes. See PART F GENERAL CONDITIONS.

ARTICLE 20 – MAINTENANCE AND EXAMINATION OF RECORDS

No changes. See PART F GENERAL CONDITIONS.

ARTICLE 21 – MINORITY/WOMEN OWNED BUSINESS ENTERPRISE REQUIREMENTS AND SMALL BUSINESS PROVISIONS

No changes. See PART F GENERAL CONDITIONS.

ARTICLE 22 – FEDERAL REQUIREMENTS

No changes. See PART F GENERAL CONDITIONS.

ARTICLE 23 – VERBAL ORDERS

No changes. See PART F GENERAL CONDITIONS.

ARTICLE 24 – MISCELLANEOUS

GENERAL CONDITION, PART F, ARTICLE 24, MISCELLANEOUS, is appended as follows:

Whenever any provision of the Contract Documents requires giving of notice by the COUNTY, it shall be deemed to have been validly given if delivered in person to the individual, to a member of the firm or to an officer of the corporation for whom it is intended, or if sent by registered or certified mail (postage prepaid) and delivered to the last business address known to the COUNTY.

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ARTICLE 25 – CONTRACT CLAIMS

No changes. See PART F GENERAL CONDITIONS.

ARTICLE 26 – VALUE ENGINEERING

No changes. See PART F GENERAL CONDITIONS.

ARTICLE 27 – PATENTS AND ROYALTIES

No changes. See PART F GENERAL CONDITIONS.

ARTICLE 28, PROSECUTION AND PROGRESS OF WORK, is added as follows:

ARTICLE 28 - PROSECUTION AND PROGRESS OF WORK

Submission of Working Schedule: The CONTRACTOR shall provide a schedule that shows the various activities of work in sufficient detail to demonstrate a reasonable and workable plan to complete the project within the established Contract Time. The order and interdependence of activities and the sequence for accomplishing the work shall be shown. All activities shall be described in sufficient detail so that the COUNTY can readily identify the planned work and measure the progress of each activity. Each activity will be shown with a beginning work date, duration, and monetary value.

Activities for the procurement, fabrication, and/or delivery of materials, batch plants, and equipment shall be included.

Activities for the review of shop drawings and submittals shall be included.

Activities indicating coordination with utility owners that have facilities within the limits of construction requiring adjustment or relocation shall be included.

Milestone activities, when required by the Contract Documents, shall be included.

In a project with more than one phase, each phase and its completion date shall be adequately identified. Activities will not be allowed to span more than one phase.

The CONTRACTOR shall submit a narrative with the schedule, consisting of a concise written description of the construction plan.

An updated Work Progress Schedule shall be submitted monthly to the COUNTY. All changes in the planned order start or finish dates, or duration of an activity will be applied.

A revised Work Progress Schedule shall be submitted to the COUNTY for acceptance when significant changes are made to the logic or durations of the activities. The COUNTY will review the corrected schedule and respond within 7 calendar days of receipt.

The COUNTY will return inadequate schedules to the CONTRACTOR for corrections. A corrected schedule will be resubmitted within 15 calendar days from the date of the COUNTY's

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return transmittal. By acceptance of the schedule, the COUNTY does not endorse or otherwise certify the validity or accuracy of the activity durations or sequencing of activities.

The COUNTY will use the initially accepted schedule as the baseline against which to measure progress and identify critical activities that are controlling items of work.

If the CONTRACTOR fails to finalize either the initial or a revised schedule in the time specified, the COUNTY will withhold all Contract payments until the schedule is accepted.

Work Hours: Project work hours shall be between 7:00 AM and 3:30 PM Monday through Friday, exclusive of normal Orange County holidays, unless approved otherwise by the PROJECT MANAGER. The CONTRACTOR shall request approval from the PROJECT MANAGER at least 72 hours in advance for work outside those hours. Work before 7:00AM or after 3:30PM, or on days other than the above described normal work days, and requiring the presence of the COUNTY'S RESIDENT PROJECT REPRESENTATIVE shall require that the CONTRACTOR reimburse the COUNTY for the salary and overtime cost of the RESIDENT PROJECT REPRESENTATIVE. Reimbursement shall be made by the CONTRACTOR at the rate of \$44.00 per hour by check payable to the Board of County Commissioners accompanying each monthly pay request. Each pay request shall include a tabulation of the overtime dates, times, hours and costs for the preceding month. The amount of the check must agree with the tabulated total. In the event the CONTRACTOR chooses to not submit a pay request when normally due for work he has completed, the CONTRACTOR shall submit a pay request showing that no payment is due to him, and shall include the tabulation of the overtime worked during the preceding month. Payment must be made for overtime work performed to address emergencies outside the above described normal working hours, unless the RESIDENT PROJECT REPRESENTATIVE determines, at his or her sole discretion that the emergency is the result of actions by third parties.

Compliance with Time Requirements: The CONTRACTOR shall commence work in accordance with the accepted Work Progress Schedule and provide sufficient labor, materials and equipment to complete the work within the time limit(s) set forth. Should the CONTRACTOR fail to furnish sufficient and suitable equipment, forces, and materials, as necessary to prosecute the work in accordance with the accepted schedule, the COUNTY may withhold all estimates that are, or may become due, and/or suspend the work until the CONTRACTOR corrects such deficiencies.

Video Survey: The Contractor shall engage the services of a professional videographer to record on video DVD the pre-construction and post-construction conditions no less than 5 days prior to construction and no more than 10 days prior to completion of construction. The videographer shall be a commercial firm skilled and regularly engaged in the business of continuous construction video DVD documentation. No construction shall begin prior to the review and approval of the respective video DVDs by the Engineer. All video DVDs and written records shall become the property of the COUNTY.

(a) Video Criteria:

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- (1) *High quality DVD in a MPEG2 format video with a standard resolution of 720 x 480 or higher.*
 - (2) *Screen display shall show time of day, month, day and year.*
 - (3) *Record all existing surface features located within the area affected by construction (full right-of-way) featuring existing improvements and vegetation and existence of any faults, defects or fractures thereto.*
 - (4) *Each DVD shall be permanently labeled and provided with a log of the video's content indexed by Video Unit Counter Numbers with corresponding subject data (street name, direction, engineering station numbers and date).*
 - (5) *Recording shall be performed on bright sunny days using a stable continuity of coverage at a rate not exceeding five miles per hour, with camera not mounted more than 10 feet above ground.*
- (b) **Audio Criteria:**
- (1) *Single voice narrative recording corresponding and simultaneous with the video recording.*
 - (2) *Provide commentary to assist viewer orientation; street name, side, direction of travel, house addresses, engineering station numbers.*

Payment for this item will be included in other items of work.

ARTICLE 29, METHOD OF MEASUREMENT, is added as follows:

ARTICLE 29 - METHOD OF MEASUREMENT

All measurements for payment shall be based on the completed work performed in strict accordance with Contract Documents. All work completed under this contract shall be measured by the CONTRACTOR or his representatives in the presence of the PROJECT MANAGER.

THIS ENDS THE SUPPLEMENTAL CONDITIONS

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SPECIAL PROVISIONS

1. **ROADWAY IMPROVEMENTS: Not applicable**
2. **CONSTRUCTION SCHEDULE / LIQUIDATED DAMAGES:** This work requires Substantial Completion in 180 days from the date of the Delivery Order with Final Completion in 240 days. If substantial and final completion is not met by the required time, liquidated damages will be applied at the rate of \$1,000.00 per day as per the provisions in the Contract governing liquidated damages.
3. **UTILITY IMPROVEMENTS: Not applicable.**
4. **UTILITY COORDINATION:** The CONTRACTOR is to coordinate any utility improvements and / or relocations for this project. The CONTRACTOR shall not use utility delays as a basis for additional compensation. Contractor shall be responsible for all coordination with utilities and shall cooperate fully with utility companies in the relocation of their facilities.
5. **RAILROAD CROSSING: Not applicable.**
6. **RIGHT-OF-WAY / PARCEL CONSIDERATIONS:** The CONTRACTOR is notified that at the time of this bid, the COUNTY has acquired all of the right-of-way and temporary easements required to complete the project. The CONTRACTOR is not permitted to use parcels not owned by the COUNTY.
7. **MAINTENANCE OF TRAFFIC:** At the pre-construction conference the CONTRACTOR shall submit a detailed Maintenance of Traffic plan to be reviewed and approved by the Orange County Traffic Engineering Division. The Maintenance of Traffic plan shall address the maintenance of vehicular and pedestrian traffic between the limits of construction and at construction entrance locations, as well providing business signage for all business along the corridor, and must be signed and sealed by a Professional Engineer registered in the State of Florida. The cost of preparing this plan shall be included in Pay Item 102-1, Maintenance of Traffic. Any Maintenance of Traffic plans provided by the COUNTY are for reference and guidance only. CONTRACTOR shall not be entitled to any additional compensation as a result of the Maintenance of Traffic plan he/she chooses to use, whether or not he/she prepared such plan.

The Cost shall be included in pay item number 102-1, Maintenance of Traffic.

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8. **PEDESTRIAN WALKWAY:** The CONTRACTOR shall provide and maintain a safe walkway for pedestrians along the limits of the project and for the entire project duration. The cost will be included under Pay Item 102-1 Maintenance of Traffic.
9. **LANDSCAPE ESTABLISHMENT AND MAINTENANCE:** The landscape for this project includes placement of performance turf and cordgrass. Disturbed areas shall be sodded as work is completed for each work zone. The cost will be included under Pay Item for Performance Turf.
10. **LANDSCAPE AND MITIGATION RETAINAGE: Not applicable.**
11. **DEWATERING.**
 - A. **General:** The CONTRACTOR is responsible to obtain or modify, as necessary, any and all dewatering permits required by the STATE and COUNTY agencies. No special compensation will be made to the CONTRACTOR to defray the cost of dewatering; to obtain a permit to treat and discharge the contaminated ground water; to provide water quality treatment or to abide by any dewatering permits, as such costs shall be considered to have been included in the price of other items in this contract. During construction, the CONTRACTOR is responsible to take corrective action and to make necessary schedule adjustments without additional compensation, to adequately address dewatering activities, regardless of storm or rain event so that the project is not delayed and dewatering water is disposed of in accordance with the permit. The CONTRACTOR is responsible to comply with the conditions of the dewatering permit, and submit any required reports to the appropriate agencies.
 - B. **Florida Department of Environmental Protection:** The CONTRACTOR shall be responsible for compliance with the FDEP Generic Permit for the Discharge of Produced Ground Water from Any Non-Contaminated Site Activity, including its testing and monitoring requirements. The following is a link to the above permit: [http://www.dep.state.fl.us/legal/Rules/shared/62-621\(2\).doc](http://www.dep.state.fl.us/legal/Rules/shared/62-621(2).doc). If it is determined that the disposal or discharge of the dewatering effluent is not authorized by this generic permit, the CONTRACTOR shall diligently pursue further required permit(s) from FDEP or other agencies.

Prior to submitting their bid, each prospective CONTRACTOR has the opportunity to perform his/her own water sampling to determine the extent, if any, of groundwater exceedances beyond the allowable levels listed in FDEP's Generic

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Permit for the Discharge of Produced Ground Water from Any Non-Contaminated Site Activity within the PROJECT boundaries. All sampling shall be performed under COUNTY supervision, and in conformance with applicable Best Management Practices (BMP) and any and all applicable STATE and COUNTY permits. It is the intent of this paragraph to provide each prospective CONTRACTOR with an opportunity to investigate the water quality in the vicinity of the PROJECT in order to base his/her bid on means and methods of dewatering.

If, prior to or during the dewatering, it is determined that the disposal or discharge of the dewatering effluent is not authorized by the FDEP's Generic Permit for the Discharge of Produced Ground Water from Any Non-Contaminated Site Activity, the CONTRACTOR shall diligently pursue further required permit(s) from FDEP or other agencies without resort to delay claims or recompense from the COUNTY for either permit application activities or the time required to obtain such permits.

The CONTRACTOR shall be responsible for all costs for water quality monitoring, treatment, storage, and disposal of the groundwater in a manner acceptable to the COUNTY and to all applicable regulatory agencies to reduce the concentration of parameters with exceedances to acceptable levels. The CONTRACTOR will be responsible for obtaining any additional permits required by regulatory agencies to implement the CONTRACTOR's chosen method of disposal and discharge of the groundwater. No additional compensation will be made to CONTRACTOR for permitting. The CONTRACTOR shall comply with Water Quality Requirements of the Special Provisions, Special Project Consideration item 5.

The CONTRACTOR is responsible for meeting all general conditions of all FDEP permits and for submitting any required reports to the appropriate agencies. Treatment, disposal and monitoring for water quality compliance shall be paid under Pay Item 900-3. No other separate payment shall be made to the CONTRACTOR to cover any costs related to dewatering.

Because the CONTRACTOR'S means and methods of dewatering could lead to potential liability to third parties for damages resulting from the means and methods of dewatering, at the COUNTY'S discretion the means and methods for the dewatering plans are subject to a prior cursory review by the COUNTY where issues and concerns may be submitted for the CONTRACTOR'S consideration.

The CONTRACTOR shall be deemed fully responsible for the means and method of the dewatering. Should the CONTRACTOR decide to modify or revise the

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means and method for the dewatering plan, another cursory review will have to be conducted by the COUNTY. Please note that containment on site of dewatering effluent is not considered treatment and disposal for purposes of payment under the above described pay item.

CONTRACTOR is responsible to include in his bid all cost for treatment and disposal of dewatering effluent. Should it become necessary for the CONTRACTOR to treat and dispose off site of dewatering effluent Orange County will only compensate the CONTRACTOR for those activities at the unit price bid. No additional compensation will be paid to the CONTRACTOR for treatment and disposal of dewatering effluent, regardless of the actual cost incurred by the CONTRACTOR.

- C. SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SJRWMD)** The CONTRACTOR shall be responsible for compliance with all applicable requirements of Rule 40C-22.030, Florida Administrative Code (F.A.C.), for a Noticed General Permit for Short-term Construction Dewatering. If the CONTRACTOR's proposed work is expected to exceed the time duration and/or the volume limits, or does not meet any of the other requirements listed with the requirements of Rule 40C-22.030, the CONTRACTOR must apply for and obtain such other water use permit to authorize dewatering that may be required by the Water Management District, at no cost to the COUNTY.

The CONTRACTOR is responsible for all surface water flowing through the site and shall be responsible for all costs associated with such activities at no additional cost to the COUNTY. During construction, the CONTRACTOR is responsible to take corrective action and to make necessary schedule adjustments without additional compensation, to adequately address dewatering activities, regardless of storm or rain event so that the project is not delayed and dewatering water is disposed of in accordance with the Dewatering Permit.

- 14. SITE CONTAMINATION: Not Applicable.**
- 15. SEPTIC TANKS & WELLS:** The CONTRACTOR is responsible for the inspection, removal and disposal of septic tanks, drain fields and potable wells within the limits of construction. The cost will be included under Pay Item 110-1, Clearing & Grubbing.
- 16. PAY ITEMS:** The cost of all equipment, materials and labor for temporary or permanent facilities necessary to construct the improvements identified in the plans, specifications, or

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other Contact Documents shall be deemed to be included in the various items making up the Contract Price. No separate payment shall be made to the CONTRACTOR for any such equipment, materials and labor for which a separate Pay Item has not been provided. No adjustments shall be made on this contract to the bid price of any product or material, including gasoline, diesel or other fuels, and bituminous materials, including asphalt, due to fluctuations in market prices, changes in suppliers, or any other reasons.

17. **COORDINATION:** The CONTRACTOR shall be responsible to coordinate with utility owners, on-site manufacturer representatives, and any sub-contractors so as not to delay the construction project.
 18. **DRIVEWAY CONSTRUCTION:** Not Applicable.
 19. **MILLING & RESURFACING:** Not Applicable.
 20. **ENVIRONMENTAL CONCERNS:**
 - a. **THREATENED AND ENDANGERED SPECIES:** No additional compensation will be provided in the event the CONTRACTOR is required to modify his means and methods or construction schedule in order to comply with the requirements of any regulatory agency with regard to any endangered species which may be encountered within or in proximity to the project limits during construction. The CONTRACTOR may be granted non-compensable days to the extent the critical path of the project is impacted by temporary work stoppages that may be required to address the presence of endangered species as mentioned above.
 21. **ACCESS:** Access is provided through public streets and easements. Access to private property shall be by easement either perpetual or temporary as obtained by the County. The CONTRACTOR may obtain written permission to access private property from the property OWNER and provide a copy of the permission to the COUNTY. Permission granted by the property OWNER shall clearly state that the COUNTY is not liable for any damages or claims on said private property.
19. **REQUEST FOR ADDITIONAL INFORMATION (RAI):** The COUNTY will require a reasonable amount of time, at least 10 business days, to respond to any RAI submitted by the CONTRACTOR. Any delay in responding to the RAI cannot be used as a reason to reimburse for any additional compensation, including delay claims.

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20. **EARTHWORK:** The CONTRACTOR is notified that the soil survey shown in the plans is based on limited geotechnical investigation. The CONTRACTOR is to field verify and test all excavated earthwork material to determine if the soil is classified as a Select soil and suitable for embankment utilization. In the event that any excavated earthwork material is not suitable for embankment utilization, the CONTRACTOR shall replace the unsuitable material with Select soil to furnish and install the required embankment at no additional cost to the COUNTY. The CONTRACTOR shall be responsible for the disposal of the unsuitable material at a COUNTY approved site at no additional cost to the COUNTY.

The COUNTY grants access to all the bidders to the entire project limits. The bidders are responsible for obtaining approval from all the regulatory agencies that have jurisdiction for investigative work. The bidders shall be entirely responsible to ensure that all the disturbed areas are restored to as good as or better than the existing conditions. The bidders shall be responsible to comply with all permit conditions, rules and regulations including but not limited to NPDES and threatened and endangered species.

22. **ORANGE COUNTY INSPECTOR'S OFFICE: Not Applicable.**

Permits -SFWMD determined exemption.

Geotechnical

1. **DEVO Engineering**



Date: February 11, 2015

Devo's Project No: 12-122.48

To:

SINGHOFEN & ASSOCIATES, INC.

925 S. Semoran Boulevard, Suite 104

Winter Park, FL 32792

Ph: 407.679.3001; Fax: 407.679.2691; email: agh@saiengineers.com

attention: **Allyson G. HUNT, EI, CFM**

Re:

Geotechnical Engineering Services - Supplement #1

Fill Specifications and Grading Guidelines for Reconstructing the slopes to 4:1 from Top of Bank down to 2ft Below Pond Control Elevations at ...

PEPPER MILL POND EROSION CONTROL

ORANGE COUNTY, FLORIDA

2255 Ginger Mill Blvd, Orlando, FL 32837; Orange County Tax Parcel ID: 22-24-29-2982-00-001

Ginger Mill Phase 1 13/111 Tract A (Detention) (Less Ginger Mill Phase 3 18/100) & in Pepper Mill Section Eleven 28/46 Tract A (Stormwater Pond) & in Ginger Mill Phase 3 18/100 Tract C (Detention)

Dear Ms. Hunt:

Attached is our report on the above-captioned services.

We trust that this report contains the earthwork-related recommendations to repair the eroded pond slopes. Please email robin@devoeng.com with any questions regarding this report.

Sincerely

Devo Seereeram

Devo Seereeram, Ph.D., P.E.

Principal Engineer

Florida Registration No. 48303

date: February 11, 2015

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BACKGROUND INFORMATION

We were contracted by Orange County through SAI, one of their Prime Engineering consultants to investigate the most probable causes of slope failure along the perimeter of the Pepper Mill Pond. Our findings and conceptual repair recommendations were presented in our Engineering report issued on May 18, 2012, titled:

Re:

GEOTECHNICAL ENGINEERING REPORT

PEPPER MILL POND EROSION CONTROL

ORANGE COUNTY, FLORIDA

2255 Ginger Mill Blvd, Orlando, FL 32837; Orange County Tax Parcel ID: 22-24-29-2982-00-001
Ginger Mill Phase 1 13/111 Tract A (Detention) (Less Ginger Mill Phase 3 18/100) & in Pepper Mill Section Eleven 28/46 Tract A (Stormwater Pond) & in Ginger Mill Phase 3 18/100 Tract C (Detention)

The conceptual repair recommendations are also presented below for ease of reference. Following a detailed evaluation of the various retrofit recommendations by SAI, the County has taken a decision to go with regrading the slopes with the option to re-grade the slopes with a 4:1 extending from the top of bank to 2 ft below the pond control elevation which form the basis of this proposal request.

CONCEPTUAL REPAIR RECOMMENDATIONS

OPENING REMARKS

Raising of the pond control elevation or changing the angle of the side slope to a milder are not considered as part of our repair options since such alterations may require a significant re-permitting studies and re-analysis of the storm sewer. The options described below assume the stormwater management function of the pond is unchanged from its original permit.

WESTERN LOBE OF POND

Slope Protection

Shoreline slope protection is recommended for the western lobe of the pond which was originally designed and constructed at a continuous 2H:1V side slope to top of bank. Figure 1.2 shows the limits of the western lobe. The perimeter of the western lobe is approximately 1,765 lineal feet, or about 35% of the total pond perimeter.

The slope should be re-graded to the design cross-section and the elevation range +83.0 to +89.0 ft NGVD (as a minimum) should be protected using one of the following:

- Articulating Concrete Blocks (ACB), most assured method
- High Performance Turf Reinforcement Mat (HP TRM) such as Pyramat, less assured than ACB but likely adequate in this low energy wave environment and will be less expensive than ACB
- Geotextile Tube or equivalent. (www.americanshorelinerestoration.com)

Overbank Flow

In addition to the slope protection described above, SAI should review the drainage patterns at the rear of the lots with the following street addresses on Tandori Court: 2315, 2323, 2331, and 2339. Some alteration of the overland flow regime may be needed here to mitigate channelization.

NORTHERN & SOUTHERN LOBES OF POND

The slope distress in these lobes are not as severe as the western lobe. At this stage, an option is to "do nothing" along these slopes unless it poses an aesthetic concern for the county. The reconfigured scarp-like slope faces do not appear to be receding rapidly and may not be at risk of further erosion. If there is another high wind event (such as tropical storm or a hurricane), the county may consider regrading the slopes to their design section and using High Performance Turf Reinforcement Mats in the sections with scarps (i.e., the segments most susceptible to erosion).

Another important feature of this water body is that it has a fetch of over 1000 ft in the direction of the prevailing winds which is conducive to chronic wave attack especially given the 2H:1V slope of a sandy bank.

SCOPE & OBJECTIVES

SAI has requested from Devo Engineering the following geotechnical support services to include with the final designs of the slopes:

- ☑ Review of the design cross-sections which would be provided by SAI to provide grading guidelines and a typical cross-section to guide the selected contractor during the slope reconstruction.
- ☑ Review the location specific geotechnical data from the previous study to provide technical specifications for the engineered fill to be used for the slope reconstruction.

Note that Development of a suitable dewatering plan is outside the scope of this report.

RECOMMENDATIONS

Based on these soil conditions, configuration of the existing slope and normal water level in the pond, construction of the fill slope sections are critical since these wedges can easily fail by erosion or sliding along the fill interface with the existing or back-cut slopes.

The following are our recommendations for slope regrading to 4H:1V:

- ❖ The slope regrading shall be performed in the dry and the contractor shall maintain the water table at least 2 ft below the working grade which is being compacted. The contractor is solely responsible for the means and methods of dewatering which shall be submitted to the Engineer of Record for approval. A SFWMD dewatering plan shall be obtained if necessary.
- ❖ The slope must be constructed from the bottom up, starting with complete clearing and grubbing of all vegetation and roots. This earthwork operation shall be monitored on a full-time basis by a Senior Engineering Technician of the geotechnical engineer retained by the county.
- ❖ Starting at the bottom, the slope should be reconstructed using fill material which comprise inorganic, non-plastic, granular soil (sands, slightly silty fine sands) with less than 12 percent fines content. Hardpan-type (reddish brown and dark brown) sands are more desirable since their soil matrix develops some cementation after compaction to provide added shear strength.
- ❖ The minimum back cut (box cut) into the undisturbed material of the existing slope shall be 3 ft. Backfilling shall be done by placing in maximum 12 inch lifts. Compact the subgrade and fill material to a minimum of 90% Standard Proctor Density.
- ❖ If the slopes are being rebuilt in sections, then the minimum lateral cut into previously installed fill layers shall also be 3 ft for each 12 inch lift. This will ensure that the fill interface is stepped and not vertical.
- ❖ A minimum of 12-inch overbuild, measured at the bottom of each lift is recommended to ensure the top 18 inches of the slope face is compacted to the minimum of 90% Standard Proctor Density. The overbuild fill shall then be cut back to leave the designed slope face compacted as specified.
- ❖ SAI will address the permanent erosion control.
- ❖ An erosion control plan should be implemented for the construction phase of the project and shall include as a minimum a staked silt fence and hay bales at the toe of the slope.
- ❖ The shoreline works shall be protected during high wind events since wave action can impact the work in progress.