

INVITATION FOR BIDS  
FOR  
SHERRY DRIVE BRIDGE REPLACEMENT

\*\*\*\*\*  
Mail or Hand Deliver

ORIGINAL BID FORM (MARKED "ORIGINAL") & THREE (3) COMPLETE COPIES

BY 2:00 PM – September 28, 2017

To:

BOARD OF COUNTY COMMISSIONERS  
ORANGE COUNTY, FLORIDA  
INTERNAL OPERATIONS CENTRE II  
PROCUREMENT DIVISION  
400 E. SOUTH STREET- 2<sup>nd</sup> FLOOR  
ORLANDO, FLORIDA 32801

Bid Opening:

September 28, 2017 - 2:00 PM

Internal Operations Centre II  
Procurement Division Conference Room, Second Floor  
Orlando, Florida 32801

Non - Mandatory Pre-Bid Conference – September 7, 2017 2:00 P.M.  
Public Works Complex, 1st Floor Main Conference Room  
4200 South John Young Parkway, Orlando, FL 32839  
Interested bidders are encouraged to attend.

NOTICE TO BIDDERS/OFFERORS

To ensure that your bid/proposal is responsive, you are urged to request clarification or guidance on any issues involving this solicitation before submission of your response. Your point-of-contact for this solicitation is Carol Hewitt at email address: [Carol.Hewitt@ocfl.net](mailto:Carol.Hewitt@ocfl.net) or at phone: (407) 836-5598.

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ISSUED: August 28, 2017

**NOTICE  
INVITATION FOR BID NO. Y18-703-CH**

**SHERRY DRIVE BRIDGE REPLACEMENT**

Sealed bid offers (Original Bid Form and three (3) complete copies) for furnishing the above will be accepted up to **2:00 PM, September 28, 2017** in the Procurement Division; Internal Operations Centre II, 400 E. South Street; 2nd Floor, Orlando, FL 32801. Bids will be opened shortly thereafter in the Procurement Division Conference Room, 2<sup>nd</sup> Floor; Internal Operations Centre II.

Bid Documents are available in the following formats:

1. Complete bid documents may be obtained from the Procurement Division, Internal Operations Centre II, 400 E. South Street, 2<sup>nd</sup> floor, Orlando, FL 32801. Phone (407) 836-5635 and Fax (407) 836-5899. The documents are available for a cost of **\$50.00** non-refundable.
2. A printed copy of the **basic solicitation documents and one CD containing the roadway construction plans, and one CD containing the utilities construction plans and utilities specifications** are available for a cost of **\$10** per CD non-refundable.
3. Complete bid documents **including roadway construction plans, utilities construction plans and utilities specifications** are now available for downloading from the internet at **orangecountyfl.net**.

**A Non-Mandatory Pre-Bid Conference will be held on September 7, 2017, 2:00 P.M., Public Works Complex, 1st Floor Main Conference Room, 4200 South John Young Parkway, Orlando, FL 32839.** Interested bidders are encouraged to attend.

**SCOPE OF WORK:** The project will consist of constructing a 24 foot wide roadway along the east side of the Little Wekiva River (Canal LW-9) from Kelvington Drive to Sherry Drive, removal of the existing bridge at Sherry Drive, and constructing a T-shaped cul-de-sac on the west side of the Little Wekiva River on Sherry Drive. Portions of Sherry Drive will also be milled and resurfaced. A five-foot sidewalk will also be constructed along the west side of the proposed roadway and on the north side of Sherry Drive. Additionally, a concrete revetment block system will be installed in the canal from just north of Kelvington Drive to approximately 130' north of Sherry Drive.

The utilities portion of the project entails the construction of approximately 328 linear feet of 8" D.I. water main that will connect to existing mains on Kelvington Drive and Sherry Drive.

**PROJECT LOCATION:** Sherry Drive Bridge along the east side of Little Wekiva River (Canal LW-9) from Kelvington Drive to Sherry Drive, Orange County, Florida.

Carrie Woodell, MPA, CFCM, CPPO, C.P.M., CPPB, APP  
Manager, Procurement Division

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## PART C - INSTRUCTIONS TO BIDDERS

### 1. GENERAL:

The term County used herein refers to the Board of County Commissioners, Orange County, Florida, or its duly authorized representative. The term Bidder used herein refers to the manufacturer, dealer or business organization submitting a bid to the County in response to this Invitation for Bid.

### 2. PREPARATION AND SUBMISSION OF BIDS:

- a. Form of Proposal: Each Bidder shall submit the bid in four parts (original Bid Form, marked original, with attachments and three (3) copies of the Bid Form and all attachments) and indicate the base bid price and any alternative(s) that may be included in the proper space(s).

The estimated total base bid is the sum of all pay item totals and the County reserves the right to correct errors in pay item totals arising from incorrect extensions. See "Bid Errors", Item 5.

- b. All bids, proposals or quotations, unless otherwise specified, must be delivered in a sealed envelope, either mailed or hand carried, to the Procurement Division, Orange County Internal Operations Centre II, 400 E. South Street, 2<sup>nd</sup> Floor, Orlando, Florida 32801, prior to the bid opening time as specified in Part B. Bids received after the date and time specified will be returned unopened. The time/date stamp clock located in the Procurement Division shall serve as the official authority to determine lateness of any bids.

Respondents are cautioned that they are responsible for delivery to the specific location cited above. Therefore, if your bid, proposal or quotation is delivered by an express mail carrier or by any other means, it is your responsibility to ensure delivery to the above address. This office will not be responsible for deliveries made to any place other than the specified address.

The delivery of said bid to the Procurement Division prior to the time and date stated in Part A is solely and strictly the responsibility of the Bidder. The County shall not be responsible for delays in delivery to the Procurement Division caused by the United States Postal Service or courier service, delivery to any other County Office or delays caused by any other occurrence. The bid delivery time will be scrupulously observed. Under no circumstances will bid proposals delivered after the delivery time specified be considered.

**The decision to refuse to consider a bid or proposal that was received beyond the date/time established in the solicitation shall not be the basis for a protest pursuant to the Orange County Code (Procurement Ordinance).**

Bidders should indicate on the sealed envelope the following:

1. Invitation for Bid Number
  2. Hour and Date of Opening
  3. Name of Bidder
  4. Return Address of the Bidder
- c. Bids will be publicly opened in the Procurement Division Conference Room, 2<sup>nd</sup> Floor of the Orange County Internal Operations Centre II, 400 E. South Street; Orlando, Florida.
- d. All bid proposals must be manually and duly signed by an authorized corporate officer, principal, or partner (as applicable) with his signature in full. When a firm is a Bidder, the bid proposals shall be signed in the name of the firm by one or more of the partners. When a corporation is a Bidder, the officer signing shall set out the corporate name in full beneath which he shall sign his name, give title of his office and affix the corporate seal. Anyone signing the bid proposal as agent must file with it legal evidence of his authority to do so. Bidders who are nonresident corporations shall furnish to the County a duly certified copy of their permit to transact business in the State of Florida along with the Bid Proposal. Failure to promptly submit this evidence or qualification to do business in the State of Florida may be basis for rejection of the Bid Proposal.
- e. The Bidder is solely responsible for reading and completely understanding the requirements and the specifications of the solicitation.
- f. Bid proposals may be withdrawn by written or telecopied requests dispatched by the Bidder and received by the Manager of the County Procurement Division before the time for receiving bids has expired. Negligence on the part of the Bidder in preparing a bid proposal is not grounds for withdrawal or modification of a bid proposal after such bid proposal has been opened by the County. A Bidder may not withdraw or modify a bid proposal after the appointed bid proposal opening and such bid proposal must be in force for **ninety (90)** days after the bid opening. Bidders may not assign or otherwise transfer their bid proposals.
- g. At the time and place fixed for the opening of bid proposals (see above), every bid proposal properly delivered within the time fixed for receiving bid proposals will be opened and publicly read aloud, irrespective of any irregularities found therein. Bidders and other persons interested may be present, in person or by representative.
- h. A Bid, Payment and Performance Bond are a requirement of the IFB when the bid/contract amount exceeds \$100,000.

Submission of an original Bid Bond (copy not acceptable) completed and signed by all required parties and submitted on the form provided in Exhibit 1 to the Bid Proposal (Part D), or in the alternative, a Certified Check, or a Cashier's Check shall be required to accompany each bid proposal in a stated dollar amount of not less than ten (10%) percent of the sum of the computed total amount of the Bidder's Base Bid proposal. Submittal of a Bid Bond less than 10% of the bid sum shall result in rejection of the bid. **Failure to submit the Bid Bond on the form provided in Exhibit 1 to the Bid Proposal (Part D) shall result in rejection of the bid.**

In order to be acceptable to the County, the Surety company issuing the Bid Bond as called for in this Invitation for Bids, shall meet and comply with the minimum standards described in Part C, Section 19, "Qualifications of Surety Companies". **Failure to submit a Bid Bond from a Surety Company meeting these minimum standards shall result in rejection of the bid.**

Certified checks or cashier's checks shall be drawn on a solvent bank or trust company to the order of the Board of County Commissioners, Orange County, Florida and shall have all necessary documentary revenue stamps attached, if required by law. Personal checks are not acceptable to the County. See Section 19, "Qualifications of Surety Companies" for additional requirement.

- i. A pre-Bid conference will be held at the time and location shown in the Notice, Part B of this Bid package.
- j. No oral interpretation of the meaning of the plans, specifications, or other Contract documents shall be considered binding. Every request for interpretation shall be in writing addressed to **Carol Hewitt, Email Address: Carol.Hewitt@ocfl.net**. To be given consideration, such requests must be received Ten (10) days prior to bid opening.

Any and all such interpretations and any supplemental instructions will be in the form of a written addendum which, if issued, will be available for downloading from the Internet at orangecountyfl.net. All addenda so issued shall become part of the Contract Documents and receipt shall be acknowledged on the Bid Form, Part D or by completion of the applicable information on the addendum and returning it not later than the date and time for receipt of the bid.

- k. Before submitting bid proposals, Bidders must carefully examine the site of the proposed work and make all necessary investigations to inform themselves thoroughly as to all difficulties involved in the completion of all work required pursuant to the mandates and requirements of this bid package.



No plea of ignorance of conditions or difficulties that may hereafter exist, or of conditions or difficulties that may be encountered in the execution of the work pursuant to this bid package as a result of failure to make the necessary examinations and investigations will be accepted as an excuse for any failure or omission on the part of the successful Bidder (Contractor) to fulfill, in every detail, all of the requirements of the Contract Documents, nor will they be accepted as a basis for any claims whatsoever for extra compensation or for an extension of time.

**3. MINORITY/WOMEN OWNED BUSINESS ENTERPRISES:**

- a. To provide for the participation of certified minority and women owned businesses (M/WBE's) in the County's procurement of construction services, Bidders submitting bids to the County are urged to comply with M/WBE subcontracting goals established by the County Minority/Women Business Enterprise Ordinance, No. 94-02 and amended by Ordinance No.2009-21. The overall goal for all bids (inclusive of all additive and deductive alternates) is 25% participation for M/WBE subcontractors and suppliers. Upon Contract award the Contractor must meet the M/WBE expenditure required by the Contract. Each M/WBE utilized to meet the project goal must be listed as a subcontractor on Attachment C-2. If there are any pre-qualifications required by the firm, then this must be provided to the M/WBE when they are solicited for interest in the bid. This required information must be completed prior to bid submittal.

The Ordinance also addresses minority/women group employment levels setting goals to encourage each Bidder to maintain 18% minority and 6% women employees.

**Note:** Only 50% of material/supply dollars purchased from M/WBE distributors is applied toward the goals for minority and women business enterprise participation on construction projects. Contractor shall list **the total amount of material/supply dollars** to be purchased from each M/WBE distributor on the Subcontractor/Supplier Page (Attachment C-2). **The County will calculate the actual dollars applied toward the goals.**

**b. NOTICE: Goals for bids under \$100,000**

There are M/WBE goals for all bids including bids for IFB estimated to be less than \$100,000 (inclusive of all additive and deductive alternates).

**c. M/WBE Bidders competing as primes**

If an M/WBE firm bidding as a prime certifies with his/her bid that it will self-perform 51% percent or more of the project, as evidenced by Attachment C-2, then that firm will not be required to comply with the M/WBE subcontracting goals.

**Failure to include the percentage of work and the scope of work to be self-performed, and the dollar amount for the work an M/WBE Bidder competing as a prime intends to self-perform will result in the M/WBE Bidder receiving zero M/WBE participation for the bid.**

However, if the M/WBE Bidder will not be self-performing at least 51% percent of the project, then he/she must comply with the M/WBE participation goal, and good faith effort documentation required from non-M/WBE Bidders to receive M/WBE compliance consideration.

d. **Subcontracts/Purchase Orders**

The successful Bidder shall provide a copy of all fully executed subcontracts and/or purchase orders issued to M/WBE's listed on Attachment C-2 to the Business Development Division Liaison. Submittal of these subcontracts/purchase orders is a condition precedent to execution of the prime Contract by the County.

The Contractor **must** include in the subcontract agreement:

- 1.) Prompt Payment Clause **in all subcontracts and purchase orders** to the M/WBE subcontractor
- 2.) Payment schedule in all subcontracts and purchase orders (including those with non-M/WBE's) stating that payment will be made to the Subcontractor/suppliers within 72 hours of receipt of payment from the County
- 3.) The following statement: "It is the M/WBE responsibility to submit the required Monthly M/WBE utilization reports to the prime and Final M/WBE payment verification form to Business Development Division."

The M/WBE's failure to submit the required documents could negatively impact their M/WBE certification.

The County may, at its discretion, require copies of subcontracts/purchase orders for the non-M/WBE's listed on Attachment C-2. However, if this option is not exercised, the awarded Contractor **must** provide a list of all non-M/WBE Subcontractors and suppliers certifying that a prompt payment clause has been included in that Contract or purchase order.

e. **Good Faith Effort Documentation Requirements -**

If the established goals (reference paragraph 3.a above) are not achieved, to maximize consideration for MWBE participation, Bidders **must** provide with the bid sufficient documentation to substantiate that **ALL FIVE** of the mandatory efforts listed below were undertaken. Bidders meeting or exceeding the goals need not provide good faith effort documentation. Refer to paragraph f for the sliding scale for enforcement of the good faith effort document.

- i. If a bidder desires to meet the good faith effort documentation requirements he/she must provide written notice to certified M/WBEs, **as it relates to the scopes of services in the bid documents**, that the Bidder intends to subcontract. The notice shall be by e-mail or fax, no fewer than seven (7) calendar days prior to bid or proposal opening. All e-mails and faxes shall include the legal name of the M/WBE firm. The notice **shall** advise the M/WBE's:
  - a. that their interest in the contract is being solicited;
  - b. of the specific work the Bidder intends to subcontract
  - c. how to obtain information about and review the contract plans and specifications;
  - d. about information on bonding, insurance and other pertinent requirements;

**All requirements as it relates to the bonding, insurance and pre-qualifications must be given to the M/WBE's at the time the notice is provided. This information must be received and decisions to utilize the M/WBE must be known and denoted on Attachment C-2 prior to the bid submittal.**

  - e. the deadline for bid or proposal submissions to the Bidder and the bid due date to the County;
  - f. 24 hours notice of any addenda.
- ii. If M/WBE goals were not achieved the bidder shall provide an explanation as to why the scope of services listed in the bid documents were not subcontracted on Attachment C-2.
- iii. Bidders shall follow up initial submittals of interest by contacting M/WBEs and documenting using a contact log, which shall include the firm's name address, contact information (e-mail, telephone and/or fax numbers), scope of work requested, the date, name of person making the effort, denote if M/WBEs will bid, time quote received and notes denoting if plans and specifications were sent. Each bidder shall use the standardized contact log, Attachment C-4.
- iv. In instances where a non-minority/non-woman contractor is listed for work for which M/WBE availability exists, the Bidder shall submit **ALL** quotations received from M/WBEs **AND** the listed non-M/WBE **within twenty-four (24) hours, if it is determined that the bidder is one of the three (3) apparent low Bidders**. The Bidder shall provide an explanation as to why the M/WBE's quotations were not accepted.

Receipt of a lower quotation from a non-M/WBE prior to bid opening will not in itself excuse a Bidder's failure to meet M/WBE participation goals. However, a Bidder's good faith effort obligation does not require a Bidder to accept a quotation from a M/WBE which is an unreasonable price. For the purpose of this subsection, "unreasonable price" means a price above (or below) competitive levels which cannot be attributed to the M/WBE's attempt to cover costs inflated by the present effect of discrimination.

- v. Bidder shall contact the Business Development Division Liaison for guidance and assistance as a resource to obtain M/WBE's available to be utilized for participation.

If the Bidder fails to meet one of the first four good faith effort requirements listed above (i – iv), the substitution will only count towards one good faith effort requirement and all other good faith requirements must be met. The substitution is from the following:

- (1) The National Entrepreneur Center (NEC) was used to host a workshop that informed M/WBE firms how to better prepare for sub-contracting opportunities;
- (2) The Bidder has participated in Orange County Business Development Division's sponsored "How to do Business" workshop;
- (3) The Bidder has sponsored a match-maker event with certified M/WBE firms. Enclose a copy of the certificate provided to your firm when the service was successfully completed.

If, after Contract award, Prime Contractors who have not achieved the M/WBE participation goals choose to subcontract work indicated as being self-performed without prior written approval of the Business Development Division (reference Part F, Article 21, paragraph D), the matter will be reported to the Procurement Division with an appropriate responsibility recommendation for consideration in the event the contractor competes for future County contracts.

f. **Sliding scale for enforcement of good faith effort requirements**

If the established goals are not achieved by the low Bidder and it has been determined that the good faith efforts required for compliance have not been documented by the low Bidder, then the bid shall be rejected as non-responsive, but only if the next lowest responsive bid does not exceed the low bid by more than:

- i. Eight (8) percent on contract awards up to one hundred thousand dollars (\$100,000.00);or
- ii. Seven (7) percent on contract awards from \$100,000.00 to \$500,000.00;  
or

- iii. Six (6) percent on contract awards from five hundred thousand dollars and one cent (\$500,000.01) to seven hundred fifty thousand dollars (\$750,000.01); or
- iv. Five (5) percent on contract awards from seven hundred fifty thousand dollars and one cent (\$750,000.01) to two million dollars (\$2,000,000.00); or
- v. Four (4) percent on contract awards from two million dollars and one cent (\$2,000,000.01) to five million dollars (\$5,000,000.00); or
- vi. Three (3) percent on contract awards over five million dollars and one cent (\$5,000,000.01)

However, if the next low bid is responsive only because of the Bidder having made good faith effort (not because of having met the goals), the Board may approve award of the Contract to the next low Bidder only if the value of its M/WBE participation is equal to or greater than that of the low Bidder.

- g. Letters of Intent **must** match **exactly the information provided on** Attachment C-2 of the Bid Forms and **must** be executed by the apparent low Bidder for all M/WBE Subcontractors and/or suppliers listed. The letter(s) of intent **must** be submitted to the Business Development Division office before 5:00 P.M. on the second business day after bid opening. In the event the lowest bidder is not the recommended bidder, then letters of intent must be obtained from the recommended bidder two business days after being contacted.
- h. Bidders shall not reject an M/WBE as unqualified without sound reasons based on a thorough and documented investigation of that M/WBE's capabilities.
- i. Bidder's efforts will be evaluated considering the ability of other Bidders to meet the requirements relating to the use of M/WBE subcontractors.
- j. Bidders should make whatever additional efforts are necessary to achieve the goals and it is recommended that these efforts be documented. However, this documentation shall not replace the required documentation if the goals are not met. Bidders are encouraged to contact the Business Development Division for guidance and assistance. Additional efforts by Bidders may include but are not limited to the following:
  - i. Bidders should provide interested M/WBE's with assistance in reviewing the Contract plans and specifications.
  - ii Bidders should assist interested M/WBE's in obtaining required lines of credit, insurance or bonding.

- iii. Bidders should solicit only types of work that match the capabilities of the M/WBE's and for which they are certified.
- k. All participating M/WBE's must be certified by Orange County. The Business Development M/WBE Directory is available by e-mail or through the Orange County web site at [Orangecountyfl.net](http://Orangecountyfl.net).

**Only firms having established offices in the Orlando MSA (Orange, Lake, Seminole and Osceola Counties) are eligible for Orange County certification. All firms must be certified prior to bid opening and must be certified in the area(s) for which they will be used.** If a firm claims to be certified, but is not listed in the Directory, Contractor should obtain a copy of their Certificate and/or contact the Business Development Division Liaison for verification of certification.

- 1. The County has established a credit program whereby Contractors are awarded credits to be applied toward meeting the M/WBE goals on certain County bids. Emphasis will be placed on credits for Non-County Utilization and First-Time M/WBE Utilization:

**1. Non-County Utilization Credit (Credit issued for the actual contract dollars)**

This credit may be earned for the use of Orange County certified M/WBE's on private sector projects not involving governmental funding, and government projects that do not have mandated M/WBE goals.

**2. First-Time M/WBE Utilization Credit (Credit issued for the actual contract dollar)**

This credit may be earned by contractors/consultants who joint venture with an Orange County certified M/WBE for the first time or include and utilize a M/WBE for the first time in a bid/proposal.

You will need to obtain approval for these credits from the Business Development Manager. This process will take at least 30 days to complete. Begin by submitting a letter indicating the specific M/WBE credit (Non-County Utilization Credit or First Time M/WBE Utilization Credit) for consideration.

Also, include for the Non-County Utilization Credit program details to support documentation such as contracts from project after January 2002 through current year, proof of payment.

Upon receipt of this written request, our office will begin contacting the M/WBE firms to verify the M/WBE utilization information on provided. If the information is verified, then a certificate of credit will be provided. The credits are good for two years, then expire without renewal.

The firm must specify on form C-2 when a credit is to be used. Credits may be used to offset a maximum of 20% of the overall M/WBE goals (For example, if the bid is for \$500,000, the stipulated M/WBE goal for this project will be 25%, or \$125,000.

20% of the stipulated goal is \$25,000 in credits that may be used. The remaining \$100,000 (to meet the stipulated goal) must be obtained through regular M/WBE participation.

Credits are tracked for each firm by the Business Development Division.

- m. The County has a graduate program. Under this program, utilization of M/WBE firms designated as graduates shall count toward meeting M/WBE participation goals only on specified projects. All construction solicitations for which the County has determined the overall contract amount to be awarded to the prime in excess of \$10,000,000 for vertical construction, \$7,000,000 for horizontal construction and \$7,000,000 for all other construction are eligible for graduate M/WBE participation.

Vertical construction is any construction of a structure or building which requires a general or building contractor's license. Horizontal construction includes but is not limited to roadwork, site work, drainage or utilities work. Other construction is any construction other than what is defined as vertical or horizontal construction.

The Bidder's total base bid, which is used by the Procurement Division as the basis for determining Contract award value, will be used to determine if graduated M/WBE firms are eligible to participate. If the contract has option provisions, the total base Bid is the total of the Basic Contract Year plus all Option Years. Prime contractors will receive full M/WBE credit for the use of graduated M/WBE's that meet all other requirements.

It is the Bidder's responsibility to ensure that graduate M/WBE's are not listed in proposals to meet M/WBE participation requirements on projects in which they are not eligible to participate.

Intentional failure to attempt compliance and/or intentional failure to comply with the M/WBE subcontract goals pursuant to the Minority/Women Business Enterprise Ordinance, may result in the County invoking penalties under that ordinance and/or a finding by the County that a Bidder is "non-responsible", thus resulting in that bid being rejected and the Bidder facing possible suspension or debarment from future County IFB's.

#### **4. BID PREFERENCE FOR REGISTERED SERVICE-DISABLED VETERANS (SDV)**

The Orange County Registered Service-Disabled Veteran Business Program Ordinance sets vendor preferences for registered service-disabled veteran business enterprises registered with Orange County Business Development Division.

As part of this program, Contractors are required to complete the Attachment C-2 listing **ALL** subcontractors (majority, women and minority, and registered service-disabled veteran) their firm will utilize in fulfillment of the requirements of this solicitation.

Also, in accordance with the County SDV Ordinance, preferences for registered service-disabled veteran business enterprises shall be applied on bid awards (sealed bids). The following bid preference scale shall apply to bids submitted by Prime registered service-disabled veteran business enterprises as long as the bid does not exceed the low bid by more than 8% on bid awards up to \$100,000 ; 7% on bid awards from \$100,000.01 to \$500,000; 6% on bid awards from \$500,00.01 to \$750,000; 5% on bid awards from \$750,000.01 to \$2,000,000; 4% on contract awards from \$2,000,000.01 to \$5,000,000.00 and 3% on bid awards over \$5,000,000.01.

Prime registered service-disabled veteran business enterprises may be awarded or recommended for award of contracts when their bids are within the above allowed percentage in comparison to the low responsive and responsible bid(s).

If a prime registered service-disabled veteran business enterprise, entitled to the vendor preference under this section, and one (1) or more other businesses also entitled to this preference, or another vendor preference provided by the Orange County Code, submit bids, proposals, or replies for procurement of commodities or contractual services which are otherwise equal with respect to all relevant considerations, including price, quality, and service, then the Procurement Division Manager shall award the procurement or contract to the business having the smallest net worth.

**5. BID ERRORS:**

Where bid forms have erasures or corrections, each erasure or correction must be initialed in ink by the Bidder. In case of unit price bid items, if an error is committed in the extension of an item, the unit price as shown in the Official Bid Form will govern. Errors between any sum, computed by the Bidder, and the correct sum thereof will be resolved in favor of the correct sum. Any discrepancy between words and numbers will be resolved in favor of the written words.

**6. DEVIATIONS:**

Bidders are hereby advised that Orange County will only consider bid Proposals that meet the specifications and other requirements imposed upon them by this bid package. In instances where a deviation is stated in the bid form, said bid will be subject to rejection by the County in recognition of the fact that said bid Proposal does not meet the exact requirements imposed upon the Bidder by the Contract Documents.

**7. SUBSTITUTE MATERIAL AND EQUIPMENT:**

The Contract, if awarded, will be on the basis of material and equipment described in the Drawings or specified in the Specifications without consideration of possible substitute or "or-equal" items. Whenever materials or equipment or patented processes are specified or described in the Contract Documents by naming a trade name, manufacturer, supplier or proprietary item or catalog number, the naming of the item is intended to establish the type, function and quality required and to establish a basis for bidding.



Substitute materials or equipment may be considered after a Contract for the Work is executed if sufficient information is supplied by Contractor to allow Project Manager to evaluate the proposed substitution, unless the naming of the item is followed by words indicating that no substitution is permitted. The procedure for submittal of any such application by Contractor and consideration by Project Manager is set forth in the General Conditions.

In the event that substitute materials or equipment are used and are less costly than the originally specified material or equipment, then the difference in cost of the item shall benefit the County and Contractor in equal proportions.

Applications for substitute materials and equipment shall only be evaluated after the Contract is executed. The Base Bid and Alternates shall reflect the costs for the materials and equipment named or specified only.

**8. REQUESTED INFORMATION AND DESCRIPTIVE LITERATURE:**

Bidders must furnish all requested information in the spaces provided on the bid form or attachments thereto. Additionally, where required pursuant to the provisions of this bid package, Bidders must submit with their bid proposal cuts, sketches, descriptive literature and/or complete specifications relative to the items proposed and offered.

**9. AWARD OF CONTRACT/REJECTION OF BIDS:**

The Board of County Commissioners will award a Contract to the low, responsive and responsible Bidder, price and other factors considered. The County will award one Contract for this requirement. The Board of County Commissioners, in its sole discretion, reserves the right to reject any and all bids and to waive any informality concerning bid proposals whenever such rejection or waiver is in the best interest of the County. The ability of a Bidder to obtain a performance bond and a payment bond shall not be regarded as the sole test of such Bidder's competency or responsibility. Nothing contained herein shall place a duty upon the County to reject bids or award a Contract based upon anything other than its sole discretion as described herein.

When more than one method of work is prescribed in the solicitation with separate pricing allowed for each method, the County will select the method determined to be in its best interests, price and other factors considered.

Determination of the low Bidder when additive or deductive bid items are involved shall be as follows:

**A. ADDITIVE/DEDUCTIVE BID ITEMS:**

1. If it is deemed to be in the best interest of the County to accept the additive or deductive items, award will be made to the Bidder that offers the lowest aggregate amount for the base bid, plus or minus (in the order listed on the bid form), those additive or deductive bid items that provide the most features of the work.

2. All bids will be evaluated on the basis of the same additive or deductive bid items.
3. Failure of the Bidder to provide pricing for all unit priced items and/or the Base Bid and ALL requested additive/deductive bid items, or alternate bids shall be cause for rejection of the bid as non-responsive.

**B. RECIPROCAL LOCAL PREFERENCE:**

In the event the lowest responsive and responsible bid submitted in response to any Invitation for Bids is by a bidder whose principal place of business is in a county other than Orange County, and such county grants a bid preference for purchases to a bidder whose principal place of business is in such county, then Orange County may award a preference to the (next) lowest responsive and responsible bidder having a principal place of business within Orange County, Florida. Such preference will be equal to the preference granted by the county in which the lowest responsive and responsible bidder has its principal place of business **except as provided below.**

1. **Effective July 1, 2015 the reciprocal local preference will not apply to construction services in which 50 percent or more of the cost will be paid from state-appropriated funds which have been appropriated at the time of the competitive solicitation.**
2. **If the solicitation involves a federally funded project where the funding source requirements prohibit the use of state and/or local preferences, the reciprocal local preference will not be applied.**

**10. POSTING OF RECOMMENDED AWARD AND PROTESTS:**

The recommended award will be posted for review by interested parties at the Procurement Division and at <http://apps.ocfl.net/OrangeBids/AwardsRec/default.asp> prior to submission through the appropriate approval process and will remain posted for a period of five full business days.

Failure to file a protest to the Procurement Division Manager by 5:00 PM on the fifth full business day after the posting date shall constitute a waiver of bid/proposal protest proceedings. Additional information relative to protests can be found at: <http://www.orangecountyfl.net/VendorServices/VendorProtestProcedures.aspx>

A lobbying blackout period shall commence upon issuance of the solicitation until the Board selects the successful Bidder. For procurements that do not require Board approval, the blackout period commences upon solicitation issuance and concludes upon Contract award. Additional information relative to lobbying can be found at: <http://www.orangecountyfl.net/OpenGovernment/LobbingAtOrangeCounty.aspx>

The Board of County Commissioners may void any Contract where the County Mayor, one or more County Commissioners, or a County staff person has been lobbied in violation of the blackout period restrictions of Ordinance No. 2002-15.

**11. CONTRACT DOCUMENTS:**

The Contract Documents shall include the documents stated in the Contract (Titles, Subtitles, Headings, Running Headlines, Table of Contents and Indexes are used merely for convenience purposes).

**12. MODIFICATION/ALTERATION OF SOLICITATION AND OR CONTRACT DOCUMENTS**

Modification or alteration of the documents contained in this solicitation or the contract resulting from this solicitation shall only be made upon receipt of prior written consent of the County.

**13 LAWS AND REGULATIONS:**

The Bidder's attention is directed to the fact that all applicable Federal and State laws, municipal and County ordinances, and the rules and regulations of all authorities having jurisdiction over any part of the project shall apply to the solicitation and Contract throughout, and they will be deemed to be included in the solicitation/Contract the same as though herein written.

**14. REQUIRED DISCLOSURE:**

Bidder shall disclose all material facts with its bid submission pertaining to any felony conviction or any pending felony charges in the last three (3) years anywhere in the United States against (i) Bidder, (ii) any business entity related to or affiliated with Bidder, or (iii) any present or former executive employee, officer, director, stockholder, partner or owner of Bidder or of any such related or affiliated entity. This disclosure shall not apply to any person or entity who is a stockholder, owning less than 20% of the outstanding shares of a Bidder whose stock is publicly owned and traded.

The Bidder shall also disclose any civil conviction or pending civil litigation involving Contract performance during the last three (3) years anywhere in the United States against the Bidder, or against any business controlled by or affiliated with Bidder.

The Board of County Commissioners may reject, at its sole discretion, any Bidder the Commission finds to lack, or whose present or former executive employees, officers, directors, stockholders, partners or owners are found by the Commission to lack honesty, integrity, or moral responsibility. The Commission's finding may be based on the disclosure required herein, the County's own investigation, public records, or any other reliable source of information. The Commission may also reject any Bidder failing to make the disclosure required herein. By submitting a bid, Bidder recognizes and accepts that the Board of County Commissioners may reject any bid at its sole discretion and the Bidder waives any claim it might have for damages or other relief arising from the rejection of its bid or resulting directly or indirectly from the rejection of its bid based on these grounds or from the disclosure of any pertinent information relating to the reasons for rejection of its bid.

**15. EXECUTION OF WRITTEN CONTRACT:**

The successful Bidder will be required to sign a written Contract which has been made a part of this bid package and identified as the Contract. Said written Contract will evidence in written form the agreement between the parties pursuant to the award having been theretofore made by the County to this Bidder; said signing to be accomplished within ten (10) days after receipt of Notice of Award.

The County will issue an "Official Notice to Proceed" on the project within ninety (90) days after contract award. In the event the Official Notice to Proceed has not been issued by the County within the 90-day period above, the Contractor shall have the option to rescind the Contract or continue with the Contract as originally bid.

**16. LICENSING REQUIREMENTS:**

The following licensing requirements shall apply when the applicable Florida statute mandates specific licensing for Contractors engaged in the type of work covered by this solicitation.

- a. State of Florida, Department of Professional Regulation, Construction Industries Licensing Board and licensed by other federal, state, regional, county or municipal agencies having jurisdiction over the specified construction work.
- b. Said licenses **shall** be in the Bidder's name as it appears on the Official Bid Form. Bidder shall supply appropriate license numbers, with expiration dates, as part of their bid. Failure to hold and provide proof of proper licensing, certification and registration **shall** be grounds for rejection of the bid.
- c. Bidder shall provide copies of all applicable licenses with their Bid Proposal.
- d. Subcontractors contracted by the Prime Contractor shall be licensed in their respective fields to obtain construction permits from the County. Said license must be in the name of the subcontractor listed on Attachment C, Subcontractor/Supplier Page, herein.

**17. SECURITY FORFEITURE:**

When bid security has been required (Part C, Section 2, Paragraph h.): If, within ten (10) days after issuance of Notice of Award of a Contract, the successful Bidder refuses or otherwise neglects to execute the required written Contract and fails to furnish the required Performance Bond and Payment Bond, the amount of the Bidder's bid security (Cashier's Check or Bid Bond) shall be forfeited and the same shall be retained by the County. No plea of mistake in the bid or misunderstanding of the conditions of forfeiture shall be available to the Bidder for the recovery of his bid security or as a defense to any action.

**18. PERFORMANCE BONDS AND PAYMENT BONDS:**

When the contract amount exceeds \$100,000 a Payment Bond and a Performance Bond issued in a sum equal to one hundred (100%) percent of the total awarded Contract amount by a Surety company considered satisfactory by the County according to the criteria in Section 19 will be required from the successful Bidder for purposes of protecting the County from lawsuits for non-payment of debts as might be incurred during the successful Bidder's performance under such Contract, and insuring the faithful performance of the obligations imposed by the resulting Contract.

The Payment Bond and the Performance Bond forms are included in the Contract Documents and said forms must be properly executed by the Surety Company and successful Bidder within ten (10) days after receipt of notification from the County of its award of the Contract.

**The Contractor shall record the payment and performance bonds in Orange County public records as required by Florida Statutes, Chapter 255.05. Before commencing the work the Contractor shall provide to the Manager of the Procurement Division a certified copy of the recorded bonds. No payment will be made to the contractor until the contractor has provided a copy of the recorded bonds.**

**19. QUALIFICATIONS OF SURETY COMPANIES:**

In order to be **ACCEPTABLE** to the County, the Surety company issuing **the Bid Bond, the Performance Bond and the Payment Bond**, as called for in this Invitation for Bids, shall meet and comply with the following minimum standards:

- a. Surety must be admitted to do business in the State of Florida and shall comply with the provisions of Florida Statute 255.05.
- b. Surety must be listed on the U.S. Department of Treasury Fiscal Service, Bureau of Government Financial Operations, Federal Register, Part V, latest revision, entitled: "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies".
- c. All bonds shall be originals and issued or countersigned by a producing agent with satisfactory evidence of the authority of the person or persons executing such bond shall be submitted with the bond. Attorneys-in-fact who sign bonds or other Surety instruments must attach with each bond or Surety instrument a signed, certified and effectively dated copy of their power of attorney. Agents of Surety companies must list their name, address and telephone number on all bonds.
- d. The life of the bonds shall extend twelve (12) months beyond the date of Final Completion and shall contain a waiver of alteration to the terms of the Contract, extensions of time and/or forbearance on the part of the County.

- e. **Surety must have financial standing having a rating from A.M. Best Company (or other equivalent rating company) equal to or better than A- Class VI.**
- f. Should the Bid, Payment and Performance Bonds be issued by co-sureties, each surety listed on the bond shall meet the requirements in paragraphs a. – e. above. In addition, each surety shall submit a power of attorney and all signatures of the co-sureties representatives shall be notarized. The “lead” surety shall be identified for the purposes of underwriting and claims management.

**FAILURE TO MEET ANY OF THE REQUIREMENTS CONTAINED ABOVE SHALL RESULT IN REJECTION OF THE BID.**

**20. TRENCH SAFETY ACT:**

Pursuant to Chapter 90-96 (CS/SB 2626), Laws of Florida, "Trench Safety Act", any person submitting a bid/proposal is required to complete the form entitled: COMPLIANCE WITH FLORIDA TRENCH SAFETY ACT (90-96, LAWS OF FLORIDA), if applicable, and return the form with the Official Bid Form, (Part D, Attachment D). This is not a pay item. The purpose of this form is to gather information on the costs associated with trench safety measures and to insure that the bidder has considered these costs and included them in the Base Bid. Failure to complete this form may result in the Bid being declared non-responsive.

**21. DRUG-FREE WORKPLACE FORM:**

The Drug-Free Workplace Form is attached in Part E and shall be completed and submitted with your bid.

**22. BID TABULATION AND RECOMMENDED AWARD:**

Bid files may be examined during normal working hours, thirty (30) days after bid opening, or upon recommendation for award, whichever occurs first. Bidders desiring to view these documents are urged to schedule an appointment. For information concerning this bid, please contact the Procurement Division at the address listed above or by calling (407) 836-5635. Please specify the bid number for which you are inquiring. Bid opening results will be available at <http://apps.ocfl.net/orangebids/bidresults/results.asp>. Unsuccessful bidders will not be notified, unless a request is submitted in accordance with this paragraph.

**23. INDEMNIFICATION FOR TORT ACTIONS/LIMITATION OF LIABILITY:**

The provisions of Florida Statute 768.28 applicable to Orange County, Florida apply in full to this Contract. Any legal actions to recover monetary damages in tort for injury or loss of property, personal injury, or death caused by the negligent or wrongful act or omission of any employee of the County acting within the scope of his/her office or employment are subject to the limitations specified in this statute. No officer, employee or agent of the County acting within the scope of his/her employment or function shall be held personally liable in tort or named as a defendant in any action for any or damage suffered as a result of any act, event, or failure to act.

The County shall not be liable in tort for the acts or omissions of an officer, employee, or agent committed while acting outside the course and scope of his/her employment. This exclusion includes actions committed in bad faith or with malicious purpose, or in a manner exhibiting wanton and willful disregard of human rights, safety, or property.

**24. OCCUPATIONAL SAFETY AND HEALTH ACT (O.S.H.A.):**

In instances where such is applicable due to the nature of the bid matter with which this bid package is concerned, all material, equipment, etc., as proposed and offered by Bidders must meet and conform to all O.S.H.A. requirements; the Bidder's signature upon the bid proposal form (Part D) being by this reference considered a certification of such fact.

**25. PUBLIC ENTITY CRIME STATEMENT (FS 287.133):**

A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a Contract to provide any goods or services to a public entity, may not submit a bid on a Contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a Contractor, supplier, subcontractor, or any entity in excess of the threshold amount provided in Florida State Statutes Section 287.017 for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list.

**26. SUBCONTRACTOR/SUPPLIER INFORMATION:**

If maximum M/WBE participation is desired bidders must list all proposed subcontractors and suppliers to be used, regardless of racial or gender grouping, to include names, addresses, phone numbers, type of work subcontracted (trade or commodity), dollar amount of work, and the M/WBE designation or Majority (Non-M/WBE) owned company. Attachment C-2 is provided for this information. Contractor shall not change any subcontractors without just cause and approval by the County.

**27. SUBCONTRACTOR'S PAST PERFORMANCE:**

Bidder is responsible for verifying subcontractor's satisfactory performance on previous Orange County projects. Failure to do so may impact Bidder's responsibility determination.

**28. REFERENCES:**

- A. The Bidder shall supply (with form) **a list of three (3) similar projects successfully completed by the Bidder, as a Prime Contractor, within the last ten (10) years prior to the submittal date for sealed bids in response to this Invitation for Bids. Similar Projects are defined as road projects that contain the following elements:**

## **Project Elements**

1. Construction of a multi-lane (2 or more lanes) urban roadway having a minimum length of .25 miles and a roadway construction cost, which excludes utility work, equal to or greater than \$500,000.00. **Construction of a Limited Access project with an interchange is not allowed. Resurfacing, Restoration and Rehabilitation (RRR) projects shall not be considered to be similar projects.**
2. Preparation of roadway as-builts.
3. Coordination with utility companies.
4. Construction of roadway stormwater conveyance system to include at least 200 feet of 18" or larger pipe installation.
5. Installation of concrete sidewalks.
6. **One of the three similar projects must include a river or canal excavation and grading with a construction cost which excludes any utility work, equal to or greater than one hundred thousand dollars (\$100,000.00).**

- B. In addition to the list of THREE (3) Similar Projects, ONE (1) additional Similar Project successfully completed within the last TEN (10) years must also be submitted (with the bid form) and shall meet the similar project criteria listed below:**

The Contractor (or Utility subcontractor) responsible for the construction of Orange County Utilities work shall provide project experience that demonstrates they have successfully completed a utility project, as a Prime Contractor or Subcontractor. This project should have consisted of a minimum of 200 lineal feet of 8-inch or greater diameter pressurized main constructed within a Public Right-of-Way.

**FAILURE TO PROVIDE REFERENCE INFORMATION AS REQUESTED MAY RESULT IN THE REJECTION OF YOUR BID.**

**EACH SIMILAR PROJECT LISTED SHALL BE LISTED WITH COMPLETE INFORMATION AS SPECIFICALLY PROVIDED ON THE REFERENCE FORM (ATTACHMENT E). THE SPECIFIC INFORMATION ON REFERENCES MUST BE PROVIDED ON THE REFERENCE FORM. DO NOT ATTACH LISTINGS OF REFERENCE INFORMATION.**

The determination of whether a bidder is responsible or not shall be at the sole discretion of the County. Although the County may request submission of a minimum number of similar projects for evaluation, the County's determination of a bidder's responsibility shall not be solely based on the number of similar projects submitted.

The contact person listed as a reference shall be someone who has personal knowledge of the Bidder's performance during the referenced project. Contact persons must have been informed that they are being used as a reference and that the County will be calling or emailing them.

## **29. BID AND RELATED COSTS:**

By submission of a bid, the Bidder agrees that all costs associated with the preparation of his/her bid will be the sole responsibility of the Bidder. The Bidder also agrees that the County bears no responsibility for any costs associated with



the preparation of the bid and/or any administrative or judicial proceedings resulting from the solicitation process.

### 30. SOLICITATION CANCELLATIONS

Orange County reserves the right, and the Manager of the Procurement Division, has the absolute and sole discretion to cancel a solicitation at any time prior to approval of the award by the Board of County Commissioners when such approval is required. The decision to cancel a solicitation cannot be the basis for a protest pursuant to the Orange County Code.

### 31. LICENSES/PERMITS/FEES:

- A. **In compliance with the Public Bid Disclosure Act, Section 218.80, Florida Statutes, each permit, license, and/or fee applicable to this work/project (before and during construction) that will either be paid by the Contractor or by the Orange County Board of County Commissioners as specified below:**

**Maintenance of Traffic Plan including Orange County Permit Fee is \$128.00.**

The cost of the permits, licenses and/or fees listed above shall be included in the bid price except where noted otherwise in the specifications or other bid documents.

- B. Licenses, permits and fees which may be required by the State of Florida, State Agencies or by other local governmental entities or agencies other than Orange County Board of County Commissioners:

The Contractor shall procure and pay for all permits and licenses, charges and fees and give all notices necessary and incidental to the due and lawful prosecution of the work.

The cost of all permits, fees, etc. shall be included in the bid price except where noted otherwise in the specifications or other bid documents.

- C. The Orange County Government Fee Directory, incorporated herein by reference, contains a list of licenses, permits and fees that may apply to this project.

The fee directory link "Fees" is available at:

<http://www.orangecountyfl.net/portals/0/resource%20library/open%20government/FeeDirectory.pdf>

Bidders shall review all applicable licenses, permits and fees and contact the applicable agency if there are any questions.

### **32. BID ACCEPTANCE PERIOD**

Any bid submitted in response to this Invitation for Bids shall remain in effect for a period of 90 days after bid opening. Upon request of the County, the bidder at its sole option may extend this period.

### **33. EQUAL OPPORTUNITY**

It is hereby declared that equal opportunity and nondiscrimination shall be the County's policy intended to assure equal opportunities to every person, regardless of race, religion, sex, sexual orientation and gender expression/identity, color, age, disability or national origin, in securing or holding employment in a field of work or labor for which the person is qualified, as provided by Section 17-314 of the Orange County Code and the County Administrative Regulations.

Further, the awarded Contractor shall abide by the following provisions:

- (a) The awarded Contractor shall represent that awarded Contractor has adopted and maintains a policy of nondiscrimination as defined by applicable County ordinance throughout the term of this contract.
- (b) The awarded Contractor shall allow reasonable access to all business and employment records for the purpose of ascertaining compliance with the nondiscrimination provision of the contract.
- (c) The provisions of the prime contract shall be incorporated by the awarded Contractor into the contracts of any applicable subcontractors.

### **34. ETHICS COMPLIANCE**

The following forms are included in this solicitation as attachments F and G and shall be completed and submitted as indicated below:

- a. **Orange County Specific Project Expenditure Report** -The purpose of this form is to document any expenses incurred by a lobbyist for the purposes described in Section 2-351, Orange County Code.

This form shall be completed and submitted with any bid, proposal or other response to an Orange County solicitation.

The bidder, proposer or responder to the solicitation shall not be awarded a contract unless this form has been completed and submitted.

Any questions concerning this form shall be addressed to the senior contract administrator for this solicitation.

- b. **Relationship Disclosure Form** – The purpose of this form is to document any relationships between a bidder, proposer or responder to an Orange County solicitation and the Mayor or any other member of the Orange County Board of County Commissioners. This form shall be completed and submitted with the applicable bid, proposal or response to an Orange County solicitation.

No contract award will be made unless this form has been completed and submitted. Any questions concerning this form shall be addressed to the senior contract administrator identified in this solicitation. Also, a listing of the most frequently asked questions concerning this form is attached for your information.

**35. TOBACCO FREE CAMPUS**

All Orange County operations under the Board of County Commissioners shall be tobacco free. This policy shall apply to parking lots, parks, break areas and worksites. It is also applicable to contractors and their personnel during contract performance on county-owned property. Tobacco is defined as tobacco products including, but not limited to, cigars, cigarettes, e-cigarettes, pipes, chewing tobacco and snuff. Failure to abide by this policy may result in civil penalties levied under Chapter 386, Florida Statutes and/or contract enforcement remedies.

**36. VERIFICATION OF EMPLOYMENT STATUS**

Prior to the employment of any person under this contract, the Contractor shall utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the Contractor during the contract term, and an express requirement that Contractors include in such subcontracts the requirement that subcontractors performing work or providing services pursuant to the state contract utilize the E-Verify system to verify the employment eligibility of all new employees hired by the subcontractor during the contract term. For more information on this process, please refer to United States Citizenship and Immigration Service site at:

<http://www.uscis.gov/portal/site/uscis>.

**Only those employees determined eligible to work within the United States shall be employed under this contract.**

By submission of a bid in response to this solicitation, the Contractor affirms that all employees in the above categories shall undergo e-verification before placement on this contract. The Contractor shall commit to comply with this requirement by completing the E-Verification certification, attached to this solicitation.

**37. PROPRIETARY INFORMATION**

In accordance with Chapter 119 of the Florida Statutes (Public Records Law), and except as may be provided by other applicable State or Federal Law, all proposers should be aware that Request for Proposals or Invitation for Bids and the responses thereto are in the public domain. **Proposers must identify specifically** any information contained in their response which they consider confidential and/or proprietary and which they believe to be exempt from disclosure, **citing specifically the applicable exempting law.**

**38. MOBILIZATION:**

Mobilization is defined as construction start-up costs required for performance of preparatory work and operations in mobilizing for beginning work on the project. Such costs are necessary for the movement of personnel, equipment, supplies and incidentals to the project site and for the establishment of temporary offices, buildings, safety equipment, first aid supplies, sanitary and other facilities. Include the cost of bonds, insurance and any other preconstruction expense necessary for the start of work. Mobilization costs are not part of the physical construction.

The Contractor shall retain adequate documentation to support all mobilization costs. The County may at its discretion verify reasonableness of actual mobilization costs and make an equitable adjustment to contract price if deemed necessary.

The total cost of mobilization shall not exceed 10% of the Estimated Total Base Bid. For purposes of calculation of maximum allowable mobilization, the "Estimated Total Base Bid" is defined as the total of all line items specified to be included in the mobilization calculation, exclusive of any alternates or options, and exclusive of the Mobilization line item.

Failure of the Bidder to comply with this limitation shall result in a reduction of the line item price for Mobilization; or, in the alternative, the bid may be found non-responsive, at the County's option.

**39. UNBALANCED PRICING**

A. Unbalanced pricing may increase performance risk and could result in payment of unreasonably high prices. Unbalanced pricing exists when, despite an acceptable total evaluated price, the price of one or more contract line items is significantly over or understated as indicated by the application of cost or price analysis techniques.

The greatest risk associated with unbalanced pricing occur when—

1. Startup work and mobilization are separate line items;
2. Base year quantities and option year quantities are separate line items ; or  
The evaluated price is the aggregate of estimated quantities to be ordered under separate line items of an indefinite-delivery contract.

B. All offers with separately priced line items or subline items shall be analyzed to determine if the prices are unbalanced. If cost or price analysis techniques indicate that an offer is unbalanced, the Manager of the Procurement Division shall

1. Consider the risks to the County associated with the unbalanced pricing in determining the competitive range and in making the award decision; and

2. Consider whether award of the contract will result in paying unreasonably high prices for contract performance.
3. An offer may be rejected if the manager determines that the lack of balance poses an unacceptable risk to the County.

**40. UNIT PRICES**

Unless the Bid Item Schedule contained in Part D specifies otherwise, unit prices shall include all incidental Project costs, including but not limited to, overhead and profit.

The Contract resulting from this solicitation is based on estimated quantities. The contractor shall only be paid for materials installed in the work in accordance with the applicable unit prices for the specific work element (line item).

No payment shall be made for excess materials delivered to the jobsite and not incorporated into the work. Therefore, it shall be the contractor's responsibility to determine the quantities of materials necessary to perform the project to its completion.



**To the Board of County Commissioners  
Orange County, Florida**

The Undersigned, hereinafter called "Bidder", having visited the site of the proposed project and familiarized himself with the local conditions, nature and extent of the work, and having examined carefully the Contract Form, General Conditions, Supplementary Conditions, Plans and Specifications and other Contract Documents, with the Bond requirements herein, proposes to furnish all labor, materials, equipment and other items, facilities and services for the proper execution and completion of: **SHERRY DRIVE BRIDGE REPLACEMENT** in full accordance with the drawings and specifications prepared in accordance with the Contract Documents and, if awarded the Contract, to complete the said work within the time limits specified for the following ESTIMATED TOTAL BASE BID.

It is understood that this is a unit price Contract and the resultant Contract will contain estimated quantities, unit prices, extended totals and that the Estimated Total Base Bid is the sum of all pay item totals from the schedule of prices, Page D-3 through D-7.

The Contract resulting from this solicitation is based on estimated quantities. The contractor shall only be paid for materials installed in the work in accordance with the applicable unit prices for the specific work element (line item). No payment shall be made for excess materials delivered to the jobsite and not incorporated into the work. Therefore, it shall be the contractor's responsibility to determine the quantities of materials necessary to perform the project to its completion.

ESTIMATED TOTAL BASE BID:

\_\_\_\_\_ DOLLARS  
(In Words)

\$ \_\_\_\_\_

In the event the Contract is awarded to this Bidder, he/she will enter into a formal written agreement with the County in accordance with the accepted bid within ten (10) calendar days after said Contract is submitted to him/her and will furnish to the County a Contract Payment and Performance Bond with good and sufficient sureties, satisfactory to the County, in the amount of 100% of the accepted bid. The Bidder further agrees that in the event of the Bidder's default or breach of any of the agreements of this proposal, the said bid deposit shall be forfeited as liquidated damages.

**Failure of the Bidder to provide pricing for all unit priced items and/or the Base Bid and ALL requested additive/deductive bid items, or alternate bids shall be cause for rejection of the bid as non-responsive.**

**SHERRY DRIVE  
BRIDGE REPLACEMENT  
SCHEDULE OF PRICES  
Y18-703-CH  
ROADWAY PAY ITEMS**

REF. NO.	PAY ITEM NO	ITEM DESCRIPTION	UNIT	EST. QTY	UNIT PRICE	TOTAL COST
1	101-1*	MOBILIZATION (10%) *See Note at the End of the Schedule of Prices	LS	1		
2	102-1	MAINTENANCE OF TRAFFIC	LS	1		
3	104-14	PREVENTION, CONTROL AND ABATEMENT OF EROSION AND WATER POLLUTION	LS	1		
4	110-1-1	CLEARING & GRUBBING	LS	1		
5	120-4	SUBSOIL EXCAVATION (CONTINGENCY ITEM, A-8 MATERIAL)	CY	300		
6	120-9	EXCAVATION, EMBANKMENT AND GRADING	LS	1		
7	160-4	TYPE "B" STABILIZATION (12" )(MIN. LBR 40)	SY	1,710		
8	270-8	SOIL CEMENT BASE, (PRIMED)(8" )(300 PSI)	SY	741		
9	285-706	OPTIONAL BASE GROUP 6 (5.0" TYPE B-12.5 ONLY)(BLACK BASE)	SY	607		
10	327-70-6	MILLING EXISTING ASPHALT PAVEMENT (1 ½" AVG. DEPTH)	SY	1,368		
11	334-1-13	SUPERPAVE ASPHALTIC CONCRETE (1 ½" )(SP-12.5)(INCL. TACK COAT)	SY	2,692		
12	339-1	MISCELLANEOUS ASPHALT PAVEMENT – 2"	TN	10		
13	400-1-2	CLASS I CONCRETE, ENDWALLS (INCLUDES REINFORCING STEEL)	CY	2.24		
14	425-1-341	INLETS, CURB, TYPE P-4, <=10'	EA	5		
15	425-1-342	INLETS, CURB, TYPE P-4, >10'	EA	1		



**SHERRY DRIVE  
BRIDGE REPLACEMENT  
SCHEDULE OF PRICES  
Y18-703-CH**

REF. NO.	PAY ITEM NO	ITEM DESCRIPTION	UNIT	EST. QTY	UNIT PRICE	TOTAL COST
16	425-1-529	INLETS, DITCH BOTTOM, TYPE C, MODIFIED	EA	1		
17	425-1-541	INLETS, DITCH BOTTOM, TYPE D, <=10'	EA	1		
18	425-2-41	MANHOLES, P-7, <=10'	EA	2		
19	425-2-42	MANHOLES, P-7, >10'	EA	2		
20	430-175-118	STEEL REINFORCED CONCRETE PIPE, CLASS III, ROUND, 18"	LF	336		
21	430-175-124	STEEL REINFORCED CONCRETE PIPE, CLASS III, ROUND, 24"	LF	132		
22	430-175-130	STEEL REINFORCED CONCRETE PIPE, CLASS III, ROUND, 30"	LF	63		
23	430-175-215	STEEL REINFORCED CONCRETE PIPE, CLASS III, ELLIPTICAL, 12"X18"	LF	52		
24	430-982-125	MITERED END SECTION, CONCRETE, 18"	EA	2		
25	430-982-129	MITERED END SECTION, CONCRETE, 24"	EA	2		
26	430-982-133	MITERED END SECTION, CONCRETE, 30"	EA	1		
27	430-982-623	MITERED END SECTION, CONCRETE, 12"X18", ELLIPTICAL, CD	EA	1		
28	520-1-8	CONCRETE CURB & GUTTER, SPECIAL, RIBBON	LF	12		
29	520-1-10	CONCRETE CURB & GUTTER (TYPE F)	LF	454		
30	520-2-4	CONCRETE CURB (TYPE D)	LF	1,094		
31	522-1	SIDEWALK CONCRETE, 4" THICK	SY	219		

**SHERRY DRIVE  
BRIDGE REPLACEMENT  
SCHEDULE OF PRICES  
Y18-703-CH**

REF. NO.	PAY ITEM NO	ITEM DESCRIPTION	UNIT	EST. QTY	UNIT PRICE	TOTAL COST
32	522-2	SIDEWALK CONCRETE, 6" THICK	SY	620		
33	530-3-3	RIPRAP-RUBBLE, BANK AND SHORE	TN	92		
34	530-3-4	RIPRAP-RUBBLE, F&I, DITCH LINING	TN	3		
35	530-4-4A	ARTICULATING CONCRETE BLOCK REVETMENT SYSTEM, THICKNESS 4", OPEN CELL	SY	2,164		
36	530-4-4B	ARTICULATING CONCRETE BLOCK REVETMENT SYSTEM, THICKNESS 4", CLOSED CELL	SY	1,186		
37	536-1-1	GUARDRAIL – ROADWAY	LF	375		
38	536-6	GUARDRAIL – PIPE RAIL	LF	300		
39	536-85-25	GUARDRAIL END ANCHORAGE ASSEMBLY – TYPE II	EA	2		
40	536-85-26	GUARDRAIL END ANCHORAGE ASSEMBLY – CRT	EA	2		
41	550-10-220	FENCING, TYPE B, 6.0', STANDARD	LF	37		
42	550-60-223	FENCE GATE, TYPE B, DOUBLE, 14' OPENING	EA	1		
43	550-60-234	FENCE GATE, TYPE B, SLIDE / CANTILEVER, 20' OPENING	EA	1		
44	570-1-2	PERFORMANCE TURF (SOD)	SY	4,200		
45	700-20-11	SIGN (F&I)(LESS THAN 12 SF)(SINGLE POST)	AS	5		
46	700-20-60	SIGN, EXISTING (REMOVE)(SINGLE POST)	AS	2		
47	705-10-1	OBJECT MARKER, TYPE 1	EA	3		

**SHERRY DRIVE  
BRIDGE REPLACEMENT  
SCHEDULE OF PRICES  
Y18-703-CH**

REF. NO.	PAY ITEM NO	ITEM DESCRIPTION	UNIT	EST. QTY	UNIT PRICE	TOTAL COST
48	705-10-4	OBJECT MARKER, TYPE 4	EA	6		
49	710-90	PAINTED PAVEMENT MARKINGS, FINAL SURFACE	LS	1		
50	711-11-123	SOLID TRAFFIC STRIPE (WHITE)(12")(THERMOPLASTIC)	LF	99		
51	711-11-125	SOLID TRAFFIC STRIPE (WHITE)(24")(THERMOPLASTIC)	LF	16		
52	900-1	AS-BUILT PLANS	LS	1		
53	900-2	INDEMNIFICATION	LS	1	\$100.00	\$100.00
54	900-3	GROUNDWATER TREATMENT AND DISPOSAL	DA	180		
<b>ORANGE COUNTY UTILITIES PORTION</b>						
U1	OCU 1	FURNISH AND INSTALL WATER MAIN	LF	328		
U2	OCU 2	IDEMNIFICATION	LS	1		
U3	OCU 3	FURNISH AND INSTALL FIRE HYDRANT	EA	1		
U4	OCU 4	FURNISH AND 2" BLOWOFF VALVE	EA	1		
U5	OCU 5	RECORD DRAWINGS FOR OCU	EA	1		

**SHERRY DRIVE  
BRIDGE REPLACEMENT  
SCHEDULE OF PRICES  
Y18-703-CH**

**ESTIMATED BASE BID :**

\_\_\_\_\_  
(Reference Numbers 1 through 53)

\_\_\_\_\_  
(Reference Numbers U1 through U5)

**SUMMARY:**

**TOTAL ESTIMATED BASE BID**

**\$**

\_\_\_\_\_  
(Reference Numbers 1 through 54 plus U1 through U5)

\*Any amount of Mobilization in excess of 10% of Roadway Bid Item 2 through 53 will be paid upon completion of all work in accordance with TP-101.

The Bidder hereby agrees that there is attached:

- |     |   |     |             |
|-----|---|-----|-------------|
| 1.  | Non-Collusion Affidavit, Attachment A   | Yes | ___         |
| 2.  | Required Disclosure, Attachment B   | Yes | ___         |
| 3.  | M/WBE Forms   |     |             |
|     | Employment Data, Attachment C-1   | Yes | ___         |
|     | Subcontractor/Supplier Page, Attachment C-2                                       | Yes | ___         |
|     | Good Faith Effort, Attachment C-4   | Yes | ___ No ___  |
| 4.  | Trench Safety Act Form, Attachment D  | Yes | ___ N/A ___ |
| 5.  | Drug-Free workplace Form  | Yes | ___         |
| 6.  | <b>Bid Bond on Form in Exhibit 1</b> or Cashier's Check<br>(10% of Base Bid)      | Yes | ___ N/A ___ |
| 7.  | Original Bid Form (marked "Original") & 3<br>complete copies with all attachments | Yes | ___         |
| 8.  | References, Attachment E  | Yes | ___         |
| 9.  | Licenses  | Yes | ___ N/A ___ |
| 10. | Current W9  | Yes | ___         |
| 11. | Project Expenditure Report, Attachment F  | Yes | ___         |
| 12. | Relationship Disclosure Form, Attachment G  | Yes | ___         |
| 13. | Verification of Employment Status, Attachment H                                   | Yes | ___         |

**ACKNOWLEDGEMENT OF ADDENDA**

The Bidder shall acknowledge receipt of any addenda issued to the solicitation by completing the blocks below or by completion of the applicable information on the addendum and returning it not later than the date and time for receipt of the bid. Failure to acknowledge an addendum that has a material impact on the solicitation may negatively impact the responsiveness of your bid. Material impacts include but are not limited to changes to specifications, delivery time, performance period, quantities, bonds, letters of credit, insurance, qualifications, etc.

Addendum No. \_\_\_\_\_ Dated \_\_\_\_\_ Addendum No. \_\_\_\_\_ Dated \_\_\_\_\_

Addendum No. \_\_\_\_\_ Dated \_\_\_\_\_ Addendum No. \_\_\_\_\_ Dated \_\_\_\_\_

If awarded this construction Contract, the Bidder agrees to complete the work covered by this Contract as follows:

1. Work shall start at the project site within fourteen (14) days of the effective date of the Notice to Proceed.
2. Substantially complete in **240** consecutive calendar days from date of Official Notice to Proceed.
3. Final completion in **300** consecutive calendar days from date of Official Notice to Proceed.
4. Should the Successful Bidder fail to complete work as specified, the liquidated damage clause will apply (Part E, Contract).

The Bidder hereby agrees that the County reserves the right to waive informalities in any bid and to reject any or all bids, or to accept any bid that in its judgment will be for the best interest of the County.

**FLORIDA CONSTRUCTION INDUSTRIES LICENSING BOARD CERTIFICATION:**

\_\_\_\_\_  
(NAME OF HOLDER) (CERTIFICATE NO.)

\_\_\_\_\_  
(SIGNATURE OF BIDDER) (CERTIFICATE EXPIRATION DATE)

\_\_\_\_\_  
(NAME TYPED)

**IDENTIFICATION OF BUSINESS ORGANIZATION**

Complete and submit the following information:

Type of Organization

Sole Proprietorship     Partnership

Joint Venture         Corporation

State of Incorporation:\_\_\_\_\_

Principal Place of Business (Florida Statute Chapter 607):  
\_\_\_\_\_City/County/State

**THE PRINCIPAL PLACE OF BUSINESS SHALL BE THE ADDRESS OF THE BIDDER'S PRINCIPAL OFFICE AS IDENTIFIED BY THE FLORIDA DIVISION OF CORPORATIONS**

**AUTHORIZED SIGNATORIES/NEGOTIATORS**

The bidder or proposer represents that the following principals are authorized to sign and/or negotiate Contracts and related documents to which the bidder or proposer will be duly bound. Principal is defined as an employee, officer or other technical or professional in a position capable of substantially influencing the development or outcome of an activity required to perform the covered transaction.

Name	Title	Telephone Number	E-Mail Address
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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

IN WITNESS WHEREOF, THE BIDDER HAS HEREUNTO SET HIS SIGNATURE AND AFFIXED HIS SEAL THIS DAY OF \_\_\_\_\_, A.D. 20\_\_.

BY \_\_\_\_\_(SEAL)

TITLE:\_\_\_\_\_

\_\_\_\_\_  
PRINT NAME AND TITLE

FEDERAL I.D.#\_\_\_\_\_

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**NON-COLLUSION AFFIDAVIT**

The undersigned being first duly sworn as provided by law, deposes and says:

1. This Affidavit is made with the knowledge and intent that it is to be filed with the Board of County Commissioners, Orange County, Florida and that it will be relied upon by said County, in any consideration which may give to and any action which it may take with respect to this Proposal.

2. The undersigned is authorized to make this Affidavit on behalf of,

\_\_\_\_\_  
(Name of Corporation, Partnership, Individual, etc.)

A \_\_\_\_\_, formed under the laws of \_\_\_\_\_ of which he is

\_\_\_\_\_  
(Sole Owner, Partner, President, etc.)

3. Neither the undersigned nor any other person, firm or corporation named in above Paragraph 2, nor anyone else to the knowledge of the undersigned, have themselves solicited or employed anyone else to solicit favorable action for this Proposal by the County, also that no head of any department or employee therein, or any officer of Orange County, Florida is directly interested therein.

4. This Proposal is genuine and not collusive or a sham; the person, firm or corporation named above in Paragraph 2 has not colluded, conspired, connived or agreed directly or indirectly with any bidder or person, firm or corporation, to put in a sham Proposal, or that such other person, firm or corporation, shall refrain from bidding, and has not in any manner, directly or indirectly, sought by agreement or collusion, or communication or conference with any person, firm or corporation, to fix the prices of said proposal or proposals of any other bidder; and all statements contained in the proposal or proposals described above are true; and further, neither the undersigned, nor the person, firm or corporation named above in Paragraph 3, has directly or indirectly submitted said proposal or the contents thereof, or divulged information or data relative thereto, to any association or to any member or agent thereof.

\_\_\_\_\_  
(AFFIANT)

**TAKEN, SWORN AND SUBSCRIBED TO BEFORE ME this \_\_\_\_ day of \_\_\_\_\_, 20\_\_.**

\_\_\_\_\_  
Notary Public (SEAL)

\_\_\_\_\_  
(Print, Type or Stamp Commissioned Name of Notary Public)

Personally Known \_\_\_\_\_ or Produced Identification \_\_\_\_\_ Type of Identification: \_\_\_\_\_



**REQUIRED DISCLOSURE**

The following Disclosure is of all material facts pertaining to any felony or civil conviction or any pending felony or civil charges in the last three (3) years in this State or any other State of the United States against 1) Bidder, 2) any business entity related to or affiliated with bidder, or 3) any present or former executive employee, officer, director, stockholder, partner or owner of bidder or of any such related or affiliated entity. This Disclosure shall not apply to any person or entity which is only a stockholder, which person or entity owns twenty percent (20) or less of the outstanding shares of a bidder whose stock is publicly owned and traded.

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BIDDER

IFB/RFP Number & Title: \_\_\_\_\_

**EMPLOYMENT DATA, SCHEDULE OF MINORITIES AND WOMEN (Rev. 3/16)**

Please provide the following data pertaining to your workforce. If you have an Orange County workforce, it should be shown. If you do not have an Orange County workforce, total permanent workforce should be shown. If this is a Joint Venture, employment data shall be furnished for each firm composing the joint venture. **It is mandatory that you provide workforce data. Failure to provide this form with your bid/proposal may be cause for rejection of your bid/proposal.**

JOB CATEGORIES	MAJORITY		MINORITY MALES				MINORITY FEMALES				TOTAL
	White Male	White Female	Black	Hispanic	American Indian	Asian American	Black	Hispanic	American Indian	Asian American	
Officials, Mgrs. Supervisors											
Professionals											
Technicians											
Sales Workers											
Office and Clerical											
Craftsman (Skilled)											
Operatives (Semi-Skilled)											
Laborers (Unskilled)											
Service Workers											
Apprentices											
Interns/Co-Ops											
Wages to Work Employees											
<b>TOTAL</b>											
Changes Since Last Report											

The above reflects (Check One): \_\_\_\_\_ Orange County Workforce \_\_\_\_\_ Total Permanent Workforce (Outside Orange County)  
 For Construction Projects Only: Do you intend to hire new employees for the project? \_\_\_ Yes \_\_\_ No If yes, how many approximately? \_\_\_\_\_

Name of Firm \_\_\_\_\_ Period of Report \_\_\_\_\_ No. of Years in Business in Orange County \_\_\_\_\_

Form Completed by \_\_\_\_\_  
 Name/Title (Printed or Typed) \_\_\_\_\_ Signature \_\_\_\_\_

Form Approved by \_\_\_\_\_  
 Name/Title (Printed or Typed) \_\_\_\_\_ Signature \_\_\_\_\_

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If maximum M/WBE participation is desired, bidders must list **all** proposed Subcontractors **and suppliers** to be used. Provide company names; contacts, addresses, phone numbers; work to be performed with the Contractor's own workforce, including estimated dollar amount allocated **for the entire contract, including all Option Years** for that work (work that is consistently and historically performed in-house); total amount to be paid to this sub/supplier (do not discount supply dollars); and M/WBE designation or if non-M/WBE (Majority). See Instructions to Bidders, Part C, for complete M/WBE requirements. Provide **all** information requested. Use additional sheets if necessary. *Failure to provide all of the information requested may negatively impact the M/WBE evaluation.*

1. What is the estimated percent of work that the Prime Contractor will self-perform? \_\_\_\_\_ %  
List these areas below with approximate dollar amounts to be allocated for the work.
  
2. Is all work (whether to be subbed or self-performed) listed below? Yes \_\_\_\_ No \_\_\_\_  
Are all material suppliers listed? Yes \_\_\_\_ No \_\_\_\_  
If no, please explain. \_\_\_\_\_  
\_\_\_\_\_
  
3. Is your firm certified through Orange County as an M/WBE? Yes \_\_\_\_ No \_\_\_\_  
(See Part C for specific requirements for certified M/WBE firms)
  
4. Is your firm registered through Orange County as a Registered Service Disabled-Veteran (SDV)? Yes \_\_\_\_ No \_\_\_\_
  
5. Did you include any M/WBE credits- First Time Utilization (FTU) or Non-County Utilization (NC) with this bid? Yes \_\_\_\_ No \_\_\_\_  
(If so, insert copy of credit and specify credit type below)

**PRIME CONTRACTOR/SUBCONTRACTOR/SUPPLIER INFORMATION**

	<b>COMPANY NAME, CONTACT ADDRESS PHONE NUMBER</b>	<b>WORK TO BE PERFORMED (TRADE) OR COMMODITY TO BE SUPPLIED</b>	<b>DOLLAR AMOUNT</b>	<b>O.C. CERTIFIED M/WBE OR NON-M/WBE; OR REGISTERED SDV; OR TYPE OF M/WBE CREDIT – FTU OR NC</b>
1.		Sub/ Supplier/ In-house (circle one)		
2.		Sub/ Supplier/ In-house (circle one)		
3.		Sub/ Supplier/ In-house (circle one)		

\_\_\_\_\_  
**Signature of Bidder**

\_\_\_\_\_  
**Title**

	<b>COMPANY NAME, CONTACT ADDRESS PHONE NUMBER</b>	<b>WORK TO BE PERFORMED (TRADE) OR COMMODITY TO BE SUPPLIED</b>	<b>DOLLAR AMOUNT</b>	<b>O.C. CERTIFIED M/WBE OR NON-M/WBE; OR REGISTERED SDV; OR TYPE OF M/WBE CREDIT – FTU OR NC</b>
4.		Sub/ Supplier/ In-house (circle one)		
5.		Sub/ Supplier/ In-house (circle one)		
6.		Sub/ Supplier/ In-house (circle one)		
7.		Sub/ Supplier/ In-house (circle one)		
8.		Sub/ Supplier/ In-house (circle one)		
9.		Sub/ Supplier/ In-house (circle one)		
10.		Sub/ Supplier/ In-house (circle one)		
11.		Sub/ Supplier/ In-house (circle one)		

\_\_\_\_\_  
Signature of Bidder

\_\_\_\_\_  
Title

**\*INSTRUCTIONS\*** Contractor shall place the following on their letterhead, executed by their authorized agent. Letter is to be submitted **before 5:00 PM on the second business day (i.e., if bid opens on Thursday, due on Monday before 5:00 PM)** after bid opening to: Orange County Business Development Division; 400 E. South Street; 2nd Floor, Orlando, FL 32801; Fax Number (407) 836-5477. A Letter of Intent is to be executed with all M/WBE Subcontractors and suppliers listed by the Contractor on the Subcontractor/Supplier page submitted with this bid. Any M/WBE's not listed on Subcontractor/Supplier page for this bid will not be accepted. Failure to submit this form within the required time frame may result in the bid being found non-responsive.

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**LETTER OF INTENT  
(VERIFICATION M/WBE UTILIZATION)**

IFB # \_\_\_\_\_ PROJECT TITLE \_\_\_\_\_

I, \_\_\_\_\_, (Prime Contractor) have entered into an agreement with the following Minority/Women-owned Business Enterprise to do the work, dollar and/or percentage amount shown on Attachment C-2 of the Bid Form and shown below. I understand that prior to execution of the prime Contract by Orange County, a subcontract and/or purchase order will be executed with this firm and a copy of the agreement will be sent to the Orange County Business Development Division.

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**SUBCONTRACTOR/SUPPLIER**

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**CERTIFIED SCOPES OF WORK/COMMODITY**

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**SUBCONTRACT/PURCHASE ORDER PRICE**

I understand that I shall not be allowed to substitute or change Subcontractors, without the express prior approval of Orange County's Project Manager and the Business Development Division Manager. Such approval shall in no way relieve my obligations pursuant to Orange County's M/WBE requirements and goals contained in the Orange County Minority/Women Business Enterprise Ordinance, Orange County Code, Chapter 17, Article III, Division 4.

Under penalty of perjury, I declare that I have read the foregoing and the facts stated in it are true. False statements may result in criminal prosecution for a felony of the third degree as provided for in Section 92.525(3), Florida Statutes.

I, \_\_\_\_\_, (M/WBE Sub-Contractor) understand that "It is my responsibility to submit the required Monthly M/WBE utilization reports to the Prime and Final M/WBE payment verification form to Business Development Division."

Failure to submit the required documents could negatively impact my M/WBE certification.

\_\_\_\_\_  
Authorized Agent of Prime Contractor

\_\_\_\_\_  
Authorized Agent, Subcontractor/Supplier

\_\_\_\_\_  
Printed Name & Title

\_\_\_\_\_  
Printed Name & Title

Date: \_\_\_\_\_

Date: \_\_\_\_\_

\_\_\_\_\_  
Phone Number

\_\_\_\_\_  
Fax Number

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**GOOD FAITH EFFORT M/WBE CONTACT LOG (See Part C, SECTION 3, Paragraph E-iii)**  
 (Required only if Good Faith Effort Documentation is being provided as part of this Bid)

IFB No/ Project Name

Firm's Name/Address	Contact Info: E-mail, Phone and /or fax	Scope of Work (Work to be performed/Trade/or Commodity Supplied)	Date	Name of Person Contacting Firms	Firm to Bid (Y or N)	Date & Time Quote Received	Notes

Under penalty of perjury, I declare that I have read the foregoing and the facts stated in it are true. **False statements may result in criminal prosecution for a felony of the third degree as provided for in Section 92.525 (3), Florida Statutes.** I,

\_\_\_\_\_, (Signature off Authorized Agent),

\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_, (Printed Name, Title, and Date)



**COMPLIANCE WITH FLORIDA TRENCH SAFETY ACT (90-96, LAWS OF FLORIDA)**

Bidder hereby acknowledges that all costs for complying with the Florida Trench Safety Act are included in the various items of the Total Estimated Base Bid or Lump Sum Bid. For informational purposes only, the Bidder is required to further identify these costs in the summary below.

TRENCH SAFETY MEASURE (DESCRIPTION)	UNIT OF MEASURE (LF, SY)	UNIT (QUANTITY)	UNIT COST	EXTENDED COST
A) _____	_____	_____	\$ _____	\$ _____
B) _____	_____	_____	\$ _____	\$ _____
C) _____	_____	_____	\$ _____	\$ _____
D) _____	_____	_____	\$ _____	\$ _____
			TOTAL	\$ _____

**SIGNED:** \_\_\_\_\_

**TITLE:** \_\_\_\_\_

**THIS IS NOT A PAY ITEM:** The purpose of this form is to gather information on the costs associated with trench safety measures and to insure that the Bidder has considered these costs and included them in the Total Estimated Base Bid or Lump Sum Bid. Contractor will not receive additional payment if actual quantities differ from those estimated or if the Contractor uses a safety measure different than those listed.

(Failure to complete this form may result in the Bid being declared non-responsive.)

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**A. REFERENCES:** The Bidder shall supply (with form) a list of three (3) similar projects successfully completed by the Bidder, as a Prime Contractor, within the last ten (10) years prior to the submittal date for sealed bids in response to this Invitation for Bids. Similar Projects are defined as road projects that contain the following elements:

**Project Elements**

1. Construction of a multi-lane (2 or more lanes) urban roadway having a minimum length of .25 miles and a roadway construction cost, which excludes utility work, equal to or greater than \$500,000.00. Construction of a Limited Access project with an interchange is not allowed. Resurfacing, Restoration and Rehabilitation (RRR) projects shall not be considered to be similar projects.
2. Preparation of roadway as-builts.
3. Coordination with utility companies.
4. Construction of roadway stormwater conveyance system to include at least 200 feet of 18” or larger pipe installation.
5. Installation of concrete sidewalks.
6. One of the three similar projects must include a river or canal excavation and grading with a construction cost which excludes any utility work, equal to or greater than one hundred thousand dollars (\$100,000.00).

**B. In addition to the list of THREE (3) Similar Projects, ONE (1) additional Similar Project successfully completed within the last TEN (10) years must also be submitted (with the bid form) and shall meet the similar project criteria listed below:**

The Contractor (or Utility subcontractor) responsible for the construction of Orange County Utilities work shall provide project experience that demonstrates they have successfully completed a utility project, as a Prime Contractor or Subcontractor. This project should have consisted of a minimum of 200 lineal feet of 8-inch or greater diameter pressurized main constructed within a Public Right-of-Way.

The determination of whether a bidder is responsible or not shall be at the sole discretion of the County. Although the County may request submission of a minimum number of similar projects for evaluation, the County’s determination of a bidder’s responsibility shall not be solely based on the number of similar projects submitted.

The contact person listed as a reference shall be someone who has personal knowledge of the Bidder’s performance during the referenced project. Contact persons must have been informed that they are being used as a reference and that the County will be calling or emailing them.

1. Project Name \_\_\_\_\_  
Owner \_\_\_\_\_  
Contact \_\_\_\_\_  
Address \_\_\_\_\_  
\_\_\_\_\_

Telephone Number/Email Address \_\_\_\_\_

Contract Number and Amount # \_\_\_\_\_ \$ \_\_\_\_\_

Change Orders \$ \_\_\_\_\_

Final Contract \$ \_\_\_\_\_

Completed on Schedule? Yes \_\_\_\_\_ No \_\_\_\_\_ Date: \_\_\_\_\_

Project Description \_\_\_\_\_  
\_\_\_\_\_

2. Project Name \_\_\_\_\_  
Owner \_\_\_\_\_  
Contact \_\_\_\_\_  
Address \_\_\_\_\_  
\_\_\_\_\_

Telephone Number/Email Address \_\_\_\_\_

Contract Number and Amount # \_\_\_\_\_ \$ \_\_\_\_\_

Change Orders \$ \_\_\_\_\_

Final Contract \$ \_\_\_\_\_

Completed on Schedule? Yes \_\_\_\_\_ No \_\_\_\_\_ Date: \_\_\_\_\_

Project Description \_\_\_\_\_  
\_\_\_\_\_

3. Project Name \_\_\_\_\_  
Owner \_\_\_\_\_  
Contact \_\_\_\_\_  
Address \_\_\_\_\_  
\_\_\_\_\_  
Telephone Number/Email Address \_\_\_\_\_  
Contract Number and Amount # \_\_\_\_\_ \$ \_\_\_\_\_  
Change Orders \$ \_\_\_\_\_  
Final Contract \$ \_\_\_\_\_  
Completed on Schedule? Yes \_\_\_ No \_\_\_ Date: \_\_\_\_\_  
Project Description \_\_\_\_\_  
\_\_\_\_\_

4. Project Name \_\_\_\_\_  
Owner \_\_\_\_\_  
Contact \_\_\_\_\_  
Address \_\_\_\_\_  
\_\_\_\_\_  
Telephone Number/Email Address \_\_\_\_\_  
Contract Number and Amount # \_\_\_\_\_ \$ \_\_\_\_\_  
Change Orders \$ \_\_\_\_\_  
Final Contract \$ \_\_\_\_\_  
Completed on Schedule? Yes \_\_\_ No \_\_\_ Date: \_\_\_\_\_  
Project Description \_\_\_\_\_  
\_\_\_\_\_

5. Project Name \_\_\_\_\_  
Owner \_\_\_\_\_  
Contact \_\_\_\_\_  
Address \_\_\_\_\_  
\_\_\_\_\_  
Telephone Number/Email Address \_\_\_\_\_  
Contract Number and Amount # \_\_\_\_\_ \$ \_\_\_\_\_  
Change Orders \$ \_\_\_\_\_  
Final Contract \$ \_\_\_\_\_  
Completed on Schedule? Yes \_\_\_ No \_\_\_ Date: \_\_\_\_\_  
Project Description \_\_\_\_\_  
\_\_\_\_\_

6. Project Name \_\_\_\_\_  
Owner \_\_\_\_\_  
Contact \_\_\_\_\_  
Address \_\_\_\_\_  
\_\_\_\_\_  
Telephone Number/Email Address \_\_\_\_\_  
Contract Number and Amount # \_\_\_\_\_ \$ \_\_\_\_\_  
Change Orders \$ \_\_\_\_\_  
Final Contract \$ \_\_\_\_\_  
Completed on Schedule? Yes \_\_\_ No \_\_\_ Date: \_\_\_\_\_

Project Description \_\_\_\_\_  
\_\_\_\_\_

**SHERRY DRIVE BRIDGE REPLACEMENT**  
Case or Bid No. **Y18-703 -CH**

**ORANGE COUNTY SPECIFIC PROJECT EXPENDITURE REPORT**

**This lobbying expenditure form shall be completed in full and filed with all application submittals. This form shall remain cumulative and shall be filed with the department processing your application. Forms signed by a principal's authorized agent shall include an executed Agent Authorization Form.**

**This is the initial Form: \_\_\_\_\_**  
**This is a Subsequent Form: \_\_\_\_\_**

**Part I**

**Please complete all of the following:**

Name and Address of Principal (legal name of entity or owner per Orange County tax rolls): \_\_\_\_\_  
\_\_\_\_\_

Name and Address of Principal's Authorized Agent, if applicable: \_\_\_\_\_  
\_\_\_\_\_

**List the name and address of all lobbyists, consultants, contractors, subcontractors, individuals or business entities who will assist with obtaining approval for this project. (Additional forms may be used as necessary.)**

1. Name and address of individual or business entity: \_\_\_\_\_  
Are they registered Lobbyist? Yes \_\_\_ or No \_\_\_
2. Name and address of individual or business entity: \_\_\_\_\_  
Are they registered Lobbyist? Yes \_\_\_ or No \_\_\_
3. Name and address of individual or business entity: \_\_\_\_\_  
Are they registered Lobbyist? Yes \_\_\_ or No \_\_\_
4. Name and address of individual or business entity: \_\_\_\_\_  
Are they registered Lobbyist? Yes \_\_\_ or No \_\_\_
5. Name and address of individual or business entity: \_\_\_\_\_  
Are they registered Lobbyist? Yes \_\_\_ or No \_\_\_
6. Name and address of individual or business entity: \_\_\_\_\_  
Are they registered Lobbyist? Yes \_\_\_ or No \_\_\_
7. Name and address of individual or business entity: \_\_\_\_\_  
Are they registered Lobbyist? Yes \_\_\_ or No \_\_\_
8. Name and address of individual or business entity: \_\_\_\_\_  
Are they registered Lobbyist? Yes \_\_\_ or No \_\_\_

*For Staff Use Only:*  
Initially submitted on \_\_\_\_\_  
Updated On \_\_\_\_\_

Specific Project Expenditure Report (Revised November 5, 2010)  
For use as of March 1, 2011

**SHERRY DRIVE BRIDGE REPLACEMENT**  
Case or Bid No. **Y18-703 -CH**

**Company Name:** \_\_\_\_\_

**Part II**  
**Expenditures:**

For this report, an "expenditure" means money or anything of value given by the principal and/or his/her lobbyist for the purpose of lobbying, as defined in section 2-351, Orange County Code. This may include public relations expenditures including, but not limited to, petitions, fliers, purchase of media time, cost of print and distribution of publications. However, the term "expenditure" **does not** include:

- Contributions or expenditures reported pursuant to chapter 106, Florida Statutes;
- Federal election law, campaign-related personal services provided without compensation by individuals volunteering their time;
- Any other contribution or expenditure made by or to a political party;
- Any other contribution or expenditure made by an organization that is exempt from taxation under 26 U.S.C. s. 527 or s. 501(c)(4), in accordance with s.112.3215, Florida Statutes; and/or
- Professional fees paid to registered lobbyists associated with the project or item.

The following is a complete list of all lobbying expenditures and activities (including those of lobbyists, contractors, consultants, etc.) incurred by the principal or his/her authorized agent and expended in connection with the above-referenced project or issue. **You need not include de minimus costs (under \$50) for producing or reproducing graphics, aerial photographs, photocopies, surveys, studies or other documents related to this project.**

Date of Expenditure	Name of Party Incurring Expenditure	Description of Activity	Amount Paid
<b>TOTAL EXPENDED THIS REPORT</b>			\$



*For Staff Use Only:*  
Initially submitted on \_\_\_\_\_  
Updated On \_\_\_\_\_

**SHERRY DRIVE BRIDGE REPLACEMENT**  
Case or Bid No. **Y18-703-CH**

**Company Name:** \_\_\_\_\_

**Part III**  
**ORIGINAL SIGNATURE AND NOTARIZATION REQUIRED**

I hereby certify that information provided in this specific project expenditure report is true and correct based on my knowledge and belief. I acknowledge and agree to comply with the requirement of section 2-354, of the Orange County code, to amend this specific project expenditure report for any additional expenditure(s) incurred relating to this project prior to the scheduled Board of County Commissioner meeting. I further acknowledge and agree that failure to comply with these requirements to file the specific expenditure report and all associated amendments may result in the delay of approval by the Board of County Commissioners for my project or item, any associated costs for which I shall be held responsible. In accordance with s. 837.06, Florida Statutes, I understand and acknowledge that whoever knowingly makes a false statement in writing with the intent to mislead a public servant in the performance of his or her official duty shall be guilty of a misdemeanor in the second degree, punishable as provided in s. 775.082 or s. 775.083, Florida Statutes.

Date: \_\_\_\_\_

Signature of  Principal or  Principal's Authorized Agent

*(check appropriate box)*

**PRINT NAME AND TITLE:** \_\_\_\_\_

STATE OF \_\_\_\_\_ :

COUNTY OF \_\_\_\_\_ :

I certify that the foregoing instrument was acknowledged before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_ by \_\_\_\_\_ He/she is personally known to me or has produced \_\_\_\_\_ as identification and did/did not take an oath.

Witness my hand and official seal in the county and state stated above on the \_\_\_\_\_ day of \_\_\_\_\_, in the year \_\_\_\_\_.

(Notary Seal)

\_\_\_\_\_  
Signature of Notary Public

Notary Public for the State of \_\_\_\_\_

My Commission Expires: \_\_\_\_\_

Staff signature and date of receipt of form \_\_\_\_\_

Staff reviews as to form and does not attest to the accuracy or veracity of the information provided herein.

## **FREQUENTLY ASKED QUESTIONS (FAQ) ABOUT THE SPECIFIC PROJECT EXPENDITURE REPORT**

*Updated 3-1-11*

### **WHAT IS A SPECIFIC PROJECT EXPENDITURE REPORT (SPR)?**

A Specific Project Expenditure Report (SPR) is a report required under Section 2-354(b) of the Orange County Lobbying Ordinance, codified at Article X of Chapter 2 of the Orange County Code, reflecting all lobbying expenditures incurred by a principal and his/her authorized agent(s) and the principal's lobbyist(s), contractor(s), subcontractor(s), and consultant(s), if applicable, for certain projects or issues that will ultimately be decided by the Board of County Commissioners (BCC).

Matters specifically exempt from the SPR requirement are ministerial items, resolutions, agreements in settlement of litigation matters in which the County is a party, ordinances initiated by County staff, and some procurement items, as more fully described in 2.20 of the Administrative Regulations.

Professional fees paid by the principal to his/her lobbyist for the purpose of lobbying need not be disclosed on this form. (See Section 2-354(b), Orange County Code.)

### **WHO NEEDS TO FILE THE SPR?**

The principal or his/her authorized agent needs to complete and sign the SPR and warrant that the information provided on the SPR is true and correct.

A principal that is a governmental entity does not need to file an SPR.

### **HOW ARE THE KEY RELEVANT TERMS DEFINED?**

*Expenditure* means "a payment, distribution, loan, advance, reimbursement, deposit, or anything of value made by a lobbyist or principal for the purpose of lobbying. This may include public relations expenditures (including but not limited to petitions, flyers, purchase of media time, cost of print and distribution of publications) but does not include contributions or expenditures reported pursuant to Chapter 106, Florida Statutes, or federal election law, campaign-related personal services provided without compensation by individuals volunteering their time, any other contribution or expenditure made by or to a political party, or any other contribution or expenditure made by an organization that is exempt from taxation under 26 U.S.C. s. 527 or s. 501(c)(4)." (See Section 112.3215, Florida Statutes.) Professional fees paid by the principal to his/her lobbyist for the purpose of lobbying are not deemed to be "expenditures." (See Section 2-354, Orange County Code.)

*Lobbying* means seeking "to encourage the approval, disapproval, adoption, repeal, rescission, passage, defeat or modification of any ordinance, resolution, agreement, development permit, other type of permit, franchise, vendor, consultant, contractor, recommendation, decision or other foreseeable action of the [BCC]," and "include[s] all communications, regardless of whether initiated by the lobbyist or by the person being lobbied, and regardless of whether oral, written or electronic." (See Section 2-351, Orange County Code.) Furthermore, *lobbying* means communicating "directly with the County Mayor, with any other member of the [BCC], or with any member of a procurement committee." (See Section 2-351, Orange County Code.) *Lobbying* also means communicating "indirectly with the County Mayor or any other member of the [BCC]" by communicating with any staff member of the Mayor or any member of the BCC, the county administrator, any deputy or assistant county administrator, the county attorney, any county department director, or any county division manager. (See Section 2-351, Orange County Code.) *Lobbying* does not include the act of appearing before a Sunshine Committee, such as the Development Review Committee or the Roadway Agreement Committee other than the BCC.

*Principal* means “the person, partnership, joint venture, trust, association, corporation, governmental entity or other entity which has contracted for, employed, retained, or otherwise engaged the services of a lobbyist.” *Principal* may also include a person, partnership, joint venture, trust, association, corporation, limited liability corporation, or other entity where it or its employees do not qualify as a lobbyist under the definition set forth in Section 2-351 of the Orange County Code but do perform lobbying activities on behalf of a business in which it has a personal interest.

**DOES THE SPR NEED TO BE UPDATED IF INFORMATION CHANGES?**

Yes. It remains a continuing obligation of the principal or his/her authorized agent to update the SPR whenever any of the information provided on the initial form changes.

**WHERE DO THE SPR AND ANY UPDATES NEED TO BE FILED?**

The SPR needs to be filed with the County Department or County Division processing the application or matter. If and when an additional expenditure is incurred subsequent to the initial filing of the SPR, an amended SPR needs to be filed with the County Department or County Division where the original application, including the initial SPR, was filed.

**WHEN DO THE SPR AND ANY UPDATES NEED TO BE FILED?**

In most cases, the initial SPR needs to be filed with the other application forms. The SPR and any update must be filed with the appropriate County Department or County Division not less than seven (7) days prior to the BCC hearing date so that they may be incorporated into the BCC agenda packet. (See Section 2-354(b), Orange County Code.) When the matter is a discussion agenda item or is the subject of a public hearing, and any additional expenditure occurs less than 7 days prior to BCC meeting date or updated information is not included in the BCC agenda packet, the principal or his/her authorized agent is obligated to verbally present the updated information to the BCC when the agenda item is heard or the public hearing is held. When the matter is a consent agenda item and an update has not been made at least 7 days prior to the BCC meeting or the update is not included in the BCC agenda packet, the item will be pulled from the consent agenda to be considered at a future meeting.

**WHO WILL BE MADE AWARE OF THE INFORMATION DISCLOSED ON THE SPR AND ANY UPDATES?**

The information disclosed on the SPR and any updates will be a public record as defined by Chapter 119, Florida Statutes, and therefore may be inspected by any interested person. Also, the information will be made available to the Mayor and the BCC members. This information will accompany the other information for the principal’s project or item.

**CONCLUSION:**

We hope you find this FAQ useful to your understanding of the SPR. Please be informed that in the event of a conflict or inconsistency between this FAQ and the requirements of the applicable ordinance governing specific project expenditure reports, the ordinance controls.

Also, please be informed that the County Attorney’s Office is not permitted to render legal advice to a principal, his/her authorized agent, or any other outside party. Accordingly, if after reading this FAQ the principal, his/her authorized agent or an outside party has any questions, he/she is encouraged to contact his/her own legal counsel.

*For Staff Use Only:*

OC CE FORM 2P

Date Submitted \_\_\_\_\_

FOR PROCUREMENT-RELATED ITEMS (November 5, 2010) Date Updated \_\_\_\_\_

For use after March 1, 2011

Bid Number **Y18-703-CH**

**RELATIONSHIP DISCLOSURE FORM**

**FOR USE WITH PROCUREMENT ITEMS, EXCEPT THOSE WHERE THE COUNTY IS THE PRINCIPAL OR PRIMARY APPLICANT**

For procurement items that will come before the Board of County Commissioners for final approval, this form shall be completed by the bidder, offerer, quoter or respondent and shall be submitted to the Procurement Division by the bidder, offerer, quoter or respondent.

In the event any information provided on this form should change, the applicant must file an amended form on or before the date the item is considered by the appropriate board or body.

**Part I**

**INFORMATION ON APPLICANT (BIDDER, OFFEROR, QUOTER, PROPOSER, OR RESPONDENT):**

Legal Name of Applicant: \_\_\_\_\_

Business Address (Street/P.O. Box, City and Zip Code):  
\_\_\_\_\_  
\_\_\_\_\_

Business Phone ( ) \_\_\_\_\_

Facsimile ( ) \_\_\_\_\_

**INFORMATION ON APPLICANT'S AUTHORIZED AGENT, IF APPLICABLE:**

**(Agent Authorization Form also required to be attached)**

Name of Applicant's Authorized Agent:  
\_\_\_\_\_

Business Address (Street/P.O. Box, City and Zip Code):  
\_\_\_\_\_  
\_\_\_\_\_

Business Phone ( ) \_\_\_\_\_

Facsimile ( ) \_\_\_\_\_

*For Staff Use Only:*

OC CE FORM 2P

Date Submitted \_\_\_\_\_

FOR PROCUREMENT-RELATED ITEMS (November 5, 2010) Date Updated \_\_\_\_\_

For use after March 1, 2011

Bid Number **Y18-703-CH**

**Company Name:** \_\_\_\_\_

**Part II**

**IS THE APPLICANT A RELATIVE OF THE MAYOR OR ANY MEMBER OF THE BCC?**

\_\_\_ YES \_\_\_ NO

**IS THE MAYOR OR ANY MEMBER OF THE BCC THE APPLICANT'S EMPLOYEE?**

\_\_\_ YES \_\_\_ NO

**IS THE APPLICANT OR ANY PERSON WITH A DIRECT BENEFICIAL INTEREST IN THE OUTCOME OF THIS MATTER A BUSINESS ASSOCIATE OF THE MAYOR OR ANY MEMBER OF THE BCC?**

\_\_\_ YES \_\_\_ NO

If you responded "YES" to any of the above questions, please state with whom and explain the relationship:

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(Use additional sheets of paper if necessary)

For Staff Use Only:

OC CE FORM 2P

Date Submitted \_\_\_\_\_

FOR PROCUREMENT-RELATED ITEMS (November 5, 2010) Date Updated \_\_\_\_\_

For use after March 1, 2011

Bid Number **Y18-703-CH**

Company Name: \_\_\_\_\_

**Part III**

**ORIGINAL SIGNATURE AND NOTARIZATION REQUIRED**

I hereby certify that information provided in this relationship disclosure form is true and correct based on my knowledge and belief. If any of this information changes, I further acknowledge and agree to amend this relationship disclosure form prior to any meeting at which the above-referenced project is scheduled to be heard. In accordance with s. 837.06, Florida Statutes, I understand and acknowledge that whoever knowingly makes a false statement in writing with the intent to mislead a public servant in the performance of his or her official duty shall be guilty of a misdemeanor in the second degree, punishable as provided in s. 775.082 or s. 775.083, Florida Statutes.

\_\_\_\_\_  
Signature of Applicant

Date: \_\_\_\_\_

Print Name and Title of Person completing this form: \_\_\_\_\_

STATE OF \_\_\_\_\_ :  
COUNTY OF \_\_\_\_\_ :

I certify that the foregoing instrument was acknowledged before me this \_\_\_\_ day of \_\_\_\_\_, 20\_\_ by \_\_\_\_\_. He/she is personally known to me or has produced \_\_\_\_\_ as identification and did/did not take an oath.

Witness my hand and official seal in the county and state stated above on the \_\_\_\_ day of \_\_\_\_\_, in the year \_\_\_\_\_.

(Notary Seal) \_\_\_\_\_  
Signature of Notary Public  
Notary Public for the State of \_\_\_\_\_  
My Commission Expires: \_\_\_\_\_

Staff signature and date of receipt of form

\_\_\_\_\_  
Staff reviews as to form and does not attest to the accuracy or veracity of the information provided herein.



**AGENT AUTHORIZATION FORM  
FOR PROCUREMENTS IN ORANGE COUNTY, FLORIDA**

**I/WE, (PRINT BIDDER, OFFEROR, QUOTER OR RESPONDENT NAME)**

\_\_\_\_\_, DO HEREBY AUTHORIZE TO ACT AS MY/OUR AGENT  
(PRINT AGENT'S NAME), \_\_\_\_\_, TO EXECUTE ANY PETITIONS OR  
OTHER DOCUMENTS NECESSARY TO AFFECT THE **CONTRACT APPROVAL PROCESS** MORE SPECIFICALLY  
DESCRIBED AS FOLLOWS, **IFB NO. Y18- 703-CH, SHERRY DRIVE BRIDGE REPLACEMENT**, AND TO  
APPEAR ON MY/OUR BEHALF BEFORE ANY ADMINISTRATIVE OR LEGISLATIVE BODY IN THE COUNTY  
CONSIDERING THIS **CONTRACT** AND TO ACT IN ALL RESPECTS AS OUR AGENT IN MATTERS PERTAINING TO  
**THIS CONTRACT.**

Date: \_\_\_\_\_  
Signature of Bidder, Offeror, Quoter or Respondent

STATE OF \_\_\_\_\_ :  
COUNTY OF \_\_\_\_\_ :

I certify that the foregoing instrument was acknowledged before me this \_\_\_\_ day of \_\_\_\_\_, 20\_\_ by \_\_\_\_\_. He/she is personally known to me or has produced \_\_\_\_\_ as identification and did/did not take an oath.

Witness my hand and official seal in the county and state stated above on the \_\_\_\_ day of \_\_\_\_\_, in the year \_\_\_\_\_.

(Notary Seal) \_\_\_\_\_  
Signature of Notary Public  
Notary Public for the State of \_\_\_\_\_

My Commission Expires: \_\_\_\_\_

**FREQUENTLY ASKED QUESTIONS (FAQ)**  
**ABOUT THE**  
**RELATIONSHIP DISCLOSURE FORM**  
*Updated 6-28-11*

**WHAT IS THE RELATIONSHIP DISCLOSURE FORM?**

The Relationship Disclosure Form (form OC CE 2D and form OC CE 2P) is a form created pursuant to the County's Local Code of Ethics, codified at Article XIII of Chapter 2 of the Orange County Code, to ensure that all development-related items and procurement items presented to or filed with the County include information as to the relationship, if any, between the applicant and the County Mayor or any member of the Board of County Commissioners (BCC). The form will be a part of the backup information for the applicant's item.

**WHY ARE THERE TWO RELATIONSHIP DISCLOSURE FORMS?**

Form OC CE 2D is used only for development-related items, and form OC CE 2P is used only for procurement-related items. The applicant needs to complete and file the form that is applicable to his/her case.

**WHO NEEDS TO FILE THE RELATIONSHIP DISCLOSURE FORM?**

Form OC CE 2D should be completed and filed by the owner of record, contract purchaser, or authorized agent. Form OC CE 2P should be completed and filed by the bidder, offeror, quoter, or respondent, and, if applicable, their authorized agent. In all cases, the person completing the form must sign the form and warrant that the information provided on the form is true and correct.

**WHAT INFORMATION NEEDS TO BE DISCLOSED ON THE RELATIONSHIP DISCLOSURE FORM?**

The relationship disclosure form needs to disclose pertinent background information about the applicant and the relationship, if any, between, on the one hand, the applicant and, if applicable, any person involved with the item, and on the other hand, the Mayor or any member of the BCC.

In particular, the applicant needs to disclose whether any of the following relationships exist: (1) the applicant is a business associate of the Mayor or any member of the BCC; (2) any person involved with the approval of the item has a beneficial interest in the outcome of the matter *and* is a business associate of the Mayor or any member of the BCC; (3) the applicant is a relative of the Mayor or any member of the BCC; or (4) the Mayor or any member of the BCC is an employee of the applicant. (See Section 2-454, Orange County Code.)

**HOW ARE THE KEY RELEVANT TERMS DEFINED?**

*Applicant* means, for purposes of a development-related project, the owner, and, if applicable, the contract purchaser or owner's authorized agent. *Applicant* means, for purposes of a procurement item, the bidder, offeror, quoter, respondent, and, if applicable, the authorized agent of the bidder, offeror, quoter, or respondent.

*Business associate* means any person or entity engaged in or carrying on a business enterprise with a public officer, public employee, or candidate as a partner, joint venture, corporate shareholder where the shares of such corporation are not listed on any national or regional stock exchange, or co-owner of property. In addition, the term includes any person or entity engaged in or carrying on a business enterprise, or otherwise engaging in common investment, with a public officer, public employee, or candidate as a partner, member, shareholder, owner, co-owner, joint venture partner, or other investor, whether directly or indirectly, whether through a Business Entity or through interlocking Parent Entities, Subsidiary Entities, or other business or investment scheme, structure, or venture of any nature. (See Section 112.312(4), Florida Statutes, and Section 2-452(b), Orange County Code.)



*Employee* means any person who receives remuneration from an employer for the performance of any work or service while engaged in any employment under any appointment or contract for hire or apprenticeship, express or implied, oral or written, whether lawfully or unlawfully employed, and includes, but is not limited to, aliens and minors. (See Section 440.02(15), Florida Statutes.)

*Relative* means an individual who is related to a public officer or employee as father, mother, son, daughter, brother, sister, uncle, aunt, first cousin, nephew, niece, husband, wife, father-in-law, mother-in-law, son-in-law, daughter-in-law, brother-in-law, sister-in-law, stepfather, stepmother, stepson, stepdaughter, stepbrother, stepsister, half brother, half sister, grandparent, great grandparent, grandchild, great grandchild, step grandparent, step great grandparent, step grandchild, step great grandchild, person who is engaged to be married to the public officer or employee or who otherwise holds himself or herself out as or is generally known as the person whom the public officer or employee intends to marry or with whom the public officer or employee intends to form a household, or any other natural person having the same legal residence as the public officer or employee. (See Section 112.312(21), Florida Statutes.)

**DOES THE RELATIONSHIP DISCLOSURE FORM NEED TO BE UPDATED IF INFORMATION CHANGES?**

Yes. It remains a continuing obligation of the applicant to update this form whenever any of the information provided on the initial form changes.

**WHERE DO THE RELATIONSHIP DISCLOSURE FORM AND ANY SUBSEQUENT UPDATES NEED TO BE FILED?**

For a development-related item, the Relationship Disclosure Form and any update need to be filed with the County Department or County Division where the applicant filed the application. For a procurement item, the Relationship Disclosure Form and any update need to be filed with the Procurement Division.

**WHEN DO THE RELATIONSHIP DISCLOSURE FORM AND ANY UPDATES NEED TO BE FILED?**

In most cases, the initial form needs to be filed when the applicant files the initial development-related project application or initial procurement-related forms. However, with respect to a procurement item, a response to a bid will not be deemed unresponsive if this form is not included in the initial packet submitted to the Procurement Division.

If changes are made after the initial filing, the final, cumulative Relationship Disclosure Form needs to be filed with the appropriate County Department or County Division processing the application not less than seven (7) days prior to the scheduled BCC agenda date so that it may be incorporated into the BCC agenda packet. When the matter is a discussion agenda item or is the subject of a public hearing, and an update has not been made at least 7 days prior to BCC meeting date or is not included in the BCC agenda packet, the applicant is obligated to verbally present such update to the BCC when the agenda item is heard or the public hearing is held. When the matter is a consent agenda item and an update has not been made at least 7 days prior to the BCC meeting or the update is not included in the BCC agenda packet, the item will be pulled from the consent agenda to be considered at a future meeting.

**WHO WILL REVIEW THE INFORMATION DISCLOSED ON THE RELATIONSHIP DISCLOSURE FORM AND ANY UPDATES?**

The information disclosed on this form and any updates will be a public record as defined by Chapter 119, Florida Statutes, and may therefore be inspected by any interested person. Also, the information will be made available to the Mayor and the BCC members. This form and any updates will accompany the information for the applicant's project or item.

However, for development-related items, if an applicant discloses the existence of one or more of the relationships described above and the matter would normally receive final consideration by the Concurrency Review Committee or the Development Review Committee, the matter will be directed to the BCC for final consideration and action following committee review.

**CONCLUSION:**

We hope you find this FAQ useful to your understanding of the Relationship Disclosure Form. Please be informed that if the event of a conflict or inconsistency between this FAQ and the requirements of the applicable ordinance or law governing relationship disclosures, the ordinance or law controls.

Also, please be informed that the County Attorney's Office is not permitted to render legal advice to an applicant or any other outside party. Accordingly, if the applicant or an outside party has any questions after reading this FAQ, he/she is encouraged to contact his/her own legal counsel.

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**E VERIFICATION CERTIFICATION**

**IFB NO. Y18-703-CH**

**NAME OF CONTRACTOR:** \_\_\_\_\_ (referred to herein as “Contractor”)

**ADDRESS OF CONTRACTOR:**  
\_\_\_\_\_  
\_\_\_\_\_

The undersigned does hereby certify that the above named contractor:

- 1. Is registered and is using the E-Verify system; or
- 2. Does not have any employees and does not intend to hire any new employees during the period of time that the contractor will be providing services under the contract and consequently is unable to register to use the E-Verify system; or
- 3. Employs individuals that were hired prior to the commencement of providing labor on the contract and does not intend to hire any new employees during the period of time that the contractor will be providing labor under the contract, and consequently is unable to use the E-Verify system.

The undersigned acknowledges the use of the E-Verify system for newly hired employees is an ongoing obligation for so long as the contractor provides labor under the contract and that the workforce eligibility of all newly hired employees will be properly verified using the E-Verify system.

**In accordance with Section 837.06, Florida Statutes, Contractor acknowledges that whoever knowingly makes a false statement in writing with the intent to mislead a public servant in the performance of his or her official duties shall be guilty of a misdemeanor in the second degree, punishable as provided in Section 775.082 or Section 775.083, Florida Statutes.**

**AUTHORIZED SIGNATURE:** \_\_\_\_\_

**NAME:** \_\_\_\_\_

**TITLE:** \_\_\_\_\_

**DATE:** \_\_\_\_\_

**BID BOND**

**BOND NUMBER** \_\_\_\_\_

STATE OF FLORIDA)  
SS  
COUNTY OF ORANGE)

**KNOW ALL MEN BY THESE PRESENTS**, that we, \_\_\_\_\_, as Principal, and \_\_\_\_\_, as Surety, are held firmly bound unto Orange County, Florida, in the penal sum of: \$ \_\_\_\_\_ Dollars **(Ten percent {10%} of base bid if no amount entered)**  
**(Total Sum Written in Words)**

lawful money of the United States, for the payment of which sum well and truly to be made, we bound ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

**THE CONDITION OF THIS OBLIGATION IS SUCH**, that whereas the Principal has submitted the attached Bid, dated the \_\_\_\_\_ day of \_\_\_\_\_, **20**\_\_, for a Contract entitled: **SHERRY DRIVE BRIDGE REPLACEMENT, IFB Y18-703-CH.**

**NOW THEREFORE**, if the Principal shall withdraw said Bid prior to the date of opening the same, or shall within ten (10) days after the prescribed forms are presented to him for signature, enter in a written Contract with Orange County, Florida, in accordance with the Bid as accepted, and give a Performance Bond and a Payment Bond with good and sufficient Surety or sureties as may be required, for the faithful performance and proper fulfillment of such Contract and for prompt payment of all persons furnishing labor or materials in connection therewith, or in the event of the failure to enter into such Contract and give such Bonds within the time specified, if the Principal shall pay the County the difference between the amount specified in said Bid and the amount for which the County may procure the required work and/or supplies, provided the latter amount to be in excess of the former, then the above obligations shall be void and of no effect; otherwise to remain in full force and virtue.

**IN WITNESS WHEREOF**, the above written parties have executed this instrument under their several seals this the \_\_\_\_\_ day of \_\_\_\_\_, **20**\_\_, the name and corporate seal of each corporate party being affixed and these presents duly signed by its undersigned, pursuant to authority of its governing body.

**CONTRACTOR-PRINCIPAL:**

**SURETY:**

\_\_\_\_\_  
**NAME OF BUSINESS ENTITY**

\_\_\_\_\_  
**NAME OF SURETY**

\_\_\_\_\_  
**SIGNATURE**  
**(SEAL)**

\_\_\_\_\_  
**SIGNATURE: SURETY AGENT**  
**(SEAL)**

\_\_\_\_\_  
**TYPE NAME AND TITLE**

\_\_\_\_\_  
**TYPE NAME AND TITLE**

\_\_\_\_\_  
**BUSINESS ADDRESS**

\_\_\_\_\_  
**BUSINESS ADDRESS**

\_\_\_\_\_  
**TELEPHONE**

\_\_\_\_\_  
**TELEPHONE**

**NAIC NUMBER:** \_\_\_\_\_

Licensed Florida Insurance Agent? Yes \_\_\_\_\_ No \_\_\_\_\_

License Number: \_\_\_\_\_

STATE OF \_\_\_\_\_)

COUNTY OF \_\_\_\_\_) SS

CITY OF \_\_\_\_\_)

Before me, a Notary Public duly commissioned, qualified and acting personally, appeared:

\_\_\_\_\_

to me well known, who being by me first duly sworn upon oath says that he is Attorney-in-Fact for

\_\_\_\_\_

as Surety, and that he has been authorized by said Surety to execute the foregoing Bid Bond on behalf of the Principal (Contractor) named therein in favor of the owner.

Subscribed and sworn to before me this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Notary Public

\_\_\_\_\_  
(Print, Type or Stamp Commissioned Name of Notary Public)

Personally Known \_\_\_\_\_ or Produced Identification \_\_\_\_\_

Type of Identification: \_\_\_\_\_

**In accordance with Part C, Section 19 and Part F Article 8 of the Invitation for Bids, if applicable, list the Lead Surety.**

\_\_\_\_\_  
LEAD SURETY

\_\_\_\_\_  
AGENT FOR SURETY

\_\_\_\_\_

\_\_\_\_\_  
Signature

BY: \_\_\_\_\_

AGENCY ADDRESS: \_\_\_\_\_

SURETY ADDRESS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

PHONE \_\_\_\_\_

**BOARD OF COUNTY COMMISSIONERS  
ORANGE COUNTY, FLORIDA  
UNIT PRICE CONSTRUCTION CONTRACT**

**CONTRACT:**

Made between the Board of County Commissioners, Orange County, Florida (hereinafter called County), represented by the Manager of the Procurement Division executing this Contract, and:

>

**Federal Identification Number: >**

A Corporation formed under the laws of the State of Florida, hereinafter called Contractor.

The Contractor shall perform all the Work required by the Contract Documents for the proper execution and completion of **SHERRY DRIVE BRIDGE REPLACEMENT** in full accordance with the drawings and as elaborated in the specifications of **Invitation for Bids No. Y18-703-CH** which is made a part of this Contract as completely as if set forth herein.

I

**AMOUNT OF CONTRACT:**

The County shall pay the Contractor in current funds, and in accordance with the progress payment schedule as stated herein, for the performance of the Work, subject to additions and deductions by Change Order as provided in the Contract Documents, the Estimated Contract Amount of (\$>) at the unit prices set forth in the Invitation for Bid Official Bid Form, Part D.

**MAXIMUM CONTRACT AMOUNT:**

The Contractor shall provide written notification to the County's Project Manager when 90% of the total contract amount has been reached. The Contractor shall not proceed beyond 100% of the total contract amount unless duly authorized by a written change order.

**ESTIMATED QUANTITIES:**

This Contract is based on estimated quantities. The contractor shall only be paid for materials installed in the work in accordance with the applicable unit prices for the specific work element (line item). No payment shall be made for excess materials delivered to the jobsite and not incorporated into the work. Therefore, it shall be the contractor's responsibility to determine the quantities of materials necessary to perform the project to its completion.

**II**  
**ASBESTOS FREE MATERIALS:**

Project is to be constructed with asbestos free materials. A written, notarized statement on company letterhead is to be submitted with the final payment request. Final payment shall be withheld until such statement is submitted. Contractor shall agree that if materials containing asbestos are subsequently discovered at any future time to have been included in the construction done by the Contractor or any of its Subcontractors or agents and were not specified in the design or required by the Contract document, Contractor shall be liable for all costs related to the abatement of such asbestos and damages or claims against the County.

**III**  
**ADMINISTRATIVE DATA:**

Progress Payments: Based upon Applications for Payment submitted to the Project Manager by the Contractor and Certificates for Payment issued by the Project Manager the County shall make progress payments on account of the Contract Amount to the Contractor as provided in the Contract Documents as follows:

Not later than 30 days following approval of an application for Payment, ninety percent (90%) of the portion of the Contract Amount properly allocable to labor, materials and equipment incorporated in the Work and ninety percent (90%) of the portion of the Contract Amount properly allocable to materials and equipment suitably stored at the site or at some other location agreed upon in writing, for the period covered by the application for payment, less the aggregate of previous payments made by the Owner.

When the completion of the Work ascertained as payable exceeds fifty percent (50%) of the total contract amount the retainage percentage withheld shall be reduced to 5%. Upon Final completion of the entire Work, a sum sufficient to increase the total payments to one hundred percent (100%) of the Contract Amount, less such amounts as the Owner shall determine for all incomplete work and unsettled claims as provided in the Contract Documents.

Should the Contractor fail to substantially complete all Work under this Contract and make the project available for beneficial use on or before the date stipulated for Substantial Completion (or such later date as may result from extension of time granted by County), he shall pay and/or the County may retain from the compensation otherwise to be paid to the Contractor, as liquidated damages, the sum of **\$1,584.00** for each consecutive calendar day that terms of the Contract remain unfulfilled beyond date allowed by the Contract, which sum is agreed upon as a reasonable and proper measure of damages which County will sustain per diem by failure of Contractor to complete work within time as stipulated; it being recognized by County and Contractor that the injury to County which could result from a failure of Contractor to complete on schedule is uncertain and cannot be computed exactly. In no way shall costs for liquidated damages be construed as a penalty on the Contractor. For each consecutive calendar day that the work remains incomplete after the date established for Final Completion, the County will retain from the compensation otherwise to be paid to the Contractor the sum of **\$1,584.00**. This amount is the mutually agreed upon minimum measure of damages the County will sustain by failure of the Contractor to complete all



remedial work, correct deficient work, clean up the project and other miscellaneous tasks as required to complete all Work specified and this amount of liquidated damages is in addition to the liquidated damages prescribed above for failure to timely achieve Substantial Completion.

**IV**  
**CONTRACT DOCUMENTS:**

This Contract entered into this date by the Board of County Commissioners hereinafter called the County, represented by the Manager of the Procurement Division executing this Contract and the individual, partnership or corporation named above, hereinafter called the Contractor. Witnesseth that the parties hereto do mutually agree as follows:

The Contractor shall furnish all labor, equipment and materials and perform the Work described for the amount stated above in strict accordance with the General Conditions, Supplementary Conditions/Special Provisions, Plans and Specifications and other Contract Documents, all of which are made a part hereof and designated as follows:

- a. Orange County Invitation for Bids/Project Manual, **IFB No. Y18-703-CH dated August 28, 2017**, (which contains the Invitation for Bids, Notice, Instruction to Bidders, Bid Form and Attachments, this Contract, General Conditions, Supplementary Conditions / Special Provisions, and Specifications);
- b. Drawings bearing the title "**Construction Plans, SHERRY DRIVE BRIDGE REPLACEMENT**".
- c. Addendum No.> dated >;
- d. >'s Bid Proposal dated **September 28, 2017**;
- e. Payment/Performance Bond;
- f. Certificates of Insurance;

**V**  
**PRIORITY OF DOCUMENTS:**

The order of precedence of items and documents is as follows:

Construction Contract  
Permits  
Supplemental Conditions/Special Provisions  
General Conditions  
Specifications/Technical Provisions  
Drawings/Plans  
Road Design, Structures, and Traffic Operations Standards (If applicable)  
Florida Department of Transportation Standard Specifications for Road and Bridge Construction (If applicable)  
Bid Proposal  
Instructions to Bidders

**VI**  
**TIME OF COMMENCEMENT AND FINAL COMPLETION:**

- a. Work to commence within fourteen (14) days of Official Notice to Proceed date and shall be completed, unless amended by written Change Order or Amendment executed by both parties to this Contract.
- b. Substantial Completion of the Work shall be achieved not later than **240** consecutive calendar days from date of Official Notice to Proceed.
- c. Final Completion of the Work shall be achieved not later than **300** consecutive calendar days from date of Official Notice to Proceed.

**VII**  
**COMPLIANCE WITH M/WBE CONTRACT REQUIREMENTS:**

By entering into this Contract, the Contractor affirmatively commits to comply with the MWBE subcontracting requirements submitted with his/her bid. The failure of the Contractor to comply with this commitment during the Contract's performance period may be considered a breach of Contract.

The County may take action up to and including termination for default if this condition is not remedied within the time period specified by the Manager, Procurement Division.

**VIII**  
**MISCELLANEOUS PROVISIONS:**

- a. Terms used in this Contract that are defined in the General Conditions shall have the meanings designated in those conditions.
- b. No price adjustments shall be made on this contract to the bid price of any products or materials including but not limited to gasoline, diesel or other fuels, and bituminous materials, including asphalt due to fluctuations in market prices, changes in suppliers or any other reason.
- c. County and Contractor each binds himself, his partners, successors, assigns and legal representatives to the other party hereto, his partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

- d. The laws of the State of Florida shall govern this Contract. Any and all legal action necessary to enforce the provisions of this Contract will be held in Orange County, Florida. Venue for any litigation involving this Contract shall be the Ninth Circuit Court in and for Orange County, Florida.

---

**BOARD OF COUNTY COMMISSIONERS  
ORANGE COUNTY, FLORIDA**

**BY** \_\_\_\_\_  
Carrie Woodell, MPA, CFCM, CPPO, C.P.M.  
CPPB, APP, Manager, Procurement Division

**BY** \_\_\_\_\_  
**Signature**

**DATE** \_\_\_\_\_  
(For County use only)

\_\_\_\_\_  
**Type or Print Name**

**Corporate  
Seal**

**P E R F O R M A N C E   B O N D**

**BOND NUMBER** \_\_\_\_\_

**KNOW ALL MEN BY THESE PRESENTS** that

**Name of Contractor** \_\_\_\_\_

**Address** \_\_\_\_\_

**Phone Number** \_\_\_\_\_

**Corporation, Partnership or Individual** \_\_\_\_\_

hereinafter referred to as the Contractor, as Principal, and

**Name of Surety** \_\_\_\_\_

**Address** \_\_\_\_\_

**Phone Number** \_\_\_\_\_

hereinafter called SURETY, as SURETY, are held and firmly bound unto Orange County, 400 East South Street, Orlando, FL 32801, (407)836-5635 a Political Subdivision of the State of Florida as Obligee, hereinafter referred to as Owner, in the full and just sum of \$ \_\_\_\_\_, lawful money of the United States of America, to the payment of which sum, well and truly to be made, the Contractor and SURETY bind themselves, their representatives, and each of their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

**WHEREAS**, the Contractor has entered into **Contract No. Y18-703** with the "County", also referred to herein as the OWNER, for the project entitled: **SHERRY DRIVE BRIDGE REPLACEMENT, Sherry Drive Bridge along the east side of Little Wekiva River (Canal LW-9) from Kelvington Drive to Sherry Drive, Orange County, Florida** with conditions and provisions as are further described in the aforementioned Contract, which Contract is by reference made a part hereof for the purpose of explaining this bond.

**General description of the Work: The project will consist of constructing a 24 foot wide roadway along the east side of the Little Wekiva River (Canal LW-9) from Kelvington Drive to Sherry Drive, removal of the existing bridge at Sherry Drive, and constructing a T-shaped cul-de-sac on the west side of the Little Wekiva River on Sherry Drive. The utilities portion of the project entails the construction of approximately 328 linear feet of 8" D.I. water main that will connect to existing mains on Kelvington Drive and Sherry Drive.**

**NOW, THEREFORE**, the condition of this obligation is such that if Contractor shall fully, promptly and faithfully perform said Contract and all obligations thereunder, including all obligations imposed by the Contract documents (which includes the Notice to Bidders, Instruction to Bidders, Proposal and Bid Form, General and Supplementary Conditions, Detail Specifications, Form(s) of Contract Bond(s), Plans and Specifications and such amendments thereof as may be made as provided for therein), then this obligation shall be void; otherwise it shall remain in full force and effect.

1. The undersigned shall indemnify and save harmless said Owner against and from all costs, expenses and damages, including litigation costs and attorney's fees arising out of, or in connection with the neglect, default or want of care or skill, including patent infringement on the part of said Contractor, his agents, servants or employees in the execution or performance of said Contract.

**The applicable provisions of Section 255.05 and 713.01 Florida Statutes apply to this bond.**

2. Whenever Contractor shall be, and declared by Owner to be in default under the Contract, the Owner having performed Owner's obligations thereunder, the SURETY may promptly remedy the default or shall promptly:

- A. Complete the Contract in accordance with its terms and conditions; or
  - B. Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by SURETY of the lowest responsible bidder, or, if the Owner elects, upon determination by the Owner and the SURETY jointly of the lowest responsible bidder, arrange for a Contract between such bidder and the Owner. SURETY shall make available as the work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this Paragraph) sufficient funds to pay the costs of completion, including other costs and damages for which the SURETY may be liable hereunder, the amount set forth in the first paragraph hereof.
3. Any changes in or under the Contract Documents and compliance or noncompliance with any formalities connected with the Contract or the changes shall not affect SURETY'S obligation under this bond. Any increase in the total Contract amount as authorized by the Owner shall accordingly increase the SURETY'S obligation by the same dollar amount of said increase. The Principal shall be responsible for notification to SURETY of all such changes.
  4. The undersigned expressly acknowledges its obligations and liabilities for liquidated damages suffered by the Owner under the provisions of the Contract Documents.
  5. The undersigned, covenant and agree that no change, extension of time, exercise of options for Contract renewals, changes to Contract amounts, alterations or additions to the terms of the Contract or the work to be performed thereunder, or the specifications accompanying the same shall in any way affect their obligation on this bond, and the SURETY does hereby expressly waive notice of any such change, extension of time, change to Contract amount, alteration, or addition. Moreover, no alterations or additions to this bond form shall be binding unless specifically agreed to in writing by the parties.
  6. The Contractor shall save the Owner harmless from any and all damages, expenses and costs which may arise by virtue of any defects in said work or materials within a period of one (1) year from the date of Final Completion of the Project.

Signed and sealed this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

CONTRACTOR, AS PRINCIPAL

WITNESS:

\_\_\_\_\_

Firm Name

BY: \_\_\_\_\_

Signature

\_\_\_\_\_

Type Name and Title

SURETY

AGENT FOR SURETY

NAIC Number: \_\_\_\_\_

Signature

BY: \_\_\_\_\_ AGENCY ADDRESS: \_\_\_\_\_

SURETY ADDRESS: \_\_\_\_\_

\_\_\_\_\_ PHONE \_\_\_\_\_

Licensed Florida Insurance Agent? Yes \_\_\_\_\_ No \_\_\_\_\_

License Number: \_\_\_\_\_

STATE OF \_\_\_\_\_)

COUNTY OF \_\_\_\_\_) SS

CITY OF \_\_\_\_\_)

Before me, a Notary Public duly commissioned, qualified and acting personally, appeared:

to me well known, who being by me first duly sworn upon oath says that he is Attorney-in-Fact for

as Surety, and that he has been authorized by said Surety to execute the foregoing Performance Bond on behalf of the Principal (Contractor) named therein in favor of the owner.

Subscribed and sworn to before me this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

Notary Public

(Print, Type or Stamp Commissioned Name of Notary Public)

Personally Known \_\_\_\_\_ or Produced Identification \_\_\_\_\_

Identification: \_\_\_\_\_ Type of \_\_\_\_\_

In accordance with Part C, Section 19 and Part F Article 8 of the Contract, if applicable, list the Lead Surety.

LEAD SURETY

AGENT FOR SURETY

Signature

BY: \_\_\_\_\_

AGENCY ADDRESS: \_\_\_\_\_

SURETY ADDRESS: \_\_\_\_\_

PHONE \_\_\_\_\_

**P A Y M E N T B O N D**  
**BOND NUMBER \_\_\_\_\_**

**KNOW ALL MEN BY THESE PRESENTS** that

**Name of Contractor** \_\_\_\_\_

**Address** \_\_\_\_\_

**Phone Number** \_\_\_\_\_

**Corporation, Partnership or Individual** \_\_\_\_\_

Thereinafter called Contractor, as Principal, and

**Name and Address of Surety** \_\_\_\_\_

hereinafter called SURETY, as SURETY, are held and firmly bound unto Orange County, 400 East South Street, Orlando, FL 32801, (407) 836-5635 a Political Subdivision of the State of Florida as Obligee, in the full and just sum of \$ \_\_\_\_\_, lawful money of the United States of America, to the payment of which sum, well and truly to be made, the Contractor and SURETY bind themselves, their representatives, and each of their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

**WHEREAS**, the Contractor has entered into **Contract No. Y18-703** with the "County", also referred to herein as the OWNER, for the project entitled: **SHERRY DRIVE BRIDGE REPLACEMENT, Sherry Drive Bridge along the east side of Little Wekiva River (Canal LW-9) from Kelvington Drive to Sherry Drive, Orange County, Florida** with conditions and provisions as are further described in the aforementioned Contract, which Contract is by reference made a part hereof for the purpose of explaining this bond.

**General description of the Work: The project will consist of constructing a 24 foot wide roadway along the east side of the Little Wekiva River (Canal LW-9) from Kelvington Drive to Sherry Drive, removal of the existing bridge at Sherry Drive, and constructing a T-shaped cul-de-sac on the west side of the Little Wekiva River on Sherry Drive. The utilities portion of the project entails the construction of approximately 328 linear feet of 8" D.I. water main that will connect to existing mains on Kelvington Drive and Sherry Drive.**

**NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS** such that if Contractor shall promptly make payments to all claimants for any and all labor and material used or reasonably required for use or furnished in connection with the performance of said Contract, and shall perform all other covenants and obligations of this bond, then this obligation shall be void; otherwise it shall remain in full force and effect.

1. The undersigned shall promptly make payment to all persons supplying services, labor, material or supplies used directly or indirectly by said Contractor, or any subcontractor(s) or sub-subcontractor(s), in the prosecution of the work provided for in said Contract.
2. Subject to the Owner's priority, claimants covered by Section 713.01 of the Florida Statutes shall have a direct right of action against the Principal and SURETY under this obligation, after written notice of the performance of labor or delivery of materials or supplies, and non-payment therefore. Any claimant who seeks to recover against the Principal or SURETY under this obligation must also satisfy the notice requirement and time limitations of Section 255.05 of the Florida Statutes, as amended.
3. The undersigned, covenant and agree that no change, extension of time, exercise of options for Contract renewals, change to Contract amounts, alterations or additions to terms of the Contract or the work to be performed thereunder, or the specifications accompanying the same shall in any way affect their obligation on this bond and the SURETY does hereby expressly waive notice of any such change, extension of time, exercise of options for Contract renewal, changes to Contract amount, alternations or additions. Moreover, no alterations or additions to this bond form shall be binding unless specifically agreed to in writing by the parties.

**The applicable provisions of Sections 255.05 and Florida Statutes apply to this bond.**

4. Any changes in or under the Contract Documents and compliance or noncompliance with any formalities connected with the Contract or the changes shall not affect SURETY'S obligation under this bond. Any increase in the total Contract amount as authorized by the Owner shall accordingly increase the SURETY'S obligation by the same dollar amount of said increase. The Principal shall be responsible for notification to SURETY of all such changes.

Signed and sealed this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_

CONTRACTOR, AS PRINCIPAL:

WITNESS:

\_\_\_\_\_  
Firm Name

\_\_\_\_\_  
Signature

BY: \_\_\_\_\_  
Signature

\_\_\_\_\_  
Type Name and Title

SURETY: \_\_\_\_\_

AGENT FOR SURETY: \_\_\_\_\_

NAIC Number: \_\_\_\_\_

BY: \_\_\_\_\_  
Signature

BY: \_\_\_\_\_

AGENCY ADDRESS: \_\_\_\_\_

SURETY ADDRESS \_\_\_\_\_

PHONE NO. \_\_\_\_\_

Licensed Florida Insurance Agent? Yes \_\_\_\_\_ No \_\_\_\_\_

License Number: \_\_\_\_\_

STATE OF \_\_\_\_\_)

COUNTY OF \_\_\_\_\_) SS

CITY OF \_\_\_\_\_)

Before me, a Notary Public duly commissioned, qualified and acting personally, appeared:

\_\_\_\_\_ to me well known, who being by me first duly sworn upon oath says that he is Attorney-in-Fact for

\_\_\_\_\_ as Surety, and that he has been authorized by said Surety to execute the foregoing Payment Bond on behalf of the Principal (Contractor) named therein favor of the owner.

Subscribed and sworn to before me this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
Notary Public

\_\_\_\_\_  
(Print, Type or Stamp Commissioned Name of Notary Public)

Personally Known \_\_\_\_\_ or Produced Identification (Type) \_\_\_\_\_



**In accordance with Part C, Section 19 and Part F Article 8 of the Contract, if applicable, list the Lead Surety.**

_____	_____
LEAD SURETY	AGENT FOR SURETY
_____	_____
	Signature
BY: _____	AGENCY ADDRESS: _____
SURETY ADDRESS: _____	_____
_____	PHONE _____

**(THIS FORM MUST BE UTILIZED IN ALL FINAL PAY APPLICATIONS)**

**FINAL RELEASE OF LIEN**

**KNOW ALL MEN BY THESE PRESENTS**, that for and in consideration of the sum of monies, set out in the accompanying Estimate Statement No. \_\_\_\_\_, final, which quantity, the receipt of which is hereby acknowledged, is accepted as full and complete compensation for all work done, materials furnished and damages or claims arising under Orange County Contract No. Y18-703, entitled:

SHERRY DRIVE BRIDGE REPLACEMENT

By:

\_\_\_\_\_  
Contractor  
(SEAL)

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

The foregoing instrument was acknowledged before this \_\_\_\_\_ day of

\_\_\_\_\_ 20\_\_\_\_\_, by \_\_\_\_\_.

Personally Known \_\_\_\_\_ OR Produced Identification \_\_\_\_\_

Type of identification Produced \_\_\_\_\_

**CHANGE ORDER REQUEST  
PURCHASE ORDER / DELIVERY ORDER / CONTRACT**

\*Vendor Code: \_\_\_\_\_ \*Vendor Name: \_\_\_\_\_ \*Date: \_\_\_\_\_

\*Change Order Request No.: \_\_\_\_\_ \*Document No.: \_\_\_\_\_ Contract No. \_\_\_\_\_

\*Department: \_\_\_\_\_ \*Contact/Phone No.: \_\_\_\_\_

**ACCOUNTING LINE CHANGE ONLY:**

Accounting Line From: \_\_\_\_\_ Amount: \_\_\_\_\_

Accounting Line To: \_\_\_\_\_ Amount: \_\_\_\_\_

**COMMODITY LINE NUMBER ADD:**

Comm. Line No.: \_\_\_\_\_ Commodity Code: \_\_\_\_\_ Quantity: \_\_\_\_\_ Unit of Measure: \_\_\_\_\_

Unit Cost: \_\_\_\_\_ Description: \_\_\_\_\_ MA Line No. \_\_\_\_\_

Accounting Line: \_\_\_\_\_ Amount: \_\_\_\_\_

**COMMODITY LINE NUMBER INCREASE / DECREASE / DELETE:**

Comm. Line No. \_\_\_\_\_ Increase Qty By: \_\_\_\_\_ Decrease Qty By: \_\_\_\_\_ Increase Unit Cost By: \_\_\_\_\_

Decrease Unit Cost By: \_\_\_\_\_ Accounting Line: \_\_\_\_\_

Delete: \_\_\_\_\_ (check only if you want to delete this line number).

**CANCELLATION:**

\_\_\_\_\_ Please cancel Purchase Order / Delivery Order

Original sent to vendor: \_\_\_\_\_ Yes \_\_\_\_\_ No

**\*JUSTIFICATION (Required for all transactions):** \_\_\_\_\_

Enter Retainage for line number(s) \_\_\_\_\_ in the amount of \_\_\_\_\_ %

*Original PO/DO/Contract Award/Encumbrance <u>circle one</u>	Contract Amount	Encumbered/De-Encumbered Amount
	\$ _____	\$ _____
*Net Dollars for Previous Change Orders (Addition/Subtraction) <u>circle one</u>	\$ _____	\$ _____
*Net Dollars for This Change Order (Addition/Subtraction) <u>circle one</u>	\$ _____	\$ _____
*Total Dollars	\$ _____	\$ _____

By signing this agreement, the Contractor hereby releases the County, its agents, and employees from any and all liabilities under this contract for further equitable adjustments and/or claims associated with this change order.

\*Vendor/Contractor Authorization: \_\_\_\_\_ Date: \_\_\_\_\_

\*Departmental Approval: \_\_\_\_\_ Date: \_\_\_\_\_

\*Purchasing & Contracts Approval: \_\_\_\_\_ Date: \_\_\_\_\_

**For Purchasing Use Only** Track Change Order:  Yes  No Change Award Amount to: \$ \_\_\_\_\_

Add the following text to the PO/DO: \_\_\_\_\_

**CHANGE ORDER REQUEST CONTINUATION SHEET Document No.:** \_\_\_\_\_  
**PURCHASE ORDER / DELIVERY ORDER / CONTRACT**

**ACCOUNTING LINE CHANGE ONLY:**

Accounting Line From: \_\_\_\_\_ Amount: \_\_\_\_\_  
Accounting Line To: \_\_\_\_\_ Amount: \_\_\_\_\_  
Accounting Line Add: \_\_\_\_\_ Amount: \_\_\_\_\_  
Accounting Line From: \_\_\_\_\_ Amount: \_\_\_\_\_  
Accounting Line To: \_\_\_\_\_ Amount: \_\_\_\_\_  
Accounting Line Add: \_\_\_\_\_ Amount: \_\_\_\_\_

**COMMODITY LINE NUMBER ADD:**

Comm. Line No.: \_\_\_\_\_ Commodity Code: \_\_\_\_\_ Quantity: \_\_\_\_\_ Unit of Measure: \_\_\_\_\_  
Unit Cost: \_\_\_\_\_ Description: \_\_\_\_\_ MA Line No. \_\_\_\_\_  
Accounting Line: \_\_\_\_\_ Amount: \_\_\_\_\_  
Comm. Line No.: \_\_\_\_\_ Commodity Code: \_\_\_\_\_ Quantity: \_\_\_\_\_ Unit of Measure: \_\_\_\_\_  
Unit Cost: \_\_\_\_\_ Description: \_\_\_\_\_ MA Line No. \_\_\_\_\_  
Accounting Line: \_\_\_\_\_ Amount: \_\_\_\_\_  
Comm. Line No.: \_\_\_\_\_ Commodity Code: \_\_\_\_\_ Quantity: \_\_\_\_\_ Unit of Measure: \_\_\_\_\_  
Unit Cost: \_\_\_\_\_ Description: \_\_\_\_\_ MA Line No. \_\_\_\_\_  
Accounting Line: \_\_\_\_\_ Amount: \_\_\_\_\_

**COMMODITY LINE NUMBER INCREASE / DECREASE / DELETE:**

Comm. Line No. \_\_\_\_ Increase Qty By: \_\_\_\_\_ Decrease Qty By: \_\_\_\_\_ Increase Unit Cost By: \_\_\_\_\_  
Decrease Unit Cost By: \_\_\_\_\_ Accounting Line: \_\_\_\_\_  
Delete: \_\_\_\_ (check only if you want to delete this line number).  
Comm. Line No. \_\_\_\_ Increase Qty By: \_\_\_\_\_ Decrease Qty By: \_\_\_\_\_ Increase Unit Cost By: \_\_\_\_\_  
Decrease Unit Cost By: \_\_\_\_\_ Accounting Line: \_\_\_\_\_  
Delete: \_\_\_\_ (check only if you want to delete this line number).  
Comm. Line No. \_\_\_\_ Increase Qty By: \_\_\_\_\_ Decrease Qty By: \_\_\_\_\_ Increase Unit Cost By: \_\_\_\_\_  
Decrease Unit Cost By: \_\_\_\_\_ Accounting Line: \_\_\_\_\_  
Delete: \_\_\_\_ (check only if you want to delete this line number).

*Departmental Approval: _____	Date: _____
Purchasing & Contracts Approval: _____	Date: _____

## CONSENT OF SURETY AND INCREASE OF PENALTY

BOND NUMBER \_\_\_\_\_

<b>1.CONTRACT#</b>	<b>2.MODIFICATION#</b>	<b>3.DATED</b>
<b>4.The Surety consents to the foregoing Contract notification and agrees that its bond or bonds shall apply and extend to the Contract as modified or amended. The principal and Surety further agree that on or after the execution of this consent, the penalty of the performance bond or bonds is increased by _____dollars (\$ _____) and the penalty of the payment bond or bonds is increased by _____dollars (\$ _____). However, the increase of the liability of each co-Surety resulting from this consent shall not exceed the sums shown below.</b>		
<b>5.NAME OF SURETY</b>	<b>6.INCREASE IN LIABILITYLIMIT UNDER PERFORMANCE BOND</b>	<b>7.INCREASE IN LIABILITYLIMIT UNDER PAYMENT BOND</b>
<b>a. SURETY ADDRESS</b>	<b>b. SIGNATURE</b>  <b>c. TYPED NAME AND TITLE</b>  <b>d. DATE THIS CONSENT EXECUTED</b>	

SURETY \_\_\_\_\_

FLORIDA RESIDENT AGENT FOR SURETY \_\_\_\_\_

Signature

BY: \_\_\_\_\_ AGENCY

ADDRESS: \_\_\_\_\_

SURETY ADDRESS: \_\_\_\_\_

PHONE \_\_\_\_\_

Signature

\_\_\_\_\_  
Type Name and Title

\_\_\_\_\_  
Business Address

\_\_\_\_\_  
License Number

\_\_\_\_\_  
Telephone Number (Include Area Code)

STATE OF \_\_\_\_\_)

COUNTY OF \_\_\_\_\_) SS

CITY OF \_\_\_\_\_)

Before me, a Notary Public duly commissioned, qualified and acting personally, appeared:

\_\_\_\_\_

to me well known, who being by me first duly sworn upon oath says that he is Attorney-in-Fact for

\_\_\_\_\_

as Surety, and that he has been authorized by said Surety to execute the foregoing Performance Bond on behalf of the Principal (Contractor) named therein in favor of the owner.

Subscribed and sworn to before me this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Notary Public

\_\_\_\_\_  
(Print, Type or Stamp Commissioned Name of Notary Public)

Personally Known \_\_\_\_\_ or Produced Identification \_\_\_\_\_

## DRUG-FREE WORKPLACE FORM

The undersigned vendor, in accordance with Florida Statute 287.087 hereby certifies that \_\_\_\_\_ does:

Name of Business

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. Informs 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, employee assistance programs and the penalties that may be imposed upon employees for drug abuse violations.
3. Gives each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in Paragraph 1.
4. In the statement specified in Paragraph 1, notifies the employees that, as a condition of working on the commodities or contractual services that are under bid, 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 893 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 such conviction.
5. Imposes a sanction on, or requires the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
6. Makes a good faith effort to continue to maintain a drug-free workplace through implementation of Paragraphs 1 thru 5.

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

\_\_\_\_\_  
Bidder's Signature

\_\_\_\_\_  
Date

## PART F

### GENERAL CONDITIONS

#### **ARTICLE 1 - THE CONTRACT**

The Contract Documents are identified in the Contract, Part E. Titles, Subtitles, Headings, Running Headlines, Table of Contents, and Indexes are printed in the Contract Documents merely for convenience.

#### **ARTICLE 2 - DEFINITIONS**

The words and expressions (or pronouns used in their stead) defined in this Article shall, wherever they appear in the Contract Documents, be construed as follows unless a different meaning is clear from the context.

**"Addenda"** shall mean any additional Contract provisions issued in writing by the County prior to receipt of Bid.

**"Bid Proposal"** shall mean the offer or proposal of the Bidder submitted on the Official Bid Form and Attachments setting forth the prices for the Work to be performed.

**"Bidder"** shall mean any person, firm or corporation submitting a Bid for the Work.

**"Board of County Commissioners"** shall mean the Board of County Commissioners, Orange County, Florida, or their duly authorized representative(s).

**"Change Order"** shall mean a written order to the Contractor, signed by the County, authorizing an addition, deletion or revision in the Work, or an adjustment in the Contract Amount or the Contract Time issued after execution of the Contract.

**"Contract"** shall mean the written agreement between the County and the Contractor covering the Work to be performed; the Contract will be attached to and made a part of the Contract Documents.

**"Contractor"** shall mean successful bidder (and vice versa), whether a corporation, firm, individual or any combination thereof, and its (or their) successors, personal representatives, executors, administrators and assigns.

**"Contract Amount"** shall mean the total monies payable to the Contractor under the Contract Documents. The term "Contract Price" where used in the Contract Documents refers to the Contract Amount.

**"Contract Float"** shall mean the number of days that an activity or a sequence of activities does not necessarily have to start or end on the scheduled dates to maintain the schedule, or as a minimum, the number of days that an activity may be delayed from its early start date without delaying completion of the Work beyond the Contract Time for Substantial Completion or Final Acceptance.



**"Contract Time"** will mean the number of calendar days stated in the Agreement for the completion of the Work.

**"County"** shall mean the Board of County Commissioners, Orange County, Florida, or their duly authorized representative(s), for whom the Work is being performed.

**"Day "** shall mean one calendar day when used in the Contract Documents.

**"Defective Work"** shall mean (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.

**"Drawings"** shall mean only those drawings specifically referred to as such in these documents or in any Addenda. Drawings issued after the execution of the Contract to explain further, to illustrate, or to show changes in the Work will be known as "Supplementary Drawings" and shall be binding upon the Contractor with the same force as the Drawings.

**"Final Acceptance"** shall mean acceptance of the Work by the County upon the expiration of the correction period required by the Contract Documents.

**"Final Completion"** shall mean acceptance of the Work by the County as evidenced by its signature upon Final Certificate of Completion and approval thereof by the Board of County Commissioners. The Final Certificate of Completion shall be signed only after the County has assured itself by tests, inspection or otherwise that all of the provisions of the Contract have been carried out to its satisfaction.

**"Notice"** shall mean written Notice. Notice shall be served upon the Contractor either personally or by leaving the said Notice at his residence or with his Agency in charge of the Work, or addressed to the Contractor at the residence or place of business given in the Bid and deposited in a postpaid wrapper in any post box regularly maintained by the United States Post Office.

**"Notice of Award"** shall mean the written notice of award of the Contract given by the County to the apparent successful Bidder.

**"Notice to Proceed"** shall mean the written notice given by the County to Contractor fixing the date the Contract Times will commence to run.

**"Professional"** shall mean the professional independent Architectural/Engineering firm designated to assist the County in the work by a prior agreement entered into by the County and the said firm. The terms "Engineer" and "Architect", where used in the Contract Documents, refer to the Professional.

**"Project"** shall mean the entire improvement of which this Contract forms a part.

**"Project Manager"** shall be the duly authorized representative of the County during the construction period.

**“Record Schedule”** shall mean the time table of predicted tasks, milestones, task durations, deadlines and the start and end dates of the Work indicated in a Progress Schedule accepted by the County and provided to the County prior to the first progress payment. County acceptance of a revised and/or updated Progress Schedule will result in a revised Record Schedule, if so noted in the County’s written acceptance, that will be used to evaluate progress and delays occurring after the acceptance of the revised Record Schedule.

**"Shop Drawings"** shall mean all drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the Contractor, a Subcontractor, a manufacturer, supplier or distributor and which illustrate the equipment, material and/or some portion of the Work.

**"Site"** shall mean the area upon or in which the Contractor's operations are carried on and such other areas adjacent thereto as may be designated as such by the Project Manager.

**"Specifications"** shall mean parts of the Contract Documents identified as "Specifications" and organized into Divisions. The specifications include general requirements and technical descriptions of materials, equipment, construction systems, standards and workmanship. The term "Technical Provisions" where used in the Contract Documents refers to the Specifications.

**"Subcontractor"** shall mean any person, firm or corporation other than employees of the Contractor who or which contracts with the Contractor to furnish, or actually furnishes labor, materials and/or equipment for the Work.

**"Substantial Completion"** shall mean the completion of the Work by the Contractor to the point where the County may make beneficial use of the Work.

**"Surety"** shall mean any corporation that executes, as Surety, the Contractor's Bid Bond, Payment Bond and Performance Bonds securing the performance of this Contract.

**"Work"** shall mean any and all obligations, duties and responsibilities necessary to the successful completion of the construction assigned to or undertaken by the Contractor under the Contract Documents, including the furnishing of all labor, materials, equipment, and other incidentals.

### **ARTICLE 3 -ASSIGNMENT OF CONTRACT**

The Contractor may not make any assignment of the contractual agreement between the parties, in whole or in part, without prior written authorization as may be given by the County, at its sole discretion.

No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without written consent of the party sought to be bound; and specifically but without limitation, monies that may become due and monies that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the

contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

#### **ARTICLE 4 - QUALIFICATIONS OF SUBCONTRACTORS AND SUPPLIERS**

The Project Manager will notify the Contractor in writing if the Project Manager, after due investigation, has reasonable objection to any Subcontractor or Supplier on the Subcontractor or Supplier Page, Bid Form Attachment C-2. If the Project Manager has reasonable objection to any Subcontractor or Supplier, the Contractor shall submit another acceptable one to the County. No increase in Contract Amount or Contract Time will be allowed under this article, unless Contractor can prove substantial increase due to the change, in which case Contractor may request an equitable adjustment to the Contract Amount or Contract Time. If Contractor requests an equitable adjustment as a result of a requested change, Contractor shall make available to the County all documents necessary, as requested by the County, to substantiate such adjustment.

The failure of the Project Manager to make objections to any Subcontractor or Supplier on the list shall not constitute a waiver of any right of the County to reject defective Work, material or equipment; or work, material or equipment not in conformance with the requirements of the Contract Documents. Should the Contractor desire to add, change or delete a Subcontractor or Supplier previously listed, the Contractor shall submit written justification for said change to the Project Manager for approval prior to the new Subcontractor or Supplier performing any Work on the Project.

#### **ARTICLE 5 - STARTING THE WORK**

The Contractor will start the Work within **fourteen (14)** calendar days of the official "Notice to Proceed" date. The Contract Time shall commence on the effective date of the "Notice to Proceed."

**Preconstruction Conference:** Within 20 days after the effective date of the Contract, but before Contractor starts the Work at the site, a conference attended by Contractor, Project Manager, Professional and others as appropriate will be held to discuss such topics as may include, but not limited to; schedules, procedures for handling Shop Drawings and other submittals and for processing Applications for Payment, maintenance of traffic, initiation of coordination with affected utilities, agreement upon the Notice to Proceed date, and to establish a working understanding among the parties as to the Work.

#### **ARTICLE 6 - INTERPRETATION AND INTENT OF THE CONTRACT DOCUMENTS**

It is the intent of the Specifications and Drawings to describe the complete Work to be constructed in accordance with the Contract Documents. However, the County makes no representation or warranty of any nature whatsoever to the Contractor concerning such documents. The Contract Documents are complementary; what is called for by one is as binding as if called for by all. If the Contractor finds a conflict, error or discrepancy in the Contract Documents, he will call it to the Project Manager's attention in writing before proceeding with the Work affected thereby. Any work that may reasonably be inferred from the Specifications or Drawings as being required to produce the intended result shall be supplied whether or not it is specifically called for. Work, materials or equipment described in words which so applied have a well known technical or trade meaning shall be deemed to refer to such recognized standards. In case of conflict, the more stringent requirements shall take precedence and govern.

Written clarifications or interpretations (which shall be consistent with or reasonably inferable from the Contract Documents) will be issued in response to a Contractor Request for Interpretation (RFI) or as the Project Manager or Professional may otherwise determine necessary. If the Contractor believes a written clarification or interpretation justifies an increase in Contract Amount or Contract Time, the Contractor shall make a claim for such increase in accordance with Article 13 of the General Conditions. If the Contractor is authorized by the County to proceed with the Work involved before full agreement is reached on (a) whether any increases are due at all, or (b) the extent of any such increases (if any are determined to be due), the Contractor shall furnish daily to the Project Manager, or Professional, actual cost records.

## **ARTICLE 7 - REFERENCE POINTS**

**Availability of Lands:** The County will furnish, as indicated in the Contract Documents and not later than the date when needed by the Contractor, the lands upon which the Work is to be done, rights-of-way for access thereto and such other lands which are designated for the use of the Contractor. Easements for permanent structures or permanent changes in existing facilities will be obtained by the County unless otherwise specified in the Contract Documents. If the Contractor believes that any delay in the County's furnishing these lands or easements entitles him to an extension of the Contract Time, he may make a claim therefore as provided in Article 13. The Contractor will provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment. The Project Manager will, upon request, furnish to the Contractor copies of all available boundary surveys and subsurface test.

**Unforeseen Subsurface Conditions:** The Contractor will promptly notify the Project Manager in writing of any subsurface or latent physical conditions at the site which may differ materially from those indicated in the Contract Documents. The Project Manager will promptly investigate those conditions and advise the Contractor in writing if further surveys or subsurface tests are necessary. Promptly thereafter, if needed, the Project Manager will obtain the necessary additional surveys and tests and furnish copies to the Contractor. If the Project Manager finds that the results of such surveys or tests indicate subsurface or latent physical conditions differing significantly from those indicated in the Contract Documents, a Change Order shall be issued incorporating the necessary revisions, in accordance with Article 12.

**Reference Points:** The Contractor shall be responsible for all field survey work coincidental with completion of this Work as specified herein. All survey work shall be done under the supervision of a Registered Professional Surveyor and Mapper. The County shall furnish, one time, a set of permanent reference markers along the line of work to form the basis for the above Contractor's survey.

All **Section Corners** and **Quarter Section** corners falling within the limits of this Work shall be perpetuated by a Florida Registered Surveyor and Mapper.

- A. All such corners falling within or on the boundaries of this project shall have reference ties made, certified to and submitted to the County Surveyor, Orange County, Florida, prior to the commencing of construction.

- B. Upon completion of construction and prior to Final Completion, certified corner records shall be submitted to the Department of Natural Resources in compliance with Florida Statutes, Chapter 177.507 and a copy of said certified corner record shall also be submitted to the Orange County Surveyor. Said corner records shall reflect the corner as perpetuated and which shall meet these minimum standards.
1. If the corner falls in asphalt or concrete construction, the corner shall be a 2 1/4" metal disc marked according to standard government practices and set in concrete no less than 18" in depth and shall be encased in an adjustable 5 1/4" diameter or larger valve box raised to the finished surface of construction.
  2. If the corner falls at any other location, it shall be a 4" x 4" concrete monument no less than 23" long with a 2 1/4" metal disc marked according to standard government practices. The top of said monument shall be set flush with the ground ( $\pm 0.5'$  depending on conditions).
- C. Any U.S.C. and G.S. monument within limits of construction are to be protected. If monuments are in danger of damage, the Contractor shall contact the Project Manager and the Orange County Surveyor prior to the commencing of construction.
- D. Payment for all necessary survey work shall be included in the bid as part of other items of work.

## **ARTICLE 8 – BONDS, INSURANCE AND INDEMNIFICATION**

**Payment and Performance Bonds:** The CONTRACTOR shall execute and deliver to the County the Payment and Performance Bonds (see Part C, 2-h) included herein as security for the faithful performance and completion of the Work and payment for all materials and labor furnished or supplied in connection with all Work included in the Contract Documents. These Bonds shall be in amounts at least equal to the Contract Amount, shall name the County as obligee and shall be in such form and by sureties of financial standing having a rating from A.M. Best Company (or other equivalent rating company) equal to or better than A- VI and must be included on the approved list of sureties issued by the United States Department of Treasury. Prior to execution of the Contract Documents the County may require the Contractor to furnish such other Bonds, in such form and with such sureties as it may require. If such Bonds are required by written instructions given prior to opening of Bids, the premium shall be paid by the Contractor. If the Contract Amount is increased by Change Order, it shall be the Contractor's responsibility to insure that the Payment and Performance Bonds be amended accordingly and a copy of the amendment is forwarded to the County.

**The Contractor shall record the payment and performance bonds in Orange County public records as required by Florida Statutes, Chapter 255.05. Before commencing the work the Contractor shall provide to the Manager of the Procurement Division a certified copy of the recorded bonds. No payment will be made to the contractor until the contractor has provided a copy of the recorded bonds.**

**If the Surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any State where any part of the Work is located or it ceases to meet the requirements imposed by the Contract Documents, the Contractor shall within five (5) days thereafter substitute another Bond with another Surety both of which shall be acceptable to the County.**

**Insurance Requirements:**

Contractor agrees to maintain on a primary basis and at its sole expense, at all times throughout the duration of this Contract the following types of insurance coverage with limits and on forms (including endorsements) as described herein. These requirements, as well as the County's review or acceptance of insurance maintained by Contractor is not intended to and shall not in any manner limit or qualify the liabilities assumed by Contractor under this Contract. Contractor is required to maintain any coverage required by federal and state workers' compensation or financial responsibility laws including but not limited to Chapter 324 and 440, Florida Statutes, as may be amended from time to time. Insurance carriers providing coverage shall be authorized and/or eligible to do business in the State of Florida and shall possess a current A.M. Best's Financial Strength Rating of A- Class VIII.

The Contractor shall require and ensure that each of its subcontractors maintain insurance until the completion of their work under any contract associated with this Contract. Failure of the Contractor to maintain insurance coverage for itself or for any other persons or entities for whom it is responsible or to ensure that its subcontractors maintain coverage shall not relieve the Contractor of any contractual responsibility, obligation or liability.

**If the CONTRACTOR intends to bid on this Contract as a Joint Venture then all insurance coverage required herein shall include the Joint Venture as "named insured". If the Joint Venture has no employees then this requirement is waived for workers' compensation. The Joint Venture shall also purchase discontinued completed operations coverage for any claims made after the dissolution of the Joint Venture. This coverage shall be for a period of two years following final completion of the project or continuing service contract.**

The minimum types and amounts of insurance inclusive of any amount provided by an umbrella or excess policy, shall be as follows:

Workers' Compensation – The Contractor shall maintain coverage for its employees with statutory workers' compensation limits, and no less than the limits indicated in the Schedule of Limits (see below) for Employers' Liability. Said coverage shall include a waiver of subrogation in favor of the County. The County will not accept elective exemptions. Any contractor using an employee leasing company shall complete the Leased Employee Affidavit (Exhibit A).

Required Endorsements:

Waiver of Subrogation- WC 00 03 13 or its equivalent (Exhibit G)

- Commercial General Liability – The Contractor shall maintain coverage issued on an ISO form CG 00 01 or its equivalent, with a limit of liability of not less than the limits indicated in the Schedule of Limits (see below). Contractor further agrees coverage shall not contain any endorsement(s) excluding or limiting Product/Completed Operations, Independent Contractors, Contractual Liability, or Separation of Insureds. The General Aggregate limit shall either apply separately to this Contract or shall be at least twice the required occurrence limit.

All projects with a Contract Amount greater than \$20,000,000 shall be written on a Designated Premises or Projects basis (Exhibit B). Commercial umbrella and excess coverage shall include liability coverage for damage to the Contractor's completed work equivalent to that provided under ISO Form CG 00 01 04 13.

Required Endorsements:

- Additional Insured- CG 20 10 04 13 and CG 20 37 04 13 or its equivalent (Exhibits E and F)

- Waiver of Subrogation- CG 24 04 05 09 or its equivalent

Note: If blanket endorsements are being submitted please include the entire endorsement. The policy number to which the endorsement applies shall be indicated directly on the endorsement.

- Business Automobile Liability - The Contractor shall maintain coverage for all owned; non-owned and hired vehicles issued on ISO form CA 00 01 or its equivalent, with limits of not less than the limits indicated in the Schedule of Limits (see below). In the event the Contractor does not own automobiles the Contractor shall maintain coverage for hired and non-owned auto liability, which may be satisfied by way of endorsement to the Commercial General Liability policy or separate Business Auto Liability policy.

Required Endorsements:

- MCS-90- for operations governed under Sections 29 & 30 of the Motor Carrier Act of 1980

Schedule of Limits:

Contract Amount	Workers' Comp/ Employers' Liability	General Liability	Automobile Liability
Up to \$10 million	Statutory/\$500,000	\$1,000,000	\$1,000,000
\$10 - \$20 million	Statutory/\$1,000,000	\$5,000,000	\$5,000,000
Over \$20 million	To Be Determined by the County		

- Pollution Legal Liability - The Contractor agrees to maintain Contractor's Pollution Legal Liability with a limit of not less than one million (\$1,000,000) per occurrence on a per-project basis.

- Builders' Risk** - If this Contract includes: (1) construction of a new above-ground structure or structures, (2) any addition, improvement, alteration, or repair to an existing structure or structures, or (3) the installation of machinery or equipment into an existing structure or structures, the Contractor shall maintain builders' risk insurance providing coverage to equally protect the interests of the County, the Professional, the Contractor and subcontractors of any tier. Coverage shall be written on a completed value form (Exhibit C) in an amount at least equal to 100% of the estimated completed value of the project plus any subsequent modifications of that sum.

The coverage shall be written on an "all-risk" basis and shall, at a minimum cover the perils insured under the ISO CP 10 30 Special Causes of Loss Form (Exhibit D) and shall include property in transit and property stored on or off premises, which shall become part of the project. The Contractor agrees not to maintain a wind or flood sub-limit less than 25% of the estimated completed value of the project. The Contractor agrees any flat deductible(s) shall not exceed \$25,000, and any wind percentage deductible (when applicable) shall not exceed five-percent (5%). The coverage shall not be subject to automatic termination of coverage in the event the project/building is occupied in whole or in part, or put to its intended use, or partially accepted by the County. If such restriction exists the Contractor shall request that the carrier endorse the policy to amend the automatic termination clause to only terminate coverage if the policy expires, is cancelled, the County's interest in the project ceases, or the project is accepted and insured by the County.

- Professional Liability**- If the construction method is "design-build" the Contractor agrees to maintain Professional Liability on a per-project basis. The Contractor agrees to provide coverage with limits and deductibles as prescribed below.

<u>Project Cost</u>	<u>Minimum Limit</u>	<u>Maximum Deductible</u>
\$0-1,000,000	50% of project cost subject to a minimum of \$100,000/occurrence	10% of project cost or \$25,000, whichever is smaller
\$1,000,000-5,000,000	\$1,000,000	\$100,000
over \$5,000,000	Determined by the County	

When a self-insured retention or deductible exceeds \$100,000 the County reserves the right to request a copy of the Contractor's most recent annual report or audited financial statement. For policies written on a "Claims-Made" basis the Contractor agrees to maintain a retroactive date prior to or equal to the effective date of this contract. In the event the policy is canceled, non-renewed, switched to occurrence form, or any other event which triggers the right to purchase a Supplemental Extended Reporting Period (SERP) during the life of this contract the Contractor agrees to purchase the SERP with a minimum reporting period of not less than two years. Purchase of the SERP shall not relieve the Contractor of the obligation to provide replacement coverage.



The Contractor shall be responsible for all risk of loss whether insured or not until final acceptance of the project by the County. The Contractor agrees to be fully and solely responsible for any costs or expenses resulting from a coverage deductible, co-insurance penalty, or self-insured retention; including any loss not covered because of the application of said deductible, co-insurance penalty, self-insured retention, or coverage exclusion or limitation. The County has the right to request that the Contractor procure and maintain a surety bond for any deductible amounts that exceed any amount stated herein in such amount and on such form that are acceptable to the County.

The County reserves the right, but not the responsibility to periodically review any and all policies of insurance and to reasonably adjust the limits and/or types of coverage required herein, from time to time throughout the term of this Contract. In such event, the County shall provide the Contractor written notice of such adjustments and the Contractor shall comply within thirty (30) days of receipt thereof. Any request for an exception to these insurance requirements must be submitted in writing to the County for approval.

The Contractor agrees to specifically include the County as an Additional Insured on the Commercial General Liability policy with a CG 20 37 – Additional Insured - Owners, Lessees or Contractors-Completed Operations (Exhibit E) or CG 20 10 – Additional Insured-Owners, Lessees or Contractors-Scheduled Person or Organization Endorsement, or their equivalent (Exhibit F). The Contractor shall also specifically include the County as an Additional Insured on any Commercial Umbrella or Excess policies unless the County is automatically defined under the policy as an Additional Protected Person. Additionally, the Contractor agrees to specifically include the County as an Additional Insured under the Contractor's Pollution Liability coverage (when applicable). The name of the organization identified in each Additional Insured endorsement's schedule shall read Orange County Board of County Commissioners.

The Contractor agrees by entering into this written Contract to provide a Waiver of Subrogation in favor of the County, Contractor, Professional, and sub-contractors of any tier for each required policy providing coverage during the life of this Contract. When required by the insurer, or should a policy condition not permit an endorsement, the Contractor agrees to notify the insurer and request that the policy(ies) be endorsed with a Waiver of Transfer of Rights of Recovery Against Others, or an equivalent endorsement. This Waiver of Subrogation requirement shall not apply to any policy, which includes a condition that specifically prohibits such an endorsement or voids coverage should the Contractor enter into such an agreement on a pre-loss basis.

**Before execution of this Contract by the County and the start of any Work and for the duration of this Contract, the Contractor shall provide the COUNTY with current certificates of insurance evidencing all required coverage. The certificates shall clearly indicate that the Contractor has obtained insurance of the type, amount and classification as required for strict compliance with this insurance section. No material change or cancellation of the insurance shall be effective without thirty (30) days prior written notice to the COUNTY. Certificates shall specifically reference the project title and contract number. The certificate holder shall read:**

Orange County Board of County Commissioners  
c/o Procurement Division  
400 E. South Street  
Orlando, Florida 32801

Prior to commencement of any Work performed by subcontractors (if any), the Contractor shall obtain certificates of insurance evidencing coverage from each of its subcontractors and shall furnish within five days, copies of said certificates upon request by the County. In addition to the certificate(s) of insurance the Contractor shall also provide a blanket or specific additional insured endorsement and all waivers of subrogation or transfer of rights of recovery endorsements for each policy.

Failure of the County to demand such certificate or other evidence of full compliance with these insurance requirements or failure of the County to identify a deficiency from evidence provided will not be construed as a waiver of the Contractor's obligation to maintain such insurance.

**Indemnification:**

Subject to the limitations in the third paragraph under this heading, the Contractor will defend, indemnify and hold harmless the County, its agents and employees from and against all liabilities, claims, damages, losses, costs and expenses (including attorney's fees) arising out of or resulting from the performance of the Work, provided that any such liability, claim, damage, loss, cost or expense:

- is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including the loss of use resulting there from and,
- is caused in whole or in part by any act or omission of the Contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in whole or in part by a party indemnified hereunder.

The Contractor hereby acknowledges receipt of One Hundred Dollars (\$100) and other good and valuable consideration from the County as consideration for the indemnification provisions in this Contract.

In any and all claims against the County, its agents or employees; employees of the Contractor and subcontractor; all persons directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under the previous paragraph shall not be limited in any way as to the amount or type of damages, compensation or benefits payable by or for the Contractor or any subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

The indemnification obligations of the Contractor under this section shall not extend to the liability of the Professional and its agents or employees arising out of the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications, or the giving or the failure to give requested interpretations by the Professional and their agents or employees, provided such giving or failure to give is the primary cause of injury or damage.

The Contractor will defend, indemnify and hold harmless the County and anyone directly or indirectly employed by it from and against all claims, damages, losses and expenses (including attorney's fees) arising out of any infringement of patent rights or copyrights held by others during or after completion of the Work, and shall defend all such claims in connection with any alleged infringement of such rights.

Provided however, if this Contract is deemed by a court of competent jurisdiction to be a construction contract under Section 725.06, Florida Statutes, any obligation of the Contractor to defend, indemnify or hold harmless the County, its officers and employees shall be limited to an obligation to indemnify and hold harmless to the extent caused by the negligence, recklessness or intentionally wrongful conduct of the Contractor and persons employed or utilized by the Contractor in the performance of the Contract.

The indemnification provisions contained herein shall survive the termination of this Contract.

## **ARTICLE 9 - CONTRACTOR'S RESPONSIBILITIES**

**Supervision and Superintendence** - The Contractor will supervise and direct the work efficiently and with his best skill and attention. He will be solely responsible for the means, methods, techniques, sequences and procedure of construction, unless otherwise specified. The Contractor will be responsible to see that the finished Work complies accurately with the Contract Documents. The Contractor will keep on the site at all times during its progress a competent, resident superintendent who shall not be replaced without written notice to the Project Manager. The superintendent will be the Contractor's representative at the site and shall have authority to act on behalf of the Contractor. All communications given to the superintendent shall be as binding as if given to the Contractor.

The Project Manager may require in writing that the Contractor remove from the Work any of Contractor's personnel that the Project Manager determines to be incompetent, careless or otherwise objectionable.

No claims for an increase in Contract Amount or Contract Time based on the Project Manager's use of this provision will be valid. Contractor shall indemnify and hold the County harmless from and against any claim by Contractor's personnel on account of the use of this provision.

**Labor, Materials and Equipment** - The Contractor will provide competent, suitable, 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. The Contractor will furnish all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water and sanitary facilities and incidentals necessary for the execution, testing, initial operation and completion of the Work.

All materials and equipment will be new except as otherwise provided in the Contract Documents. If required by the Project Manager, the Contractor will furnish satisfactory evidence as to the kind and quality of materials and equipment furnished.

All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable manufacturer, fabricator or processors except as otherwise provided in the Contract Documents.

**Substitute Material or Equipment** - If it is indicated in the Specifications that the Contractor may furnish or use a substitute that is equal to any material or equipment specified, and if the Contractor wishes to furnish or use a proposed substitute, he will within thirty (30) days after the award of the Contract make written application to the Project Manager for acceptance of such a substitute, certifying in writing that the proposed substitute will perform adequately the duties imposed by the general design, be similar and of equal substance to that specified and be suited to the same use and capable of performing in an efficient and economic manner as that specified. The application will include sufficient information to allow the Project Manager to evaluate the substitutions.

The application will state the extent, if any, to which the review, acceptance, furnishing and installation of the proposed substitute will prejudice Contractor's completion of the Work within the Contract Time(s). If the cost of the review of the substitution is greater than that of the originally specified item, the Contractor will reimburse the County for all costs. County may require Contractor to furnish at Contractor's expense a special performance guarantee or other Surety with respect to any substitute. The benefit of lower cost items shall be shared between the County and Contractor as specified in the Instructions to Bidders. No substitute shall be ordered or installed without the written acceptance of the Project Manager who shall be the sole judge of acceptability.

**Concerning Subcontractors** - The Contractor will not employ any Subcontractor, other person or organization of the types referred to in Article 4 (whether initially or as a substitute) against whom the County or the Project Manager may have reasonable objections, nor will the Contractor be required to employ any Subcontractor against whom he has reasonable objection.

The Contractor will not make any substitution for any Subcontractor who has been accepted by the Project Manager, unless the County and the Project Manager determine that there is good cause for doing so.

The Contractor will be fully responsible for all acts and omissions of his Subcontractors and of persons directly or indirectly employed by them and of persons for whose acts any of them may be liable to the same extent that they are employed by him. Nothing contained in the Contract Documents shall create, nor be interpreted to create, privity or any other contractual relationship whatsoever between the County and any Subcontractor or any person except the Contractor, or any obligation on the part of the County to payor to see to the payment of any monies due any Subcontractor, except as may otherwise be required by law. The County may furnish to any Subcontractor, to the extent practicable, evidence of amounts paid to the Contractor on account of specific Work done. The divisions and sections of the Specifications and the identifications of any Drawings shall not control the Contractor in dividing the Work among Subcontractors or delineating the Work to be performed by any specific trade.

The Contractor agrees to bind specifically every Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of the County.

All Work performed for the Contractor by Subcontractors shall be pursuant to an appropriate agreement between the Contractor and the Subcontractor which shall contain provisions that waive all rights the contracting parties may have against one another for damages caused by fire or other perils covered by insurance held by the County as trustee. The Contractor will pay each Subcontractor a share of any insurance monies received by the Contractor under this insurance.

**Patent Fees And Royalties** - The Contractor will pay all license fees and royalties and assume all costs incident to the use of any invention, design, process or device which is the subject of patent rights or copyrights held by others.

**Utilities** - The Contractor will pay all public utility charges except as provided for in the Contract Documents.

**Laws and Regulations** - The Contractor will give all notices and comply with all laws, ordinances, rules and regulations applicable to the work. If the Contractor observes that the Specifications or Drawings are at variance therewith, he will give the Project Manager prompt written notice thereof, and any necessary changes shall be adjusted by an appropriate Change Order. If the Contractor performs any Work knowing it to be contrary to such laws, ordinances, rules and regulations and without such notice to the Project Manager, he will bear all costs arising therefrom; however, it shall not be his primary responsibility to make certain that the Drawings and Specifications are in accordance with such laws, ordinances, rules and regulations.

**Use Of Premises** - The Contractor will confine his equipment, the storage of materials and equipment, and the operations of his workers to the areas permitted by law, ordinances, permits or the requirements of the Contract Documents and shall not unreasonably encumber the premises with materials or equipment.

The Contractor shall confine the operation of workmen and equipment, and the storage of materials and equipment to the County's property or to other non-County property or in public right-of-way areas indicated on the Contract Drawings as including work to be done pursuant to the Contract documents. In the event the Contractor desires to have access to the project site, or perform work or operations pertaining to the Contract on, over or from non-County property adjacent to the project site, the Contractor shall obtain written authorization to do so from the respective adjacent property owner(s) prior to using such property. Such written authorization shall include a provision whereby the property owner agrees to hold the County harmless, and to defend the County, in the event of any liability,

loss, injury, or claim incurred as a result of the Contractors work or operations involving the use of the adjacent non-County property.

The County shall be provided with a notarized, certified copy of such written authorization(s) before the Contractor commences work or operations or use of such property in connection with work or operations pursuant to this Contract.

**Record Drawings** - The Contractor will keep one record copy of all Specifications, Drawings, Addenda, Change Orders and Shop Drawings at the site in good order, and annotated and/or marked on a current basis to indicate the progress of the work done and to show all changes made during the construction process or conditions varying from the Bid Documents. These shall be available to the Project Manager for inspection throughout construction and shall be delivered to the Project Manager upon completion of the Work, but prior to final payment.

**Safety And Protection** - The Contractor will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. He will take all necessary precautions for the safety of and will provide the necessary protection to prevent damage, injury or loss to:

- A. All employees on the Project and other persons who may be affected thereby:
- B. All the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site; and
- C. Other property at the 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 will comply with all applicable laws, ordinances, rules, regulations and orders of any public body or public or private utility service organization having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. He will erect and maintain, as required by the conditions and the progress of the Work, all necessary safeguards for safety and protection and, in addition, he will comply with all applicable recommendations of the Manual of Accident Prevention in Construction of the Associated General Contractors of America, Inc., and the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD) and subsequent revisions and addenda as published by the U.S. Department of Transportation, Federal Highway Administration and adopted by the Florida Department of Transportation. He will notify owners of adjacent utilities when prosecution of the Work may affect them.

All damage, injury or loss to any property or all damage, disruption, discontinuance or other loss to any utility system or roadways referred to in Paragraph B. and C. caused directly or indirectly, in whole or in part by the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, will be remedied by the Contractor, except damage or loss attributable to the fault of the Drawings or the Specifications or to the acts or omissions of the County, and not attributable, directly or indirectly, in whole or in part, to the fault of negligence of the Contractor. The Contractor must also comply with the guidelines set forth in the Orange County Safety & Health Manual. The manual can be accessed online at the address below:

<http://www.orangecountyfl.net/VendorServices/OrangeCountySafetyandHealthManual.asp>

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The Contractor will designate a responsible member of his organization whose duty shall be the prevention of accidents at the site. **This person shall be the Contractor's superintendent unless otherwise designated in writing by the Contractor to the Project Manager.**

**Emergencies** - In emergencies affecting the safety of persons, the Work or property at the site or adjacent thereto, the Contractor, without special instruction or authorization from the Project Manager, is obligated to act at his discretion to prevent threatened damage, injury or loss. He will give the Project Manager prompt written notice of any significant changes in the Work or deviations from the Contract Documents caused thereby, and a Change Order shall thereupon be issued covering the changes and deviations involved. If the Contractor believes that additional Work done by him in an emergency which arose from causes beyond his control entitles him to an increase in the Contract Amount or an extension of the Contract Time, he may make a claim therefore as provided in Article 13.

**Shop Drawing and Samples** - After checking and verifying all field measurements, the Contractor will submit to the Project Manager for review, in accordance with the accepted schedule of Shop Drawing submission, five copies (or at the Project Manager's option, one reproducible copy) of all Shop Drawings, which shall have been checked by and stamped with the approval of the Contractor and identified as the Project Manager may require. The data shown on the Shop Drawings will be complete with respect to dimensions, design criteria, materials of construction and the like to enable the project manager to review the information as required.

The Contractor will also submit to the Project Manager for review with such promptness as to cause no delay in the Work, all samples required by the Contract Documents. All samples shall be checked by and stamped with the approval of the Contractor, identified clearly as to material, manufacturer, any pertinent numbers and the use for which intended.

At the time of each submission, the Contractor will in writing call to the Project Manager's attention to any deviations that the Shop Drawing or sample may have from the requirements of the Contract documents.

The Project Manager will review with reasonable promptness and take appropriate action with regard to Shop Drawings and samples, but its review shall be only for general conformance with the design concept of the Project and for compliance with the information given in the Contract Documents. The acceptance of a separate item as such will not indicate approval of the assembly in which the item functions.

The Contractor will make any corrections required by the Project Manager and will return the required number of corrected copies of Shop Drawings and re-submit new samples until accepted.

The Contractor's stamp of approval on any Shop Drawing or sample shall constitute a representation to the Project Manager that the Contractor has either determined and verified all quantities, dimensions, field construction criteria, materials, catalog numbers and similar data or he assumes full responsibility for doing so, and that he has reviewed or coordinated each Shop Drawing or sample with the requirements of the Work and Contract Documents.

**No Work requiring a Shop Drawing or sample submission shall be commenced until the submission has been accepted by the Project Manager.** A copy of each accepted Shop Drawing and each accepted sample shall be kept in good order by the Contractor at the site and shall be available to the Project Manager.

The Project Manager's acceptance of Shop Drawings or samples shall not relieve the Contractor from his responsibility for any deviations from the requirements of the Contract Documents, unless the Contractor has in writing called the Project Manager's attention to such deviation at the time of submission and the County and the Project Manager have given written acceptance to the specific deviation; nor shall any acceptance by the Project Manager relieve the Contractor from responsibility for errors or omissions in the Shop Drawing.

Each Shop Drawing or sample submittal or substitution request by the Contractor shall contain a reference identifying the applicable, specific Section of the Specifications to which it pertains. Submittals failing to comply with this provision shall be rejected and returned to the Contractor without review.

Each Shop Drawing or sample submittal or substitution request shall include the following stamped certification by the Contractor:

"The General Contractor has reviewed the Shop Drawing, sample or substitution submitted herewith and has determined and hereby certifies that in all respects this submittal is in full compliance and conformance with the Contract specifications, drawings and all other Contract requirements pertaining thereto".

Failure of the Contractor to include the above stated specification reference number or certification of compliance shall result in the rejection of the submittal. The Contractor will also submit within five (5) days of Contract Award to the Project Manager for acceptance all samples required by the Contract Documents. All samples will have been checked by and stamped with the approval of the Contractor, identified clearly as to material, manufacturer, any pertinent numbers and the use for which intended.

In the event that the Contractor, or anyone working for or on behalf of the Contractor on this project, should commence or do any work requiring submission of a Shop Drawing or sample, or involving a substitution or an "or-equal" request without having such submittal accepted by the County in writing, then the Contractor is advised that any and all such work will be done at its risk and is subject to rejection and/or removal at the Contractor's expense and at no additional cost to the County if applicable Shop Drawing, sample, substitution, "or-equal" or other submittal is not accepted.

Further, the Contractor will not receive "progress" or "final" payment for any and all work commenced or done which requires, but has not received acceptance of Shop Drawings, samples, substitution requests, or "or-equal" requests or any other required submittal, nor will the Contractor receive "progress" or "final" payment for any and all work that has been determined by the Professional or the County's Project Manager not to be in compliance or conformance with the established Contract requirements, Contract change orders, written directives, written clarifications provided to the Contractor, or accepted Shop Drawings, accepted samples, accepted substitutions, or accepted "or-equals".

**Cleaning Up** - The Contractor will keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work; at the completion of the Work he will remove all waste materials, rubbish and debris from and about the premises as well as all tools, construction equipment and machinery, and surplus materials, and will leave the site clean and ready for occupancy by the County.



The Contractor will restore to their original condition those portions of the Site not designated for alteration by the Contract Documents. If at any time during construction of this project, the Contractor fails to clean up on a daily basis, the County may do so. All costs associated with the County's cleanup activities on behalf of the Contractor shall be deducted from amounts due to the Contractor.

## **ARTICLE 10 – WORK BY OTHERS AND UTILITY COORDINATION**

**Work by Others** – The County may perform additional work related to the project by itself, or it may let other direct contracts which shall contain general conditions similar to these. The Contractor will afford the other contractors who are parties to such direct contracts (or the County, if it is performing the additional work itself), reasonable opportunity for the introduction and storage of materials and equipment and the execution of work, and shall properly connect and coordinate his Work with theirs.

Should the contract entail relocation of facilities not a part of this Contract, the Contractor will coordinate and cooperate with the applicable entity responsible for this portion of the work.

If any part of the Contractor's Work depends (for proper execution of results) upon work of any such other Contractor (or the County), the Contractor will inspect and promptly report to the Project Manager in writing any defects, deficiencies or delays in such work that render it unsuitable for such proper execution and results.

The Contractor's failure to report shall constitute an acceptance of the other work, except as to defects, deficiencies and delays which may appear in the other work after the execution of the work.

The Contractor will do all cutting, fitting and patching of his Work that may be required to make its several parts come together properly, and fit it to receive or be received by such other work. The Contractor will not endanger any work of others by cutting, excavating or otherwise altering such other work and will only cut or alter such other work with the written consent of the Project Manager.

If the performance of additional work by other Contractors or the County is not noted in the contract documents prior to the execution of the Contract, written notice thereof shall be given to the Contractor prior to starting any such additional work. If the Contractor believes that the performance of such additional work by the County or others involves him in additional expense or entitles him to an extension of the Contract Time, he may make a claim therefore as provided in Article 13.

**Utility Coordination** – Section 337.401 (1), Florida Statutes and other applicable law allows utility owners to install and maintain along, above, under, across or on any road or right-of-way any electric transmission or distribution facilities, telephone, telegraph, pole lines, poles, railway structures, ditches, sewers, water, heat, gas mains, pipelines, fences, gasoline tanks and pumps, waterlines, gas lines, wire lines, utility service connections, water and gas meter boxes, valve boxes, light standards, cable lines, cable ways, signals, signal boxes, and all other utility installations, improvements and utility appurtenances to be installed and maintained in the right-of-way.

The Contractor understands and agrees that the lands upon which the Work is to be performed consists of prior existing right-of-way, as well as, recently acquired right-of-way. The Contractor acknowledges and agrees that utility installations and appurtenances are located within the limits of the planned construction Work. The utility installations and appurtenances may be in conflict with the Contractor's Work or require relocation or adjustments. All utility conflict resolutions, relocations, or adjustments are to be moved by the utility owners at their expense, unless otherwise provided in the Contract documents.

The Contractor, by submission of a bid, agrees that prior to bid he has studied, performed field inspections, and evaluated all potential utility conflicts, the locations of permanent and temporary utility appurtenances in their present and relocated positions as may be shown on the plans. The Contractor acknowledges and agrees that the Contractor's bid has considered all potential utility conflicts, the locations of permanent and temporary utility appurtenances in their present and relocated positions including those shown on the plans, not shown on the plans, and those identified during the Contractor's pre-bid study or that should have been identified during the Contractor's field inspections, and evaluation of the limits of the planned construction Work.

The design Professional may show surface or subsurface utility conflicts, relocations, or adjustments in the drawings and plans. The surface and subsurface utility information shown in the drawings and plans was obtained and used by the design Professional to establish design criteria for the design plans. The accuracy as to location and the identification of all surface or subsurface utility information is not warranted or guaranteed and is not to be construed as part of the construction plans governing the construction Work. The Contractor shall solely make his own determinations as to surface and subsurface conditions.

The Contractor shall be solely responsible for utility coordination including all utility conflict resolutions, relocations, and adjustments. The concept of "utility coordination" means that the Contractor shall, at a minimum:

- A. Investigate both subsurface and aboveground conditions to identify potential conflicts far enough in advance of his planned construction operations to allow the Contractor to coordinate with utility owners and responsible parties any necessary conflict resolutions, relocations, or adjustments such that they can occur without delay to the Contractor's operations and Progress Schedule.
- B. Conduct regularly scheduled Utility Coordination Meetings with all affected utilities, and shall maintain detailed minutes of the discussions.
- C. Contact all utility owners in advance of any needed conflict resolutions, relocations, or adjustments.
- D. Contact the Project Manager as to all Contractor scheduled utility conflict resolutions, relocations, or adjustments.
- E. Schedule all work to be performed by the utility owners related to utility conflict resolutions, relocations, or adjustments.

- F. Schedule all work to be performed by the utility owners so as not to delay or disrupt in any way the Contractor's own performance of the Contractor's Performance Schedule.
- G. Assure the proper connection of the Contractor's Work with the work of the utility owners.
- H. Assure that the schedule, contacts, and proper connections between the Contractor's Work and the utility owner's work harmonize the work of both in a common action to achieve resolution of utility conflicts, relocations, and adjustments.
- I. Contractor shall, at no cost to the County, adjust the project schedule to allow the work to proceed in such a manner that delays to the progress of the work are minimized.

As discussed more fully in Article 17, delays to the Contractor's Progress Schedule resulting from the resolution of utility conflicts, relocations, and adjustments to utilities will not be considered as the basis for granting a change in Contract Amount or Contract Time.

#### **ARTICLE 11 - PROJECT OWNER STATUS DURING CONSTRUCTION**

The Contractor shall provide the following information to all subcontractors and suppliers:

County's Representatives - The Project Owner shall be the Board of County Commissioners. The Board shall be represented by the Project Manager listed below during the construction period:

Manager, Highway Construction Division, or designee  
Address: 4200 South John Young Parkway, Orlando, FL 32839  
Phone: 407-836-7998  
Email: Julie.Naditz@ocfl.net

#### **ARTICLE 12 - CHANGES IN THE WORK**

Without invalidating the Contract, the County may, at any time or from time to time, order additions, deletions or revisions in the Work authorized by written Change Orders or directive. Upon receipt of a Change Order, the Contractor will proceed with the work involved. All such work shall be executed under the applicable conditions of the Contract documents. If any Change Order causes an increase or decrease in the Contract Amount or any extension or shortening of the Contract Time, an equitable adjustment will be made as provided in Article 13.

Additional Work performed by the Contractor without authorization of a Change Order will not entitle him to an increase in the Contract Amount or any extension of the Contract Time, except in the case of an emergency as provided in Article 9.

It is the Contractor's responsibility to notify his Surety of any changes affecting the general scope of the Work or change of the Contract Amount and the amount of the applicable bonds shall be adjusted accordingly, and an amended bond document furnished to the County.

In the event the County directs the Contractor to make a change in the Work, and if the County and the Contractor do not arrive at a mutually acceptable increase or decrease in the Contract Amount, the Contractor shall not use any such lack of mutual acceptance as a basis or cause to stop or otherwise delay the progress or the execution and completion of any of the work ordered, directed or required pursuant to the Contract Documents.

If the Contractor believes an event or situation has occurred which justifies a change in the Contract Amount or Contract Time, he shall deliver a written notice to the Project Manager. Each such written notice shall be delivered promptly, and in any event no later than 15 days after the Contractor first discovered the occurrence. The Contractor shall be deemed to have waived the right to collect any and all costs incurred more than 15 days prior to the date of delivery of the written notice, and shall be deemed to have waived the right to seek an extension of the Contract Time with respect to any delay in the Progress Schedule which accrued more than 15 days prior to the date of delivery of the written notice.

Any such notice shall include sufficient detail to explain the basis of entitlement to a claim for an adjustment to the Contract Amount or Contract Time. When requested by the Project Manager, the Contractor shall furnish any additional information and details as may be required to determine the facts or allegations involved, which shall be provided within fifteen (15) days of the request unless a longer time period is allowed by the Project Manager.

The Contractor shall prepare proposals detailing proposed adjustments to Contract Amount and/or Contract Time in accordance with Article 13 and submit them to the Project Manager within 15 days of the County's issuance of a proposed Change Order or the Contractor's submitting a written notice of a change or claim for an adjustment to the Contract Amount or Contract Time. Contractor's proposals shall be irrevocable for a period of at least sixty (60) days after receipt by the County. Any delay in the submittal of a complete, adequate and acceptable proposal will not justify an increase in Contract Amount or Contract Time. Contractor agrees that it shall give the County access to any and all of Contractor's and Subcontractors' books, records and other materials relating to proposed Change Orders and other claims for adjustment to Contract Amount or Contract Time.

### **ARTICLE 13 - CHANGE OF CONTRACT AMOUNT AND CONTRACT TIME**

**Contract Amount** - The Contract Amount constitutes the total compensation payable to the Contractor for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by the Contractor shall be at his expense without change in the Contract Amount. The Contract Amount may only be changed by written Change Order issued by the County. Any claim for an increase in the Contract Amount shall be in writing and delivered to the Project Manager within fifteen (15) days of the occurrence of the event giving rise to the claim.

All claims for adjustment in the Contract Amount shall be determined by the Project Manager. However, no claim for an adjustment to the Contract Amount will be considered for unforeseeable causes that were beyond the fault or negligence of the Contractor or his Subcontractors or supplier such as acts of God, floods, riots, etc. This restriction does not restrict submission of claims for additional Contract Time due to events of this nature. Any change in the Contract Amount shall be incorporated in a Change Order.

Proposals or Claims Substantiating Adjustments; Limitations:

- A. Contractor proposals or claims shall cover all aspects of the Work involved and shall be fully documented and itemized as to all costs, quantities and charges for overhead and profit. Amounts for Subcontractors or Suppliers at any tier shall be similarly supported. When determining Subcontractors' costs, the methods to be Used shall be those used for the Contractor's costs, except that the term "Subcontractor" shall replace the term "Contractor," context permitting.
- B. Where the change in Contract Amount arises from changes in the time required to perform any Work, or where a change in Contract Time is sought, the Contractor's itemized estimates shall detail all productivity and production data, and include an analysis of the Record Schedule demonstrating the schedule status just before and after the occurrence of events on which the request is based (thereby showing the extent of delay resulting from the event involved) and any measures taken or planned to mitigate the impacts.
- C. Neither the Contract Time nor Contract Amount shall be changed due to a delay in Contractor's early completion date until all the corresponding Contract Float available in the Record Schedule at the start of the delay is used and performance of the specified Work extends necessarily beyond that Contract Time. The Contractor shall not recover from the County (a) acceleration costs incurred to overcome delays which warrant extensions in Contract Time but exclude changes in Contract Amount, (b) escalation costs for any part of the Work having Contract Float or not delayed beyond the late dates in the Record Schedule, or (c) delay costs not expressly allowed in General Conditions Article 13 as supplemented.
- D. Changes in Contract Amount for extensions in Contract Time shall exclude costs that are unaffected or do not relate to the extension in Contract Time, such as: (a) operating costs of construction equipment assigned to the Work on a continuing basis, (b) operating costs and owned/rental costs of construction equipment (crane used for specific lifts, concrete pump used for specific pours, etc.), and (c) fully paid site facilities, tools, etc.

The value of any Work covered by a Change Order or of any claim for an increase or decrease in the Contract Amount shall be determined in one of the following ways:

- A. Where the Work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved.

If the quantities originally contemplated are so changed in a proposed Change Order, that application of the Unit Prices to the quantities proposed will cause substantial inequity to the County or the Contractor, the applicable unit price(s) shall be equitably adjusted by mutual agreement.

- B. By mutual acceptance of a lump sum.
- C. By cost and mutually acceptable fixed amount for overhead and profit.
- D. If the value of work covered by a Change Order cannot be established or mutually agreed to utilizing any of the above three methods, the value shall be determined by the County on the basis of an estimate of the out-of-pocket cost and percentages that are acceptable to the County for overhead and profit. The out-of-pocket cost shall only include those direct costs which are needed to perform the work such as labor (including payroll taxes, fringe benefits, labor burden and workers' insurance), materials, equipment, and other incidental out-of-pocket construction costs directly involved in the work, including but not limited to small tools, expendables and material costs but shall not include project management or project supervisory costs unless the Change Order includes an increase in the Contract time.

**Methods for Determining Adjustments in Contract Amount:**

- A. If the County directs the Contractor to proceed with the Work involved pursuant to actual out-of-pocket costs plus contractual allowances for overhead and profit and states a Not-to-exceed price, Contractor claims for costs, overhead or profit beyond the Not-to-exceed price shall be invalid, unless, prior to incurring those costs, overhead or profit Contractor provides written notice and County increases the Not-to-exceed price in writing..
- B. If payment for the Work involved is to be determined by a court of law, it is agreed by the Contractor that the actual out-of-pocket cost and overhead and profit method contained in the General and Supplemental Conditions shall represent an appropriate method for determining the cost and overhead and profit for the Work involved.
- C. In computing Cost of the Work involved in a Change Order or claim, costs shall be allowable only to the extent costs (a) are consistent with those prevailing in the Orlando Metropolitan Statistical Area (which includes Orange, Seminole, Lake and Osceola Counties) and with applicable criteria set forth in 48 CFR Part 31 (federal contract cost principles and procedures), (b) include only the appropriate items for labor, material or equipment, construction equipment and special cost items specified in General Conditions Articles 13.

In such case, the Contractor will submit in the form prescribed by the County an itemized cost breakdown together with supporting data.

The amount of credit to be allowed by the Contractor to the County for any such change which results in a net decrease in cost, will be the amount of the actual net decrease as determined by the County. When both additions and credits are involved in any one change, the combined overhead and profit shall be figured on the basis of the net increase, if any.

To be eligible for consideration, the Contractor's written claim for a change in the Contract price, including claim(s) from sub-contractors, shall include an itemized cost breakdown with supporting data as described below:

- A. For labor: Provide written documentation from the Contractor and Subcontractors or others as appropriate in the form of a detailed breakdown by each labor classification involved indicating the number of hours of Work involved and the hourly payroll rate applicable to each to substantiate the basis and amount of the direct labor cost. The direct labor cost may be increased to provide an allowance for indirect payroll costs (labor burden), such as payroll taxes, fringe benefits, and workers insurance after all premium discounts, rebates and other appropriate reductions have been taken.

Allowable labor costs shall be limited to craft labor (including foremen) in the direct employ of the Contractor (or Subcontractor) assigned to the site and engaged in furnishing and incorporating materials or equipment in the Work involved in the Change Order or Claim.

When determining actual payroll costs, daily time sheets certified by the Contractor and verified by the Project Manager along with certified payroll records shall be the valid records.

- B. For material, supplies, equipment, furnishings, etc., to be installed or included in the Work: Provide written documentation from the Contractor and Subcontractors, suppliers, etc., to substantiate the basis and amount of the various cost items involved. Material costs shall reflect the Contractor's reasonably anticipated net actual cost after consideration of trade discounts and volume rebates.
- C. For construction equipment: Provide written documentation in the form of a detailed breakdown by each construction equipment category indicating, the applicable unit rates (i.e., \$'s per hour, \$'s per day etc.) and the number of hours, days, etc. to substantiate the basis and amount of the construction equipment out-of-pocket costs.
- D. Special cost items (any out-of-pocket cost items not considered to be material, labor or construction equipment as set forth above including but not limited to small tools and expendables): Provide written documentation in the form of a detailed breakdown or itemization of the costs, fees, charges, hours, hourly rates, etc., to clarify, document and substantiate the basis and amount of the out-of-pocket cost. Special cost items due to the Work or a delay involved in a Change Order or Claim may include a proportion of the following indirect costs, to the extent those indirect costs increase or decrease on account of (a) the Cost of the Work involved for labor, Subcontractor or Supplier furnished materials or equipment, or (b) an extension in Contract Time as follows (provided that no cost shall be paid for holidays or weather days during the delay):
  1. Payroll costs for the Contractor's full-time superintendent and payroll costs for other personnel in the employ of the Contractor resident (engaged in activities) at the site if those costs arise solely from an extension in Contract Time;

2. Costs of small tools and expendables (less market value if not consumed) of items individually valued at less than \$1,000.00 that are not owned by the workers, if the Contractor provides an itemized list of items required for the performance of the Work involved; however, no such costs shall be allowed over 4% of the direct labor costs, unless the Contractor furnishes detailed data sufficient to allow verification that a higher percentage is appropriate for the Work involved;
3. Costs of office and temporary facilities at the site, including utilities, fuel and sanitary facilities, telephone and internet service at the site, materials, supplies, equipment, other minor expenses (e.g. expressage and petty cash), if those costs arise solely from an extension in Contract Time;
4. Costs of consultants not in the direct employ of the Contractor, if those costs are or were authorized by the County before proceeding with the Work involved;
5. Taxes on the Work involved, and for which the Contractor is liable; and royalty payments and charges and fees for permits, if any of them relate solely to the Work involved;
6. Physical losses, damages and expenses to the Work, not compensated by property insurance, or otherwise to be sustained by the Contractor in the prosecution of the Work (except losses and damages within the deductible amounts of property insurance, if any), but only if the losses, damages and expenses result from the fault or negligence of the County, or
7. Bond premiums and insurance premiums not included as part of the indirect labor cost, if they relate solely to the Work involved.

E. Construction Equipment Costs:

1. For equipment owned by Contractor (or Subcontractor) or rented or leased from lessors associated with or owned by them, allowable costs shall be limited to equipment required for the Work involved in a Change Order or claim with individual replacement values exceeding \$1,000.00. Transportation, loading/unloading, installation, dismantling and removal costs shall be allowed only if prior written consent is obtained from the Project Manager, and if the equipment is, or was, transported to the site solely for the Work involved. Shipping costs will be allowed only if the equipment is not available in the Orlando Metropolitan Statistical Area.

Contractor shall be entitled to ownership and operation costs of the equipment based on the Contractor's normal accounting practices, but in no event shall equipment ownership or operation costs exceed the applicable hourly rates listed in a mutually acceptable current cost reference guide. For multiple shifts, the equipment rate shall not exceed the shift Work adjustments recommended in the agreed upon cost reference guide.



Equipment costs shall be computed using the same accounting and estimating rules and prices, whether related to added or deleted Work, and shall cease when the equipment is no longer needed for the Work involved.

2. For equipment rented or leased from lessors not associated with or owned by the Contractor (or Subcontractor), the Contractor shall be entitled to rental or lease rates, but in no event shall the rates or hourly operating costs exceed applicable rates in a mutually acceptable current cost reference guide for rental equipment. The equipment rate for second or third shifts shall not exceed fifty percent (50%) of the base rate. Hourly rates for equipment previously in use at the site for at least a month shall be based on the monthly rate divided by 176 hours. Equipment previously in use for only one week or not previously in use at the site shall not be invoiced to the County at rates higher than the following schedule correlating equipment usage to payment category:

Less than 8 hours	Hourly Rate
1 day but less than 7 days	Daily Rate
1 week but less than 30 days	Weekly Rate
30 days or more (when in use)	Monthly Rate

3. Rented (or owned) equipment idled by actions of the County *for* reasons under the sole control of the County shall be paid as rented equipment (or as one-half of owned equipment), provided the idle period exceeds what is normal for such equipment and occurs during normal working hours.

When determining actual construction equipment costs, daily logs of the equipment, operators and actual usage, verified by the Project Manager, shall be the valid records.

With respect to the allowances for overhead and profit the following schedule shall be used in determining the total cost of any Work covered by a Change Order or of any claim for an increase or decrease in the Contract price:

- A. For the Contractor, for Work (i.e., the cost of labor, materials and construction equipment as described above) performed by the Contractor's own forces; 15% of the cost.
- B. For the Contractor, for the Work performed by the Contractor's Subcontractor; 7 ½% of the amount due the Subcontractor.
- C. For each Subcontractor involved, for Work performed by that Subcontractor's own forces 7 ½% of the cost.
- D. For each Subcontractor, for Work performed by the Subcontractor's Sub-Subcontractor's 5% of the amount due the Sub-Subcontractor.
- E. Cost to which overhead and profit is to be applied shall be determined in accordance with provisions of this Article 13.

- F. The Cost of the Work involved in a Change Order or claim shall not include any of the following costs (considered administrative costs or contingencies covered by the overhead and profit):
1. Payroll costs and other compensation of (a) executives, general and administrative managers, estimators, claim consultants, attorneys, accountants, labor relation coordinators, contract and subcontract administrators, purchasers, expeditors and other administrative staff, whether employed at the site or in the Contractor's (or Subcontractor's) principal or branch offices; and (b) project managers, construction managers, engineers, architects, schedulers, detailers, safety personnel, clerks and other administrative staff employed in his principal or branch offices;
  2. Costs in the preparation of Change Orders or claims (whether or not ultimately authorized by the County);
  3. Costs of engineers, architects, accountants, consultants, attorneys and others, in the direct employ of the Contractor or otherwise, utilized for services related to a controversy or claim about the acceptability of the Work;
  4. Any part of the Contractor's capital expenses, including interest on capital for the Work involved, lost interest on unpaid retainage, and charges for delinquent payments;
  5. Any other expenses of the Contractor's principal and branch offices, including storage and yard facilities; and any costs not specifically and expressly allowed in General Conditions Article 13 as supplemented.

If deemed necessary, the overhead and profit allowance schedule shown above may be adjusted by the Project Manager.

**Cash Allowances** - It is understood that the Contractor has included in the Contract Amount any allowances so named in the Contract Documents and shall cause the Work so covered to be done by such Suppliers or Subcontractors and for such sums within the limit of the allowances as the County may accept. Prior to final payment, the Contract Amount shall be adjusted as required and an appropriate Change Order issued. The Contractor agrees that the original Contract amount includes such sums as he deems proper for cost and profit on account of cash allowances. No demand for additional cost or profit in connection therewith will be allowed.

**Change of Contract Time** - The Contract Time may only be changed by written Change Order. Any claim for an extension in the Contract Time shall be in writing and include an analysis of the Progress Schedule as further described in the Specifications, and shall be delivered to the Project Manager within fifteen (15) days of the occurrence of the event giving rise to the claim.

All claims for adjustment in the Contract Time shall be determined by the Project Manager. Any change in the Contract Time resulting from any such claim shall be incorporated in a Change Order.

The Contract Time may be extended for an amount equal to time lost due to unforeseeable causes beyond the control of the Contractor (and his Subcontractors and Suppliers) if he makes a claim therefore. Such delays shall include, but not be restricted to, acts or neglect by any separate Contractor employed by the County; fires; floods; labor disputes; epidemics or acts of God.

All time limits stated in the Contract Documents are of the essence to the Contract. The stated time limits are agreed to be adequate to complete the work, including the procurement, manufacture and delivery of all material and equipment required, and account for any and all potential impact, delays, disruptions and costs that may be expected.

**ARTICLE 14 - CONDITION OF MATERIALS AND PACKAGING:**

In instances where the Specifications, (Part H) make this subject applicable (and unless otherwise indicated), all goods and items offered for sale and/or shipped by the Contractor pursuant to the requirements imposed upon said Contractor by this bid package, will be new and in first class condition; all related containers being new and suitable for storage and shipment; all prices including the cost of standard commercial packaging. Contractors will be solely responsible for making any and all claims against carriers as concerns missing or damaged items.

**ARTICLE 15 - ASBESTOS FREE MATERIALS:**

Project is to be constructed with asbestos free materials. A written, notarized statement on company letterhead is to be submitted with the final payment request. Final payment shall be withheld until such statement is submitted.

Contractor shall agree that if materials containing asbestos are subsequently discovered at any future time to have been included in the construction done by the Contractor or any of its Subcontractors or agents and were not specified in the design or required by the Contract document, Contractor shall be liable for all costs related to the abatement of such asbestos and damages or claims against the County.

**ARTICLE 16 – WARRANTY AND GUARANTEE, ACCEPTANCE OF DEFECTIVE WORK**

Warranty and Guarantee - The Contractor warrants and guarantees to the County that all materials and equipment will be new unless otherwise specified and that all Work will be of good quality, free from faults or defects and in accordance with the requirements of the Contract Documents including any required inspections, tests or approvals. All unsatisfactory Work, all faulty Work, and all Work not conforming to the requirements of the Contract Documents or such inspections, tests or approvals shall be considered defective. Prompt notice of all defects shall be given to the Contractor. All defective Work, whether or not in place, may be rejected, corrected or accepted as provided in this Article. All warranty and guarantee coverage periods shall commence from the Final Completion date of the project as determined by the Project Manager. The coverage commencement date of warranties and guarantees shall, in accordance with the provisions stated above, be entered on each warranty or guarantee document.

However, in the event the coverage commencement date entered on the warranty or guarantee document is not in accordance with the provisions stated above, the coverage commencement date shall nonetheless be the date determined by applying the provisions stated above.

**Tests and Inspections** - If the Contract Documents, laws, ordinances, rules, regulations or order of any public authority having jurisdiction require any Work to specifically be inspected, tested or approved by someone other than the Contractor, the Contractor will give the Project Manager timely notice of readiness therefore. The Contractor will furnish the Project Manager with the required certificates of inspection, testing or approval. All such tests will be in accordance with the methods prescribed by the American Society for Testing Materials or such other applicable organizations as may be required by law or the Contract Documents.

If any such Work required to be inspected, tested or approved is covered without written approval of the Project Manager, it must, if requested by the Project Manager, be uncovered for observation at the Contractor's expense. The cost of all such inspections, tests and approvals shall be borne by the Contractor unless otherwise provided. Neither observations by the Contractor nor inspections, tests or approvals by persons other than the Contractor shall relieve the Contractor from his obligations to perform the Work in accordance with the requirements of the Contract Documents.

**Access To The Work** - The Project Manager and his representative and other representatives of the County and the Professional will at all times have access to the Work. The Contractor will provide proper facilities for such access and observation of the Work and also for any inspection or testing thereof by others.

**Uncovering Work** - If any Work is covered contrary to the request of the Project Manager it must, if requested by the Project Manager be uncovered for observation and replaced at the Contractor's expense. If any Work has been covered which the Project Manager has not specifically requested to observe prior to its being covered, or if the Project Manager considers it necessary or advisable that covered Work be inspected or tested by others, the Contractor, at the Project Manager's request, will uncover, expose or otherwise make available for observation, inspection or testing as the Project Manager may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is defective, the Contractor will bear all the expense of such uncovering, exposure, observation, inspection and testing, and of satisfactory reconstruction. If, however, such Work is not found to be defective, the Contractor will be allowed an increase in the Contract amount or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and re-construction, if he makes a claim therefore as provided in Article 13.

**Notice to Cure** - If the County determines the Work is defective or deficient; if the Contractor fails to supply sufficient skilled workers or suitable materials or equipment; if the Contractor fails to make prompt payments to Subcontractors for labor, materials or equipment; if the work is not progressing in a safe, orderly or well coordinated manner; or if the general progress and/or quality of the work is not adequate to ensure continuation or completion of the work in accordance with the Contract completion time requirements, then the Procurement Division Manager shall issue a notice to cure, giving the Contractor a specific period of time

(1) in which to submit to the Project Manager a written Plan of Action including a schedule setting forth a plan by which the deficiencies will be corrected, and (2) a specific period of time in which to correct the deficiencies.

If the Contractor does not submit a Plan of Action to indicate how and when the deficiencies indicated in the notice to cure will be cured within the specified time frame that is acceptable to the Project Manager, and if those deficiencies are not corrected within that time frame, then the County shall take further action, up to and including Contract termination. The Contractor shall not be entitled to any delay claims as a result of the County's issuance of the notice to cure.

**Correction or Removal of Defective Work** - If required by the Project Manager prior to approval of final payment, the Contractor will, promptly, without cost to the County and as specified by the Project Manager, either correct any defective Work whether or not fabricated, installed or completed or, if the Work has been rejected by the Project Manager, remove it from the Site and replace it with non-defective Work.

If the Contractor does not correct such defective Work or remove and replace such rejected work within a reasonable time, or as specified in a written notice from the Project Manager, the County may have the deficiency corrected or the rejected work removed and replaced. All direct and indirect costs of such correction or removal and replacement shall be paid by the Contractor. The Contractor will also bear the expense of making good all work of others destroyed or damaged by this correction, removal or replacement of his defective Work.

**One (1) Year Correction Period** - The Contractor shall be responsible for the timely correction of any deficiencies in the work for a period of one (1) year after final acceptance or such longer period of time as may be prescribed by law or by any other terms required by the Contract. The Contractor will promptly without cost to the County and in accordance with the Project Manager's written instructions either correct such defective Work or, if it has been rejected by the Project Manager, remove it from the site and replace it with non-defective Work. If the Contractor does not promptly comply with the terms of such instructions, the Project Manager may have the defective Work corrected or the rejected Work removed and replaced. All direct and indirect costs of such removal and replacement will be paid by the Contractor.

**Acceptance Of Defective Work** - If, instead of requiring correction or removal and replacement of defective Work, the Project Manager prefers to accept it, then he may do so. In such case, if acceptance occurs prior to approval of final payment, a Change Order shall be issued incorporating the necessary revisions in the Contract Documents including an appropriate reduction in the Contract amount. If the acceptance occurs after approval of final payment, the appropriate amount shall be paid by the Contractor to the County.

**Neglected Work By Contractor** - If the Contractor should neglect to prosecute the Work in accordance with the Contract Documents, including any requirements of the progress schedule, the County may, after reasonable written notice to the Contractor and without prejudice to any other remedy it may have, make good such deficiency and the cost thereof shall be charged against the Contractor. A Change Order shall be issued incorporating the necessary revision in the Contract Documents including an appropriate reduction in the Contract Amount.

If the payments then or therefore due the Contractor are not sufficient to cover such amount, the Contractor will pay the difference to the County.

Notice is hereby given that the County will retain and pay for an independent materials testing laboratory to perform certain tests as follows:

- a. Initial concrete test cylinder making and testing (concrete mix design will be by Contractor).
- b. Initial earthwork compaction.
- c. Initial in-place testing of sub-grade, sub-base and base for roadways including thickness and compaction (soil cement design will be by Contractor). The County reserves the right to perform any other tests it deems necessary to ensure that any all construction is adequate for the purposes intended and meets all applicable criteria.
- d. Subsequent tests required after the initial tests to verify compliance with the Contract Documents in areas failing the initial tests shall be paid for by the Contractor by back charge to subsequent applications for payment.

The Contractor will perform and pay for all material testing and other testing specified in the Contract Documents and as stated in paragraphs a. through e. above. The purpose of performing these tests is to verify compliance with the specifications as set forth in the Contract Documents.

#### **ARTICLE 17 – DELAYS AND EXTENSION OF TIME**

**County Obligation** – The County owes no duty, obligation, damages, change in Contract Amount, or liability to Contractor as a result of any delay, interference, suspension or other event which may impact Contractor’s progress schedule of its contract.

**Extension of Time Sole Remedy** – Should Contractor’s performance, in whole or in part, be interfered with, delayed, re-sequenced, disrupted, or be suspended in the commencement, prosecution or completion, for reasons beyond Contractor’s control, and without any fault or negligence on its part contributing thereto, Contractor’s sole remedy shall be an extension of Contract Time in which to complete the Contract.

**Contract Time Extension** – The County may grant an extension of Contract Time when a controlling item of work on the critical path of Contractor’s progress schedule is delayed by factors not reasonably anticipated or foreseeable at the time of bid. Such time extension may be allowed only for delays occurring during the time for performance set forth in the progress schedule. Extensions of Contract Time will not be granted for delays due, in whole or in part, to the fault or negligence of Contractor or any entity or person for whom Contractor is responsible.

**Utility Conflicts, Relocation, and Adjustment Delays** – The Contractor is solely responsible for the coordination and resolution of all utility conflicts, relocations, and adjustments. Delays resulting from the resolution of utility conflicts, relocations, and adjustments to utilities will not be considered as the basis for granting a change in Contract Amount or Contract Time.

**Limitation on Damages** – In the event the provision regarding an extension of time as being the sole remedy, see above, is not legally enforceable and Contractor is not limited to the sole remedy of an extension of time,

Contractor shall not under any circumstances be allowed to recover any of the following items of damage against the County: (1) profit; (2) loss of profit; (3) work inefficiencies; (4) loss of productivity; (5) overtime premiums; (6) escalation; (7) home office overhead, including but not limited to costs of any kind for home office personnel; (8) indirect damages; and (9) consequential damages, including but not limited to loss of bonding capacity, loss of bidding opportunities, and insolvency.

## **ARTICLE 18 - PAYMENT AND COMPLETION**

**Schedule of Values** – The Contractor shall submit a schedule of values for the work including quantities and unit prices totaling the total Contract Amount no later than twenty (20) days after receipt of the Notice to Proceed and prior to commencing Work on the project. The schedule of values shall be in a form satisfactory to the County.

The schedule of values shall subdivide the Work into sufficient detail to serve as the basis for progress payments during construction. Upon acceptance of the schedule of values by the Project Manager, it may be incorporated into the form of application for payment prescribed by the County.

The Contractor shall not imbalance its schedule of values nor artificially inflate any element thereof. The violation of this provision by the Contractor shall constitute a material breach of this contract.

**Progress Schedule** – The Contractor's Progress Schedule shall utilize the Critical Path Method ("CPM"). The Contractor's Progress Schedule shall be prepared using Primavera P-6 or other software approved by the County; the software shall be specifically intended for the preparation of construction schedules incorporating a critical path. The software used by the Contractor must be approved in advance by the County. The Contractor shall submit a Progress Schedule CPM (both in hard printed copy with network diagrams and electronic disc files) no later than twenty (20) days after receipt of the Notice to Proceed, and prior to commencing Work on the project. The Progress Schedule CPM shall clearly identify all controlling items of Work and activities defined as the critical path, which if delayed or prolonged, will delay the time of completion of the Contract. The critical path shall include a minimum 10% float time as part of the Contract Time for unforeseen conditions. Contractor shall provide additional float time above the required minimum 10% based on his experience, understanding of the scope, and inspection of the site.

**Progress Payment Update Schedules CPM** – The Contractor shall submit an Update Schedule CPM to the Project Manager concurrent with each Application for Progress Payment. The Update Schedule CPM shall focus on the period from the last Update Schedule CPM to the current Update Schedule CPM submitted with the Application for Progress Payment. Activities that have either started or finished shall be reported as they actually occurred and designated as complete, if actually completed. For activities in progress that are forecasted to complete longer than planned, the remaining durations shall be revised, not the original durations. All out of sequence activities are to be reviewed and their relationships either verified or changed.

The Contractor's failure to submit a Progress Payment Schedule CPM and Progress Payment Narrative Report as described herein with an Application for Progress Payment shall be sufficient reason for rejection of the Progress Payment request.

If the Project Manager rejects the Progress Payment Update Schedule CPM or the Progress Payment Narrative Report, the entire Progress Payment request shall be rejected and must be resubmitted with the corrected Progress Payment Update Schedule CPM and Progress Payment Narrative Report.

**Progress Payment Narrative Report** – Each Update Schedule CPM shall be accompanied by a written Narrative Report. The Narrative Report shall describe the physical progress during the report period, plans for continuing the Work during the forthcoming report period, actions planned to correct any delays, and a detailed explanation of potential delays or problems and their estimated impact on performance, milestone completion dates, the forecasted completion date, and the forecasted substantial completion date. In addition, alternatives for possible schedule recovery to mitigate any potential delays shall be discussed.

The Contractor's Progress Payment Narrative Report shall include a detailed list of all outstanding Contract Claims with a detailed description of each Contract Claim. The Narrative Report shall follow the outline set forth below:

**Contractor's Narrative Report Outline:**

- (1) Contractor's dated transmittal letter.
- (2) Work completed during the report period.
- (3) Description of the current critical path.
- (4) Description of problem areas.
- (5) Current and anticipated delays:
  - a. Cause of the delay
  - b. Corrective action and schedule adjustments to correct the delay.
- (6) Impact of the delay on other activities, milestones, and completion dates. Changes in construction sequences.
- (7) Pending items and status thereof:
  - a. Permits.
  - b. Change orders.
  - c. Time extensions.
- (8) A list of all outstanding Contract Claims and a detailed description of each Contract Claim.
- (9) Contract completion date status:
  - a. Ahead of schedule and number of days.
  - b. Behind schedule and number of days.

**Schedule and Report Format** – The Contractor shall submit the Progress Schedule CPM, Progress Payment Update Schedules CPM, and the Progress Payment Narrative Report to the Project Manager on both: (1) electronic disc files; and, (2) printed copies of the network diagrams and narrative reports.



**Project Manager Review** – The Project Manager shall review the Contractor's Progress Schedule CPM, Progress Payment Update Schedules CPM, and Progress Payment Narrative Reports.

The Project Manager may accept or reject Update Schedule CPMs or Narrative Reports. Rejected Update Schedule CPMs and Narrative Reports shall be corrected and re-submitted to the Project Manager.

**Final Schedule Update** – The Contractor within fifteen (15) days after substantial completion shall submit a final update of the schedule with actual start and actual finish dates for all activities and controlling items of Work identified as the critical path. The Final Schedule Update shall be accompanied by a certification signed by the Contractor stating, "To the best of my knowledge, the enclosed final update of the project schedule reflects the actual start and completion dates of the activities and controlling items of Work on the critical path."

**Application For Progress Payment** – Applications for payments shall be processed in accordance with Florida Statute 218.735, Part VII, "Local Government Prompt Payment Act".

The Project Manager shall provide written notice to the Contractor identifying the name, address, phone number and email address of the agent or employee the Contractor is required to submit payment requests or invoices to. This notice will be provided no later than ten (10) days after issuance of the Notice to Proceed.

Not more often than once a month, on a date established at the Project Pre-Construction Conference, the Contractor may submit to the Project Manager for review the County's standard application for payment form filled out and signed by the Contractor covering the Work completed as of the date of the Application and supported by such data as the Project Manager may reasonably require. Also, if payment is requested on the basis of materials and equipment not incorporated in the work but delivered and suitably stored at the site or at another location agreed to in writing, the application for payment shall also be accompanied by such supporting data, satisfactory to the Project Manager, as will establish the County's title to the material and equipment and protect its interest therein, including applicable insurance, partial Consent of Surety, and detailed inventory listing of stored material. Each such request shall include the submittal by the Contractor of (1) a detailed, itemized inventory listing the material stored at the site for which payment is requested, (2) documentation to indicate and substantiate the cost or value attributed to the items included in the stored material inventory list, and (3) the County's "Responsibility And Liability For Materials And Equipment Not Included In The Work" form executed by the Contractor. Failure to provide proper supporting documentation may subject the Progress Payment application to rejection. All progress payments will be subject to the retainage percentage specified in the Contract Documents that will be issued in the final payment after acceptance by the County of the Work.

Based upon Applications for Payment submitted to the Project Manager by the Contractor and Certificates for Payment issued by the Project Manager the County shall make progress payments on account of the Contract Amount to the Contractor as provided in the Contract Documents as follows:

In the timeframes outlined in FS 218.735, Section 2, ninety percent (90%) of the portion of the Contract Amount properly allocable to labor, materials and equipment incorporated in the Work and ninety percent (90%) of the portion of the Contract Amount properly allocable to materials and equipment suitably stored at the site or at some other location agreed upon in writing, for the period covered by the application for payment, less the aggregate of previous payments made by the Owner. When the completion of the Work ascertained as payable exceeds fifty percent (50%) of the total contract amount the retainage percentage withheld shall be reduced to 5%.

Upon Final completion of the entire Work, a sum sufficient to increase the total payments to one hundred percent (100%) of the Contract Amount, less such amounts as the Owner shall determine for all incomplete work and unsettled claims as provided in the Contract Documents.

The Contractor may, at the discretion of the County's Project Manager, be required to have applications for Progress Payments accompanied by Consent of Surety to Partial Payment. However, if payment or performance bonds are not required by the contract, the County's Project Manager may require applications for Progress Payments to be accompanied by legally effective partial releases or waivers of liens executed by all Subcontractors that performed services and suppliers of material or equipment for the Contractor for services or supplies which were included in the previous Application for Progress Payment. The Contractor shall include the following certification on each Application for Progress Payments and the Application for Final Payment:

"The undersigned Contractor certifies that the work covered by this application for payment has been done, or completed in accordance with the Contract documents, that all amounts have been paid by Contractor for work, supplies, material or equipment for which previous Certificates for Payment were issued and that the current payment shown herein is now due".

**Contractor's Warranty Of Title** - The Contractor warrants and guarantees that title to all work, materials and equipment covered by an application for payment, whether incorporated in the Project or not, will have passed to the County prior to the making of the application for payment, free and clear of all liens, claims, security interests and encumbrances; and that no work, materials or equipment covered by an application for payment will have been acquired by the Contractor or by any other person performing the work at the site or furnishing materials and equipment for the Project subject to an agreement under which an interest therein or encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other person.

**Approval of Payments** - The Project Manager will, within twenty (20) business days after receipt of each application for payment, either indicate his approval of payment or return the Application to the Contractor indicating in writing the reason for refusing to approve payment. In the latter case, the Contractor may make the necessary corrections and re-submit the Application. The County will pay the Contractor the amount approved within the time frame set forth in the Local Government Prompt Payment Act.

In the event the Contractor and the Project Manager do not achieve mutual agreement on the basis or amount of the payment, and should the Contractor be unwilling to make the necessary corrections or modifications, and re-submit the Application,

then the County, to avoid delay in paying the Contractor the amount the County has determined the Contractor is entitled to receive, shall approve and process the Application by making such adjustments thereto as the County deems appropriate so that the Contractor receives, without delay, payment of the amount the County has determined to have been earned and owing to the Contractor.

In the event a dispute arises involving payments or invoices that have been rejected by the Project Manager and resubmitted by the Contractor and that cannot be resolved in accordance with F.S. 218.735 (3) the Orange County Payment/Invoice Disputes Resolution Process Procedures shall be used to resolve the dispute. The procedures can be obtained by contacting the Procurement Division at (407)-836-5635.

The Project Manager's approval of any payment requested in an application for payment shall constitute a representation by him to the County, based on the Project Manager's on-site observations of the Work in progress and on his review of the application for payment and the supporting data, that the Work has progressed to the point indicated; that, to the best of his knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning Project upon Substantial Completion, to the results of any subsequent tests called for in his approval); and that the Contractor is entitled to payment of the amount approved.

However, by approving any such payment, the Project Manager shall not thereby be deemed to have represented that he made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, that he has reviewed the means, methods, techniques, sequences and procedures of construction nor that he has made any examination to ascertain how or for what purpose the Contractor has used the moneys paid or to be paid to him on account of the Contract Amount.

The Project Manager's approval of final payment shall constitute an additional representation by him to the County that the conditions precedent to the Contractor's belief being entitled to final payment as set forth in this Article have been fulfilled.

The Project Manager may refuse to approve the whole or any part of any payment if in his opinion he is unable to make such representations to the County. He may then refuse to approve any such payment because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously approved, to such extent as may be necessary in his opinion to protect the County from loss because:

- A. The Work is defective;
- B. Claims have been filed or there is reasonable evidence indicating the probable filing thereof;
- C. The Contract Amount has been reduced because of Change Order(s);
- D. The County has been required to correct defective Work or complete the Work in accordance with Article 16; or
- E. Of unsatisfactory prosecution of the Work, including failure to clean up as required by Article 9.

**Substantial Completion** - Prior to final payment, the Contractor shall certify in writing to the Project Manager that the entire Work is Substantially Complete and request that the Project Manager issue a certificate of Substantial Completion.

Within a reasonable time thereafter, the Project Manager and Contractor will make an inspection of the Work to determine the status of completion. If the Project Manager does not consider the Work Substantially Complete, the Contractor will be notified in writing giving the reasons therefore. If the Project Manager considers the Work Substantially complete, a tentative certificate of Substantial Completion will be issued. This Certificate shall fix the date of Substantial Completion and the responsibilities between the County and the Contractor for maintenance, heat and utilities.

There shall be attached to the Certificate a single punch list of items to be completed or corrected by the Contractor. The punch list must specify a date, not to exceed five (5) days after the punch list has been developed and reviewed, in which the delivery of the punch list to the Contractor must be made. Items not included on the punch list cannot be used as a basis to withhold final payment for retainage. In addition, the final contract completion date shall be at least thirty (30) days after the delivery of the punch list to the Contractor. Punch lists not provided to the Contractor by the date agreed upon for delivery will cause the contract time for completion to be extended by the number of days the local government exceeded the delivery date.

Damages may only be assessed against the Contractor in the event the Contractor fails to complete the project within the contract period as was extended by the guidelines set forth in this provision.

The final undisputed retainage payment must be made within twenty (20) business days after receipt of a proper payment request. This would be less any amount withheld in accordance with the contract provisions for incomplete or uncorrected work unless otherwise provided for by written notice to the Contractor specifying the failure of the Contractor to meet contract requirements in the development of the punch list.

The County shall have the right to exclude the Contractor from the Work after achievement of Substantial Completion, but the County will allow the Contractor reasonable access to complete items on the punch list.

**Partial Utilization** - Prior to Substantial Completion, the Project Manager may request the Contractor to permit the use of a specified part of the Work which it believes it may use without significant interference with construction of other parts of the Work. If the Contractor agrees, he will certify to the Project Manager that said part of the Work is Substantially Complete and request the Project Manager issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time thereafter, the Project Manager and Contractor will make an inspection of that part of the Work to determine its status of completion.

If the County and the Project Manager consider that part of the Work to be Substantially Complete, the Project Manager will deliver to the Contractor a certificate to that effect, fixing the date of Substantial Completion as to that part of the Work, attaching thereto a punch list of items to be completed or corrected before final payment and fixing the responsibility between the County and Contractor for maintenance, heat and utilities as to that part of the Work.

The County shall have the right to exclude the Contractor from any part of the Work which is so certified to be Substantially Complete but the County will allow the Contractor reasonable access to complete or correct items on the punch list.

**Final Inspection** - Upon written notice from the Contractor that the Work is complete, including the "punch" listed deficiencies, the Project Manager will make a final inspection with the Contractor and will notify the Contractor in writing of any particulars in which this inspection reveals that the Work is defective. The Contractor shall immediately make such corrections as are necessary to remedy such defects and to complete all the required work.

**Final Inspection For Payment** - After the Contractor has completed any such corrections to the satisfaction of the Project Manager and delivered all maintenance and operating instructions, schedules, guarantees, bonds, Certificates of Inspection and other documents as required by the Contract Documents, he may make application for final payment following the procedure for progress payments.

For projects that the Contractor was required to furnish a payment and performance bond, the final application for payment shall be accompanied by legally effective final release or waiver of lien from the Contractor and the consent of Surety to final payment. The Final Release of Lien, Form E-12, must be utilized in all Final Pay Applications.

For projects **not** requiring bonds the final application for payment shall be accompanied by legally effective final releases or waivers of liens from the Contractor and all Subcontractors which performed services for the Contractor and all suppliers of material and/or equipment to the Contractor. The Final Release of Lien, Form E-12, must be utilized in all Final Pay Applications.

**Approval Of Final Payment** - If, on the basis of its observations and review of the Work during construction, its final inspection and its review of the final application for payment (all as required by the Contract Documents), the Project Manager is satisfied that the Work has been completed and the Contractor has fulfilled all of his obligations under the Contract Documents, it will, within twenty (20) business days after receipt of the final application for payment, indicate in writing its approval of payment. Otherwise, it will return the Application to the Contractor, indicating in writing its reason for refusing to approve final payment, in which case the Contractor will make the necessary corrections and re-submit the Application.

The County will, in accordance with the Local Government Prompt Payment Act, pay the Contractor the amount approved by the County and issue a Certificate of Final Completion.

If after Substantial Completion of the Work, Final Completion is materially delayed through no fault of the Contractor, and the Project Manager so confirms, the County shall, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than the retainage stipulated in the Contract, the written consent of the Surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Project Manager prior to certification of such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

**Contractor's Continuing Obligation** - The Contractor's obligation to perform the Work and complete the Work in accordance with the Contract Documents shall be absolute. Neither approval of any progress or final payment by the County, the issuance of Certificate of Completion, any payment by the County to the Contractor under the Contract Documents, any use or occupancy of the Work or any part thereof by the County, any act of acceptance by the County, any failure to do so, nor any correction of defective Work by the County shall constitute an acceptance of Work not in accordance with the Contract Documents.

**Waiver Of Claims** - The making and acceptance of final payment shall constitute:

- A. A waiver of all claims by the County against the Contractor other than those arising from unsettled liens, from defective Work appearing after final payment or from failure to comply with the requirements of the Contract Documents, or from the terms of any special guarantees specified therein, and,
- B. A waiver of all claims by the Contractor against the County other than those previously made in writing and still unsettled.

## **ARTICLE 19 - SUSPENSION OF WORK AND TERMINATION**

**County May Suspend Work** - The County may at any time and without cause suspend the Work or any portion thereof by notice in writing to the Contractor. The Project Manager shall fix the date on which Work shall be resumed and the Contractor will resume the Work on the date so fixed.

For unreasonable delays, the Contractor will be allowed an increase in the Contract Amount, an extension of the Contract Time or both, if directly attributable to any suspension and if he makes a claim therefore provided in Article 13. However, no profits will be allowed on claims for suspended work. Also, during any period of suspension, the Contractor shall take all available measures to mitigate costs such as taking on new work, reassigning resources to other Contracts, etc.

**County May Terminate for Cause** - If the Contractor is adjudged bankrupt or insolvent; if he makes a general assignment for the benefit of his creditors without County approval; if a trustee or receiver is appointed for the Contractor or for any of his property; if he files a petition to take advantage of any debtor's act or to reorganize under the bankruptcy or similar laws; if he fails to prosecute and complete the Work in accordance with the established Project schedule or within the Contract Time allowed; if he repeatedly fails to supply sufficient skilled workers or suitable materials or equipment; if he repeatedly fails to make prompt payment to Subcontractors for labor, materials or equipment; if he disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction; if he disregards the authority of the Project Manager; or if he otherwise substantially violates any provisions of the Contract Documents, then the County may, without prejudice to any other right or remedy and after giving the Contractor and his Surety if applicable seven (7) days written notice, terminate the services of the Contractor and take possession of the Work and of all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor and assign the completion of the Work to the Surety, or finish the Work by whatever method it may deem expedient. In such case, the Contractor shall not be entitled to receive any further payment until the Work is finished.

If the unpaid balance of the Contract Amount exceeds the direct and indirect cost of completing the Work, including compensation for additional professional services, such excess shall be paid to the Contractor. If such cost exceeds the unpaid balance, the Contractor shall pay the difference to the County within fifteen (15) days after notification.

If the contractor fails to provide such payment to the County, the County at its sole discretion may deduct the balance owed from payments due the Contractor on any other contracts between the Contractor and the County. Such cost incurred by the County will be determined by the County and incorporated in a Change Order.

If the County elects to assign the completion of the Work to the Surety, and the Surety tenders a replacement contractor, then Surety shall provide performance, payment and other surety bonds as may be required in accordance with the Contract Documents.

Where the Contractor's services have been so terminated by the County, said termination shall not affect any rights of the County against the Contractor then existing or which may thereafter accrue. Any retention or payment of monies by the County due the Contractor will not release the Contractor from liability.

Upon Termination for Cause, the Contractor shall not be entitled to payment for any anticipated supplemental costs, administrative expenses and/or profit for uncompleted Work.

If the Contractor's failure to perform the contract arises from causes beyond the control and without the fault or negligence of the Contractor the contract shall not be terminated for default. Examples of such causes include (1) acts of God or the public enemy, (2) acts of a government in its sovereign capacity, (3) fires, (4) floods, (5) epidemics, (6) strikes and (7) unusually severe weather.

If after notice of termination of the services of the Contractor for cause, it is determined that the Contractor was not in default, the termination shall be deemed to have been for the convenience of the County. In such event the Contractor may recover from the County payment for Work completed and reasonable termination costs as provided in the following paragraph.

**Termination for Convenience:** Upon seven (7) days written notice to the Contractor and the Surety, or sooner if reasonable under the circumstances, the County may, without cause and without prejudice to any other right or remedy, elect to terminate any part of the Work, or the Contract in whole or in part, as the County may deem appropriate. In any termination for convenience, the Contractor shall be paid for Work completed by the Contractor, Subcontractors and Suppliers at the time of termination provided the Work has been inspected and accepted by the County. However, the payment to the Contractor will exclude any and all anticipated supplemental costs, administrative expenses and profit for uncompleted Work. Upon termination for convenience, the County shall have full power and authority to take possession of the Work, assume any sub-agreements with Subcontractors and suppliers that the County selects, and prosecute the Work to completion by Contract or as the County may deem expedient. A termination for convenience may apply to individual delivery orders, purchase orders or to the contract in its entirety.

**Authority to Terminate:** The authority to terminate this Contract including all notices thereto is the sole responsibility of the Manager, Procurement Division.

## **ARTICLE 20 - MAINTENANCE AND EXAMINATION OF RECORDS**

The Contractor shall keep adequate records and supporting documents applicable to this Contract. Said records and documentation shall be retained by the Contractor for a minimum of five (5) years after the date of final payment on this contract. If any litigation, claim or audit is commenced prior to the expiration of the five (5) year period, the records shall be maintained until all litigation, claims or audit findings involving the records have been resolved.

If applicable, time records and cost data shall be maintained in accordance with generally accepted accounting principles. This includes full disclosure of all transactions associated with the contract.

Contractor's "records and supporting documents" as referred to in this Contract shall include any and all information, materials and data of every kind and character, including without limitation, records, books, papers, documents, subscriptions, recordings, agreements, purchase orders, invoices, leases, contracts, commitments, arrangements, notes, daily diaries, superintendent reports, drawings, receipts, vouchers and memoranda, and any and all other agreements, sources of information and matters that may in the County's judgment have any bearing on or pertain to any matters, rights, duties or obligations under or covered by any Contract document. Such records and documents shall included (hard copy, as well as computer readable data, written policies and procedures; time sheets; payroll registers; cancelled checks; subcontract files (including proposals of successful and unsuccessful bidders, bid recaps, etc.); original estimates; estimating worksheets; correspondence; change order files (including pricing data used to price change proposals and documentation covering negotiated settlements); back-charge logs and supporting documentation; general ledger entries detailing cash and trade discounts earned, insurance rebates and dividends; and any other contractor records which may have a bearing on matters of interest to the County in connection with the Contractor's dealings with the County (all foregoing hereinafter referred to as "records and supporting documents") to the extent necessary to adequately permit evaluation and verification of:

- a) Contractor compliance with contract requirements; or
- b) Compliance with provisions for pricing change orders; or
- c) Compliance with provisions for pricing invoices; or
- d) Compliance with provisions regarding pricing of claims submitted by the Contractor or his payees; or
- e) Compliance with the County's business ethics; or
- f) Compliance with applicable state statutes and County Ordinances and regulations.

Records and documents subject to audit shall also include those records and documents necessary to evaluate and verify direct and indirect costs, (including overhead allocations) as they may apply to costs associated with this Contract. In those situations where Contractor's records have been generated from computerized data (whether mainframe, mini-computer, or PC based computer systems), Contractor agrees to provide the County's representatives with extracts of data files in computer readable format on data disks or suitable alternative computer exchange formats.



The County and its authorized agents shall have the right to audit, inspect and copy records and documentation as often as the County deems necessary throughout the term of this contract and for a period of five (5) years after final payment. Such activity shall be conducted during normal business hours. The County, or any of its duly authorized representatives, shall have access within forty-eight (48) hours to such books, records, documents, and other evidence for inspection, audit and copying.

The County, during the period of time defined by the preceding paragraph, shall have the right to obtain a copy of and otherwise inspect any audit made at the direction of the Contractor as concerns the aforesaid records and documentation. Records and documents shall be made accessible at the Contractor's local place of business.

If the records are unavailable locally, it shall be the Contractor's responsibility to insure that all required records are provided at the Contractor's expense including payment of travel and maintenance costs incurred by the County's authorized representatives or designees in accessing records maintained out of the county. The direct costs of copying records, excluding any overhead cost, shall be at the County's expense.

Contractor shall require all payees (examples of payees include subcontractors, insurance agents, material suppliers, etc.) to comply with the provisions of this article by including the requirements hereof in a written contract agreement between contractor and payee. Such requirements include a flow-down right of audit provisions in contracts with payees, which shall also apply to Subcontractors and Sub-subcontractors, material suppliers, etc. Contractor shall cooperate fully and shall cause all aforementioned parties and all of Contractor's subcontractors (including those entering into lump sum subcontracts and lump sum major material purchase orders) to cooperate fully in furnishing or in making available to the County from time to time whenever requested in an expeditious manner any and all such records, documents, information, materials and data.

The County's authorized representatives or designees shall have reasonable access to the Contractor's facilities, shall be allowed to interview all current or former employees to discuss matters pertinent to the performance of this Contract and shall have adequate and appropriate work space, in order to conduct audits in compliance with this article.

Even after a change order proposal has been approved, Contractor agrees that if the County later determines the cost and pricing data submitted was inaccurate, incomplete, not current or not in compliance with the terms of the contract regarding pricing of change orders, then an appropriate contract price reduction will be made. Such post-approval contract price adjustment will apply to all levels of contractors and/or subcontractors and to all types of change order proposals specifically including lump sum change orders, unit price change orders, and cost-plus change orders.

If an audit inspection or examination by the County, or its designee, in accordance with this article discloses overpricing or overcharges (of any nature) by the Contractor to the County in excess of one-half of one percent (.5%) of the total contract billings, the reasonable actual cost of the County's audit shall be reimbursed to the County by the Contractor.

Any adjustments and /or payments that must be made as a result of any such audit or inspection of the contractor's invoices and /or records and supporting documents shall be made within a reasonable amount of time (not to exceed 90 days) from presentation of the County's findings to the Contractor.

## **ARTICLE 21 - MINORITY/WOMEN OWNED BUSINESS ENTERPRISE REQUIREMENTS AND SMALL BUSINESS PROVISIONS**

The Contractor will comply with all requirements of Orange County's Minority/Women Owned Business Enterprise Ordinance No. 94-01, as amended by Ordinance No. 2009-21. In summary, the ordinances establish a goal of 25% of the County's annual monetary value of contracts be awarded to minority/women owned business enterprises meeting Contract specifications.

The goals for work force employment levels are 18% minority and 6% women. Other provisions of the Ordinance as it pertains to construction projects may be found in Part C of this document.

To facilitate monitoring for compliance with the Ordinance, the Contractor **must**:

- A. Provide to the County's Business Development Division Liaison all subcontracts and/or purchase orders, fully executed by both parties, with each Subcontractor and supplier listed on Attachment C-2 in the Prime Contractor's bid (M/WBE's and non-M/WBE's). **The prime Contract will not be executed by the County until these documents are on file in the Business Development Division.** Prime Contractor should include in the subcontract / purchase order a statement that makes the legality of the document contingent upon execution of the prime Contract by the County.
- B. The Contractor **must** include in the subcontract agreement:
  1. A Prompt Payment Clause to the M/WBE subcontractor
  2. Payment schedule in all subcontracts and purchase orders (including those with non-M/WBE's) stating that payment will be made to the Subcontractor/suppliers within 72 hours of receipt of payment from the County.
  3. The following statement: **"It is the M/WBE responsibility to submit the required Monthly M/WBE utilization reports to the prime and Final M/WBE payment verification form to Business Development Division."**

**The M/WBE's failure to submit the required documents could negatively impact their M/WBE certification.**

**This provision in no way creates any contractual relationship between any Subcontractor and Orange County or any liability on Orange County for the Contractor's failure to make timely payments. The timeliness of such payments may be evaluated by the Business Development Division Liaison in considering compliance with the Ordinance.**

C. The Contractor **must** submit:

- 1) A Monthly Workforce Report (Current Field Employment Data). Contractor shall also ensure that all Subcontractors/suppliers with contracts over \$50,000 supply a Monthly Workforce Report; and
- 2) A Monthly Prime Contractor's Report including M/WBE Utilization Reports.

The Contractor shall furnish written documentation evidencing actual dollars paid to each Subcontractor/supplier listed and/or utilized by the Contractor. This will include, but not be limited to: copies of canceled checks, approved invoices, and signed, sworn affidavits certifying the accuracy of payments so that the County may determine actual participation achieved by the Contractor prior to issuance of final payment.

The required reports are to be submitted to the Business Development Division Liaison no later than the fifth day of each month beginning one month after the Work begins and to continue until Final Completion of the project/contract. The Business Development Liaison has the authority to delay Contractor's Progress Payments if reports are not submitted in a timely manner.

The final Prime Contractor's Report-M/WBE Utilization Report must be signed by the Contractor's authorized agent certifying that all information contained therein is a true and accurate account of M/WBE utilization per the bid and contract documents. Approval of the final Application for Payment is contingent upon receipt of this certification.

D. Contractor **must** not substitute, replace or terminate any M/WBE firm without **prior written authorization from the Orange County Business Development Manager**, nor **must** the Contractor reduce the scope of work or monetary value of a subcontract without prior written authorization of the Business Development Manager. All modifications, additions and deletions to any and all Contracts issued to said M/WBE's **must** also have prior written authorization of the Business Development Manager.

E. The Contractor shall expeditiously advise all M/WBE's and the Business Development Division Liaison of all Change Orders, contract modifications, additions and deletions to any and all contracts issued to said M/WBE's.

F. Failure of the Contractor to adhere to the provisions of the Ordinance may subject the Contractor to penalties as outlined in Sec. 17-326 of the Ordinance. The penalties include:

- 1) Liquidated damages up to 10% of the Contract;
- 2) Suspension or permanent debarment from bidding;
- 3) Termination of any present contracts;
- 4) Withholding retainage;

- 5) A negative evaluation of good-faith effort on future bids;
- 6) Withholding of payments.

#### **ARTICLE 22 - FEDERAL REQUIREMENTS**

In the event this Contract is paid in whole or in part from any federal government agency or source, the specific terms, regulations and requirements governing the disbursement of these funds shall be specified herein and become a part of this clause.

All Contracts in excess of one hundred and fifty thousand dollars (\$150,000) shall comply with all the requirements of Section 114 of the Clean Air Act (42 USC 7401 et seq.) as amended and Section 308 of the Federal Water Pollution Control Act (33 USC 1251 et seq.) as amended.

#### **ARTICLE 23 – VERBAL ORDERS**

The Project Manager under the following conditions may issue verbal change orders to the contract:

- A. To address bona fide emergency requirements. Emergency requirements are described as those requiring immediate action due to (1) an imminent or existing threat to the health, safety or welfare of persons or property and (2) conditions which poses serious economic damage to the County.
- B. To ensure the continuity of critical elements of contract performance.

**Any such verbal direction shall be confirmed in writing by the Project Manager to the contractor within five (5) calendar days after issuance. Concurrently, a copy of the written direction shall be provided to the Manager, Procurement Division with documentation in the form of an emergency justification to support the action taken.**

A formal change order and associated contract amendment, if applicable, will be negotiated in conjunction with the Procurement Division and shall succeed the written confirmation not later than thirty (30) calendar days after issuance of the verbal direction.

Board approval, as applicable, shall be obtained.

#### **ARTICLE 24 – MISCELLANEOUS**

Whenever any provision of the Contract Documents requires the giving of written notice, 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 delivered at or sent by registered or certified mail (postage prepaid) to the last business address known to the County.

All Specifications, Drawings and copies thereof furnished by the County shall remain its property. They shall not be used on another Project and, with the exception of those sets which have been signed in connection with the execution of the Contract, shall be returned to the County upon completion of the Work.

The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder, and, in particular but without limitation, the warranties, 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 the Contract Documents.

Should the County or the Contractor suffer injury or damage to its person or property because of any error, omission or act of the other or of any of his employees, agents or others for whose acts he is legally liable, claim should be made in writing to the other party within a reasonable time of the first observance of such injury or damage.

This Contract shall be governed by the laws of the State of Florida. Any and all legal action necessary to enforce the provisions of this Contract will be held in Orange County, Florida. Venue for any litigation involving this Contract shall be the Ninth Circuit Court in and for Orange County, Florida.

The obligations of Orange County under this award are subject to the availability of funds lawfully appropriated for its purpose by the State of Florida and the Board of County Commissioners, or other specified funding source for this contract.

The County will be represented on site by one or more Inspectors who are employed by the County or by a Construction Engineering and Inspection (CEI) firm under contract to the County. The Contractor is to follow all directions provided by these Inspectors. Provided, however, that any such directions shall not be construed to:

- a. Authorize any deviation from the Contract Documents that:
  - Requires a change in the Contract Price or Contract Time;
  - Materially changes any aspect of the work covered by a permit to the extent that the regulatory agency having jurisdiction would require modification of the permit;
  - Materially changes any aspect of the work to the extent that the intent of the design is compromised;
- b. Approve any substitute materials or equipment;
- c. Undertake any of the responsibilities of Contractor, subcontractors or Contractor's superintendent, or expedite the Work; Direct the Contractor as to any aspect of the means, methods, techniques, sequences or procedures of construction unless such is specifically called for in the Contract Documents;
- d. Advise on or issue directions as to safety precautions and programs in connection with the Work.

## **ARTICLE 25 – CONTRACT CLAIMS**

“Claim” as used in this provision means a written demand or written assertion by one of the contracting parties seeking as a matter of right, the payment of a certain sum of money, the adjustment or interpretation of contract terms, or other relief arising under or relating to this contract.

Claims made by a Contractor against the County relating to a particular contract shall be submitted to the Procurement Division Manager in writing clearly labeled "Contract Claim" requesting a final decision.

"Claim" as used in this provision applies after failure of the parties to agree to an adjustment as provided in Article 13, Change of Contract Amount and Contract Time. The Contractor also shall provide with the claim a certification as follows: "I certify that the claim is made in good faith; that the supporting data are accurate and complete to the best of my knowledge and belief; that the amount requested accurately reflects the contract adjustment for which the Contractor believes the County is liable; and that I am duly authorized to certify the claim on behalf of the Contractor."

**Failure to document a claim in this manner shall render the claim null and void. Moreover, no claim shall be accepted after final payment of the contract.**

The decision of the Procurement Division Manager shall be issued in writing and shall be furnished to the Contractor.

The decision shall state the reasons for the decision reached. The Procurement Division Manager shall render the final decision within sixty (60) days after receipt of Contractor's written request for a final decision. The Procurement Division Manager's decision shall be final and conclusive.

The Contractor shall proceed diligently with performance of this contract pending final resolution of any request for relief, claim, appeal or action arising under the contract and shall comply with any final decision rendered by the Manager of the Procurement Division.

## **ARTICLE 26 - VALUE ENGINEERING**

**A. Intent and Objective:** This Section applies to any cost reduction proposal (hereinafter referred to as a Value Engineering Change Proposal or VECP) initiated and developed by the CONTRACTOR for the purpose of refining the Contract Documents so as to contribute to design cost effectiveness or significantly improve the quality of the Work. This Section does not, however, apply to any such proposal unless it is identified by the CONTRACTOR, at the time of its submission to the COUNTY, as a proposal submitted pursuant to this Section.

VECPs contemplated are those that would result in net savings to the COUNTY by providing either: (A) a decrease in the cost of performance of the Work, or; (B) a reduction in cost of ownership (hereinafter referred to as collateral costs) of the Work, regardless of acquisition costs. VECPs must result in savings without impairing essential functions and characteristics such as safety, service, life, reliability, economy of operation, ease of maintenance, aesthetics and necessary standard design features. However, nothing herein prohibits the submittal of VECPs where the required functions and characteristics could be combined, reduced or eliminated as being nonessential or excessive. Plan errors which are identified by the CONTRACTOR and which result in a cost reduction, will not qualify for submittal as a VECP.

The COUNTY reserves the right to reject at its discretion any VECP submitted. Substitution of another design alternate, which is detailed in the Plans, for the one on which the CONTRACTOR bid, will not be allowed under this Section. Pending execution of a formal supplemental Agreement, implementing an approved VECP, the CONTRACTOR shall remain obligated to perform in accordance with the terms of the existing Contract. No time extensions will be granted due to the time required to review a VECP.

**B. Subcontractors:** The CONTRACTOR is encouraged to include the provisions of this Section in contracts with subcontractors. The CONTRACTOR shall encourage submission of VECPs from subcontractors, however, it is not mandatory that VECPs be submitted nor is it mandatory that the CONTRACTOR accept or transmit to the COUNTY VECPs proposed by his subcontractors.

**C. Data Requirements:** As a minimum, the following information shall be submitted by the CONTRACTOR with each VECP;

- (1) A description of the difference between the existing requirements and the proposed change, and the comparative advantages and disadvantages.
- (2) Separate detailed cost estimates for both the existing requirements and the proposed change. The cost estimates shall be broken down by item numbers indicating quantity increases or decreases and deleted pay items.

Additional proposed Work, now covered by the Contract Documents, shall be identified by current COUNTY pay item numbers. In preparing the estimates, the CONTRACTOR shall include overhead, profit and bond. No separate pay item(s) for these costs will be allowed.

- (3) An itemization of plan details, plan sheets, design standards and Specifications that must be changed or added if the VECP is adopted. Preliminary plan drawings must be sufficient to describe the proposed changes.
- (4) An estimate of the effects the VECP would have on collateral costs to the COUNTY.
- (5) Engineering Incentive or other analysis in sufficient detail to identify and describe specific features of the Contract Documents which must be changed if the VECP is accepted, with a proposal as to how these changes can be accomplished and an assessment of their effect on other Project elements. The COUNTY may require that Engineering Incentive analyses be performed by a prequalified consultant in the applicable class of Work. Any design changes which result from the VECP must be supported by computations sealed by a Professional registered in the State of Florida.
- (6) A statement of the time by which approval of the VECP must be issued by the COUNTY to obtain the total estimated cost reduction during the remainder of this Contract noting any effect on the Contract completion time or delivery schedule.

- D. Processing Procedures:** Two copies of each VECP shall be submitted to the County's Project Manager, or his/her duly authorized representative, VECPS will be processed expeditiously; however, the COUNTY will not be liable for any delay in acting upon a VECP submitted pursuant to this Section. The CONTRACTOR may withdraw, in whole or in part, a VECP not accepted by the COUNTY within the period specified in the VECP.

The COUNTY shall not be liable for any VECP development cost in the case where a VECP is rejected or withdrawn.

The COUNTY shall be the sole judge of the acceptability of a VECP and of the estimated net savings in construction and/or collateral costs from the adoption of all or any part of such proposal. In determining the estimated net savings, the right is reserved to disregard the Contract prices if, in the judgment of the COUNTY, such prices do not represent a fair measure of the value of Work to be performed or to be deleted. Prior to approval, the COUNTY may modify a VECP, with the concurrence of the CONTRACTOR, to make it acceptable. If any modification increases or decreases the net savings resulting from the VECP, the CONTRACTOR'S fair share will be determined upon the basis of the VECP modified and upon determination of final quantities. The net savings shall be computed by subtracting the revised total cost of all bid items affected by the VECP design from the total cost of the same bid items as represented in the Contract Documents. Prior to approval of the VECP, which initiates the supplemental Contract, the CONTRACTOR shall provide acceptable contract quality Plan sheets revised to show all details consistent with the VECP design.

- E. Computations for Change in Contract Cost of Performance:** CONTRACTOR development and implementation costs for the VECP will not be recoverable. If the VECP is adopted, the CONTRACTOR'S share of the net savings as defined hereinafter shall be considered full compensation to the CONTRACTOR for the VECP. COUNTY costs of processing or implementation of a VECP will not normally be considered in the estimate.

However, the COUNTY reserves the right, where it deems such action appropriate, to require the CONTRACTOR to pay the COUNTY'S cost of investigating and implementing a VECP submitted by the CONTRACTOR as a condition of considering such proposal. Where such a condition is imposed, the CONTRACTOR shall indicate his acceptance thereof in writing, and such acceptance shall constitute full authority for the COUNTY to deduct amounts payable to the COUNTY from any monies due or that may become due to the CONTRACTOR under the Contract.

- F. Computations for Collateral Costs:** When collateral cost savings are sought by the CONTRACTOR, separate estimates must be prepared for collateral costs of both the existing Contract requirement and the proposed change.

Each estimate shall consist of an itemized breakdown of all costs and the basis for the data used in the estimate. Cost benefits to the COUNTY include, but are not limited to: reduced costs of operation, maintenance or repair, and extended useful service life. Increased collateral costs include the converse of such factors. Computations shall be as follows:



- (1) Costs shall be calculated over a 20-year period on a uniform basis for each estimate.
- (2) If the difference in the estimates as approved by the COUNTY indicate a savings, the CONTRACTOR shall divide the resultant amount by 20 to arrive at the average annual net collateral savings. The resultant savings shall be shared as stipulated in paragraph G below.

**G. Sharing Arrangements:** If a VECP is approved by the COUNTY, the CONTRACTOR may be entitled to share in both construction savings and collateral savings to the full extent provided for in this subsection. Except for innovative ideas, the CONTRACTOR and COUNTY shall each receive 50 percent of net reduction in the cost of performance of this Contract. For innovative ideas, the reduction in the cost of performance shall be shared as follows:

<b>ACCRUED NET SAVINGS</b>	<b>CONTRACTOR'S SHARE %</b>	<b>COUNTY'S SHARE %</b>
Less than \$25,000	85	15
\$25,000 to \$50,000	75	25
Over \$50,000	50	50

If an approved change is identical or similar to a previously submitted VECP or an idea previously utilized by the COUNTY it will not be considered an innovative idea, thus, will only qualify for a 50 percent sharing of savings. When collateral savings occur, the CONTRACTOR shall receive 20 percent of the average one year's net collateral savings. The CONTRACTOR shall not receive construction savings or collateral savings on optional Work listed in this Contract until the COUNTY exercises its option to obtain that Work.

**ARTICLE 27 – PATENTS AND ROYALTIES**

Unless otherwise provided, the bidder shall be solely responsible for clearing the right to use any patented or copyrighted materials in the performance of the contract.

The Contractor, without exception, shall indemnify and save harmless the County and its employees from liability of any nature or kind, including cost and expenses for or on account of any copyrighted, patented, or unpatented invention, process, or article manufactured or supplied by the Contractor.

In the event of any claim against the County of copyright or patent infringement, the County shall promptly provide written notification to the Contractor. If such a claim is made, the Contractor shall use its best efforts to promptly purchase for the County any infringing products or services or procure a license, at no cost to the County, which will allow continued use of the service or product. If none of the alternatives are reasonably available, the County agrees to return the article on request to the Contractor and receive reimbursement, if any, as may be determined by a court of competent jurisdiction.

## **ARTICLE 28 – OWNER DIRECT PURCHASE**

Pursuant to *Florida Statutes*, Section 212.08(6), and *Florida Administrative Code*, Number 12A-1.094, Orange County Florida is exempt from Florida Sales Tax for the purchase of construction materials, supplies and/or equipment incorporated into a construction project.

For construction Contracts valued at \$10,000,000, or lesser amounts as determined by the County, the County may, at its discretion, use the direct purchase method for large dollar value equipment and materials that realize a tax savings of at least \$5000.

Direct purchases will be negotiated with the Contractor based on those items identified by the Professional. The final determination as to whether to direct purchase any materials or equipment shall be made by the Manager of the Procurement Division after consultation with the County's Project Manager.

When it has been determined that the use of direct purchases is warranted, the, Orange County Owner Direct Purchase Provision in Exhibit 2 shall govern.

## **ARTICLE 29 – PUBLIC RECORDS COMPLIANCE (APPLICABLE FOR SERVICE CONTRACTS)**

Orange County is a public agency subject to Chapter 119, Florida Statutes. The Contractor agrees to comply with Florida's Public Records Law. Specifically, the Contractor shall:

1. Keep and maintain public records required by Orange County to perform the service.
2. Upon request from Orange County's custodian of public records, provide Orange County with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in this chapter or as otherwise provided by law.
3. Ensure that public records that are exempt or confidential and exempt from the public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract if the Contractor does not transfer the records to Orange County.
4. Upon completion of the contract, Contractor agrees to transfer at no cost to Orange County all public records in possession of the Contractor or keep and maintain public records required by Orange County to perform the service. If the Contractor transfers all public record to Orange County upon completion of the contract, the Contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the Contractor keeps and maintains public records upon completion of the contract, the Contractor shall meet all applicable requirements for retaining public records.

All records stored electronically must be provided to Orange County, upon request from Orange County's custodian of public records, in a format that is compatible with the information technology systems of Orange County.

5. A Contractor who fails to provide the public records to Orange County within a reasonable time may be subject to penalties under section 119.10, Florida Statutes.

6. **IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT :**

**PROCUREMENT DIVISION PUBLIC RECORDS LIAISON  
400 E. SOUTH STREET, 2<sup>ND</sup> FLOOR, ORLANDO, FL 32801  
407-836-5897**

[ProcurementRecords@ocfl.net](mailto:ProcurementRecords@ocfl.net)

**EXHIBIT A  
LEASED EMPLOYEE AFFIDAVIT**

**CONTRACT #Y\_\_\_\_\_**

I affirm that an employee leasing company provides my workers' compensation coverage. I further understand that my contract with the employee leasing company limits my workers' compensation coverage to enrolled worksite employees only. My leasing arrangement does not cover un-enrolled worksite employees, independent contractors, uninsured sub-contractors or casual labor exposure.

**I hereby certify that 100% of my workers are covered as worksite employees with the employee leasing company. I certify that I do not hire any casual or uninsured labor outside the employee leasing arrangement. I agree to notify the County in the event that I have any workers not covered by the employee leasing workers' compensation policy. In the event that I have any workers not subject to the employee leasing arrangement, I agree to obtain a separate workers' compensation policy to cover these workers. I further agree to provide the County with a certificate of insurance providing proof of workers' compensation coverage prior to these workers entering any County jobsite.**

I further agree to notify the County if my employee leasing arrangement terminates with the employee leasing company and I understand that I am required to furnish proof of replacement workers' compensation coverage prior to the termination of the employee leasing arrangement.

I certify that I have workers' compensation coverage for all of my workers through the employee leasing arrangement specified below:

Name of Employee Leasing Company: \_\_\_\_\_

Workers' Compensation Carrier: \_\_\_\_\_

A.M. Best Rating of Carrier: \_\_\_\_\_

Inception Date of Leasing Arrangement: \_\_\_\_\_

I further agree to notify the County in the event that I switch employee-leasing companies. I recognize that I have an obligation to supply an updated workers' compensation certificate to the County that documents the change of carrier.

Name of Contractor: \_\_\_\_\_

Signature of Owner/Officer: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

## DESIGNATED CONSTRUCTION PROJECT(S) GENERAL AGGREGATE LIMIT

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

### SCHEDULE

**Designated Construction Projects:**

“Any person or organization on whose behalf you are required to obtain  
a Designated Construction Project under a written contract or agreement”

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

- A.** For all sums which the insured becomes legally obligated to pay as damages caused by “occurrences” under COVERAGE A (SECTION I), and for all medical expenses caused by accidents under COVERAGE C (SECTION I), which can be attributed only to ongoing operations at a single designated construction project shown in the Schedule above:
1. A separate Designated Construction Project General Aggregate Limit applies to each designated construction project, and that limit is equal to the amount of the General Aggregate Limit shown in the Declarations.
  2. The Designated Construction Project General Aggregate Limit is the most we will pay for the sum of all damages under COVERAGE A, except damages because of “bodily injury” or “property damage” included in the “products-completed operations hazard”, and for medical expenses under COVERAGE C regardless of the number of:
    - a. Insureds;
    - b. Claims made or “suits” brought or
    - c. Persons or organization making claims or bringing “suits”
  3. Any payments made under COVERAGE A for damages or under COVERAGE C for medical expenses shall reduce the Designated Construction Project General Aggregate Limit for that designated construction project. Such payments shall not reduce the General Aggregate Limit shown in the Declarations nor shall they reduce any other Designated Construction Project General Aggregate Limit for any other designated construction project shown in the Schedule above.
- 4.** The limits shown in the Declarations for Each Occurrence, Fire Damage and Medical Expense continue to apply. However, instead of being subject to the General Aggregate Limit shown in the Declarations, such limits will be subject to the applicable Designated Construction Project General Aggregate Limit.
- B.** For all sums which the insured becomes legally obligated to pay as damages caused by “occurrences” under COVERAGE A (SECTION I), and for all medical expenses caused by accidents under COVERAGE C (SECTION I), which cannot be attributed only to ongoing operations at a single designated construction project shown in the Schedule above:
1. Any payments made under COVERAGE A for damages or under COVERAGE C for medical expenses shall reduce the amount available under the General Aggregate Limit or the Products-Completed Operations Aggregate Limit, whichever is applicable; and
  2. Such payments shall not reduce any Designated Construction Project General Aggregate Limit.
- C.** When coverage for liability arising out of the “products- completed operations hazard” is provided, any payments for damages because of “bodily injury” or “property damage” included in the “products-completed operations hazard” will reduce the Products-Completed Operations Aggregate Limit, and not reduce the General Aggregate Limit nor the Designated Construction Project General Aggregate Limit.
- D.** If the applicable designated construction project has been abandoned, delayed, or abandoned and then

restarted, or if the authorized contracting parties deviate from plans, blueprints, designs, specifications or timetables, the project will still be deemed to be the same construction project.

- E. The provisions of Limits of Insurance (**SECTION III**) not otherwise modified by this endorsement shall continue to apply as stipulated.

## EXHIBIT B

## BUILDERS RISK COVERAGE FORM

Various provisions in this policy restrict coverage. Read the entire policy carefully to determine rights, duties and what is and is not covered.

Throughout this policy the words “you” and “your” refer to the Named Insured shown in the Declarations. The words “we”, “us” and “our” refer to the Company providing this insurance.

Other words and phrases that appear in quotation marks have special meaning. Refer to Section G., Definitions.

### A. Coverage

We will pay for direct physical loss of or damage to Covered Property at the premises described in the Declarations caused by or resulting from any Covered Cause Loss.

#### 1. Covered Property

Covered Property as used in this Coverage Part, means the type of property described in this section, **A.1.**, and limited in **A.2.**, Property Not Covered, If a Limit of Insurance is shown in the Declarations for that type of property.

**Building Under Construction**, meaning the building or structure described in the Declarations while in the course of construction, including:

a. Foundations;

b. The following property:

- (1) Fixtures and machinery;
- (2) Equipment used to service the building; and
- (3) Your building materials and supplies used for construction;

Provided such property is intended to be permanently located in or on the building or structure described in the Declarations or within 100 feet of its premises;

c. If not covered by other insurance, temporary structures built or assembled on site, including cribbing, scaffolding and construction forms.

#### 2. Property Not Covered

Covered Property does not include:

a. Land (including land on which the property is located) or water;

(b) Subject to (a) above, the amount we will pay for debris removal expense is limited to 25% of the sum of the deductible plus the amount that we pay for direct physical loss or damage to the Covered Property that has sustained loss or damage.

b. The following property when outside of buildings:

- (1) Lawns, trees, shrubs or plants;
- (2) Radio or television antennas (including satellite dishes) and their lead-in wiring, master or towers; or
- (3) Signs (other than signs attached to buildings)

#### 3. Covered Causes of Loss

See applicable Causes Of Loss Form as shown in the Declarations.

#### 4. Additional Coverages

##### a. Debris Removal

(1) Subject to Paragraphs (3) and (4), we will pay your expense to remove debris of Covered Property caused by or resulting from a Covered Cause of Loss that occurs during the policy period. The expenses will be paid only if they are reported to us in writing within 180 days of the date of direct physical loss or damage.

(2) Debris Removal does not apply to costs to:

- (a) Extract “pollutants” from land or water; or
- (b) Remove, restore or replace polluted land or water.

(3) Subject to the exceptions in paragraph (4), the following provisions apply:

(a) The most we will pay for the total of direct physical loss or damage plus debris removal expense is the Limit of Insurance applicable to the Covered Property that has sustained loss or damage.

(4) We will pay up to an additional \$10,000 for debris removal expense, for each location, in any one occurrence of physical loss or damage to Covered Property if one or both of the following circumstances apply:

(a) The total of the actual debris removal expense plus the amount we pay for direct physical loss or damage exceeds the Limit of Insurance on

the Covered Property that has sustained loss or damage.

**(b)** The actual debris removal expense exceeds 25% of the sum of the deductible plus the amount that we pay for direct physical loss or damage to the Covered Property that has sustained loss or damage.

Therefore if **(4)(a)** and/or **(4)(b)** apply, our total payment for direct physical loss or damage and debris removal expense may reach but will never exceed the Limit of Insurance on the Covered Property that has sustained loss or damage, plus \$10,000.

**(5) Examples**

The following examples assume that there is no Coinsurance penalty.

**Example #1**

Limit or Insurance:	\$90,000
Amount of Deductible:	\$ 500
Amount of Loss:	\$50,000
Amount of Loss Payable:	\$49,500
	(\$50,000 - \$500)
Debris Removal Expense:	\$10,000
Debris Removal Expense Payable:	\$10,000
	(\$10,000 is 20% of \$50,000.)

The debris removal expense is less than 25% of the sum of the loss payable plus the deductible. The sum of the loss payable and the debris removal expense (\$49,500 + \$10,000 = \$59,500.) is less than the Limit of Insurance. Therefore, the full amount of debris removal expense is payable in accordance with the terms of Paragraph **(3)**.

**Example #2**

Limit of Insurance:	\$90,000
Amount of Deductible:	\$ 500
Amount of Loss:	\$80,000
Amount of Loss Payable:	\$79,500
	(\$80,000 - \$500)
Debris Removal Expense:	\$30,000
Debris Removal Expense Payable	
Basic Amount:	\$10,500
Additional Amount:	\$10,000

The basic amount payable for debris removal expense under the terms of Paragraph **(3)** is calculated as follows: \$80,000 (\$79,500 + \$500) x .25 = \$20,000; capped at \$10,500. The cap applies because the sum of the loss payable (\$79,500) and the basic amount payable for debris removal expense (\$10,500) cannot exceed the Limit of Insurance (\$90,000).

The additional amount payable for debris removal expense is provided in accordance with the terms of Paragraph **(4)**, because the debris removal expense (\$30,000) exceeds 25% of the loss payable plus the deductible (\$30,000 is 37.5% of \$80,000), and because the sum of loss payable and debris removal expense (\$79,500 + \$30,00 = \$109,500) would exceed the Limit of Insurance (\$90,000). The additional amount of covered debris removal expense is \$10,000, the maximum payable under Paragraph **(4)**. Thus the total payable for debris removal expense in this

example is \$20,500; \$9,500 of the debris removal expense is not covered.

**b. Preservation Of Property**

If it is necessary to move Covered Property from the described premises to preserve it from loss or damage by a Covered Cause of Loss, we will pay for any direct physical loss or damage to that property:

- (1) While it is being moved or while temporarily stored at another location; and
- (2) Only if the loss or damage occurs within 30 days after the property is first moved.

**c. Fire Department Service Charge**

When the fire department is called to save or protect Covered Property from a Covered Cause of Loss, we will pay up to \$1,000, unless a higher limit is shown in the Declarations, for your liability for fire department service charges:

- (1) Assumed by contract or agreement prior to loss; or
- (2) Required by local ordinance.

No Deductible applies to this Additional Coverage.

**d. Pollutant Clean-up And Removal**

We will pay your expense to extract "pollutants" from land or water at the described premises if the discharge, dispersal, seepage, migration, release or escape of the "pollutants" is caused by or results from a Covered Cause of Loss that occurs during the policy period. The expense will be paid only if they are reported to us in writing within 180 days of the date on which the Covered Cause of Loss occurs.

This Additional Coverage does not apply to costs to test for, monitor or assess the existence, concentration or effects of "pollutants". But we will pay for testing which is performed in the course of extracting the "pollutants" from the land or water.

The most we will pay under this Additional Coverage for each described premises is \$10,000 for the sum of all covered expenses arising out of Covered Causes of



Loss occurring during each separate 12 month period of this policy.

## 5. Coverage Extensions

### a. Building Materials And Supplies Of Others

(1) You may extend the insurance provided by this Coverage Form to apply to building materials and supplies that are:

- (a) Owned by others;
- (b) In your care, custody or control;
- (c) Located in or on the building described in the Declarations, or within 100 feet of its premises; and
- (d) Intended to become a permanent part of the building.

(2) The most we will pay for loss or damage under this Extension is \$5,000 at each described premises, unless a higher Limit of Insurance is specified in the Declarations. Our payment for loss of or damage to property of others will only be for the account of the owner of the property.

### b. Sod, Trees, Shrubs And Plants

You may extend the insurance provided by this Coverage Form to apply to loss or damage to sod, trees, shrubs and plants outside of buildings on the described premises, if the loss or damage is caused by or results from any of the following causes of loss:

- (1) Fire;
- (2) Lightning;
- (3) Explosion;
- (4) Riot or Civil Commotion; or
- (5) Aircraft.

The most we will pay for loss or damage under this Extension is \$1,000, but not more than \$250 for any one tree, shrub or plant. These limits apply to any one occurrence, regardless of the types or number of items lost or damaged in that occurrence.

## B. Exclusions And Limitations

See applicable Causes Of Loss From as shown in the Declarations.

## C. Limits Of Insurance

The most we will pay for loss or damage in any one occurrence is the applicable Limit of Insurance shown in the Declarations.

The most we will pay for the loss or damage to outdoor signs attached to buildings is \$2,500 per sign in any one occurrence.

The limits applicable to the Coverage Extensions and the Fire Department Service Charge and Pollutant Clean-up And Removal Additional Coverage are in addition to the Limit of insurance.

Payments under the Preservation Of Property Additional Coverage will not increase the applicable Limit of insurance.

## D. Deductible

In any one occurrence of loss or damage (hereinafter referred to as loss), we will first reduce the amount of loss if required by Additional Condition – Need For Adequate Insurance. If the adjusted amount of loss is less than or equal to the Deductible, we will not pay for that loss. If the adjusted amount of loss exceeds the

Deductible, we will then subtract the Deductible from the adjusted amount of loss, and will pay the resulting amount or the Limit of Insurance, whichever is less.

When the occurrence involves loss to more than one item of Covered Property and separate Limits of Insurance apply, the losses will not be combined in determining application of the Deductible But the Deductible will be applied only once per occurrence.

### Example #1

(This example assumes there is no penalty for underinsurance.)

Deductible:	\$ 1,000
Limit of Insurance – Building #1:	\$ 60,000
Limit of Insurance – Building #2:	\$ 80,000
Loss to Building #1:	\$ 60,100
Loss to Building #2:	\$ 90,000

The amount of loss to Building #1 (\$60,100) is less than the sum (\$61,000) of the Limit of Insurance applicable to Building #1 plus the Deductible.

The Deductible will be subtracted from the amount of loss in calculating the loss payable for Building #1:

\$60,100
<u>- 1,000</u>
\$59,100 Loss Payable – Building #1

The Deductible applies once per occurrence and therefore is not subtracted in determining the amount of loss payable for Building #2. Loss payable for Building #2 is the Limit of Insurance of \$80,000.

Total amount of loss payable: \$59,100 + \$80,000 = \$139,100.

### Example #2

(This example, too, assumes there is no penalty for underinsurance.)

The Deductible and Limits of Insurance are the same as those in Example #1

Loss to Building #1:	\$ 70,000
(Exceeds Limit of Insurance plus Deductible)	
Loss to Building # 2	\$ 90,000
(Exceeds Limit of Insurance plus Deductible)	
Loss Payable - Building #1:	\$ 60,000
(Limit of Insurance)	
Loss Payable – Building #2	\$ 80,000
(Limit of Insurance)	
Total amount of loss payable:	\$140,000

## E. Loss Conditions

The following conditions apply in addition to the Common Policy Conditions and the Commercial Property Conditions.

### 1. Abandonment

There can be no abandonment of any property to us.

## 2. Appraisal

If we and you disagree on the value of the property or the amount of loss, either may make written demand for an appraisal of the loss. In this event, each party will select a competent and impartial appraiser. The two appraisers will select and umpire. If they cannot agree, either may request that selection be made by a judge of a court having jurisdiction. The appraiser will state separately the value of the property and amount of loss. If they fail to agree, they will submit their differences to the umpire. A decision agreed to by any two will be binding. Each party will:

- a. Pay its chosen appraiser; and
- b. Bear the other expenses of the appraisal and umpire equally.

If there is an appraisal, we will still retain our right to deny claim.

## 3. Duties In The Event Of Loss Or Damage

- a. You must see that the following are done in the event of loss or damage to Covered Property:

- (1) Notify the police if a law may have been broken.
- (2) Give us prompt notice of the loss or damage. Include a description of the property involved.
- (3) As soon as possible, give us a description of how, when and where the loss or damage occurred.
- (4) Take all reasonable steps to protect the Covered Property from further damage, and keep a record of your expenses necessary to protect the Covered Property, for consideration in the settlement of the claim. This will not increase the Limit of Insurance. However, we will not pay for any subsequent loss or damage resulting from cause of loss that is not a Covered Cause of Loss. Also if feasible, set the damaged property aside and in the best possible order for examination.
- (5) At our request, give us complete inventories of the damaged and undamaged property. Include quantities, costs, values and amount of loss claimed.
- (6) As often as may be reasonably required, permit us to inspect the property proving the loss or damage and examine your books and records.  
Also permit us to take samples of damaged and undamaged property for inspection, testing and analysis, and permit us to make copies from your books and records
- (7) Send us a signed, sworn proof of loss containing the information we request to investigate the claim. You must do this within 60 days after our request. We will supply you with the necessary forms.
- (8) Cooperate with us in the investigation or settlement of the claim.

- b. we may examine any insured under oath while not in the presence of any other insured and at such times as may be reasonably required, about any matter relating to this insurance or the claim, including an insured's books and records. In the event of an examination, an insured's answer must be signed.

## 4. Loss Payment

- a. In the event of loss or damage covered by this Coverage Form, at our option, we will either:

- (1) Pay the value of lost or damaged property;
- (2) pay the cost of repairing or replacing the lost or damaged property, subject to **b.** below;
- (3) Take all or any part of property at an agreed or appraised value; or
- (4) Repair, rebuild or replace the property with other property of like kind and quality, subject to **b.** below.

We will determine the value of lost or damaged property, or the cost of its repair or replacement, in accordance with the applicable terms of the Valuation Condition in this Coverage Form or any applicable provision which amends or supersedes the Valuation Condition.

- b. The cost to repair, rebuild or replace does not include the increased cost attributable to enforcement of any ordinance or law regulating the construction, use or repair of any property.
- c. We will give notice of our intentions within 30 days after we receive the sworn proof of loss.
- d. We will not pay you more than your financial interest in the Covered Property.
- e. We may adjust losses with the owners of lost or damaged property if other than you. If we pay the owners, such payments will satisfy your claims against us for the owners' property. We will not pay the owners more than their financial interest in the Covered Property.
- f. We may elect to defend you against suits arising from claims of owners of property. We will do this at our expense.
- g. We will pay for covered loss or damage within 30 days after we receive the sworn proof of loss, if you have complied with all of the terms of this Coverage Part and:
  - (1) We have reached agreement with you on the amount of loss; or
  - (2) An appraisal award has been made.
- h. A party wall is a wall that separates and is common to adjoining buildings that are owned by different parties. In settling covered losses involving a party wall, we will pay a portion of the loss to the party wall based on your interest in the wall in proportion to the interest of the owner of the adjoining building. However, if you elect to repair or replace your building and the owner of the adjoining building elects not to repair or replace the building, we will pay you the full value of the loss to the party wall, subject to all applicable policy

provisions including Limits of Insurance, the Valuation and Coinsurance Conditions and all other provisions of this Loss Payment Condition. Our payment under the provision of this paragraph does not alter any right of subrogation we may have against any entity, including the owner or insurer of the adjoining building, and does not alter the terms of the Transfer Of Rights Of Recovery Against Others To Us Condition in this policy.

#### **5. Recovery Property**

If either you or we recover any property after loss settlement, that party must give the other prompt notice. At your option, the property will be returned to you. You must then return to us the amount we paid to you for the property. We will pay recovery expenses and the expenses to repair the recovered property, subject to the Limit of Insurance.

#### **6. Valuation**

We will determine the value of Covered Property at actual cash value as of the time of loss or damage.

### **F. Additional Conditions**

The following conditions apply in addition to the Common Policy Conditions and the Commercial Property Conditions.

#### **1. Mortgageholders**

- a. The term mortgageholder includes trustee.
- b. We will pay for covered loss of or damage to buildings or structures to each mortgageholder shown in the Declarations in their order of precedence, as interests may appear.
- c. The mortgageholder has the right to receive loss payment even if the mortgageholder has started foreclosure or similar action on the building or structure.
- d. If we deny your claim because of your acts or because you have failed to comply with the terms of this Coverage Part, the mortgageholder will still have the right to receive loss payment if the mortgageholder:
  - (1) Pays any premium due under this Coverage Part at our request if you have failed to do so;
  - (2) Submits a signed, sworn proof of loss within 60 days after receiving notice from us of your failure to do so; and
  - (3) Has notified us of any change in ownership, occupancy or substantial change in risk known to the mortgageholder.

All of the terms of this Coverage Part will then apply directly to the mortgageholder.

- e. If we pay the mortgageholder for any loss or damage and deny payment to you because of your acts or because you have failed to comply with the terms of this Coverage Part:
  - (1) The mortgageholder's rights under the mortgage will be transferred to us to the extent of the amount we pay; and
  - (2) The mortgageholder's right to recover the full amount of the mortgageholder's claim will not be impaired.

At our option, we may pay to the mortgageholder the whole principal on the mortgage plus any accrued interest. In this event, your mortgage and note will be transferred to us and you will pay your remaining mortgage debt to us.

- f. If we cancel this policy, we will give written notice to the mortgageholder at least:
  - (1) 10 days before the effective date of cancellation if we cancel for your nonpayment of premium; or
  - (2) 30 days before the effective date of cancellation if we cancel for any other reason.
- g. If we elect not to renew this policy, we will give written notice to the mortgageholder at least 10 days before the expiration date of this policy.

#### **2. Need for Adequate Insurance**

We will not pay a greater share of any loss than the portion that the Limit of Insurance bears to the value on the date of completion of the building described in the Declarations.

#### **EXAMPLE #1 (UNDERINSURANCE)**

When: The value of the building on the date of completion is: \$200,000  
The Limit of Insurance for it is: \$100,000  
The Deductible is: \$ 500 The amount of loss is: \$ 80,000

Step (1):  $\$100,000 \div \$200,000 = .50$

Step (2):  $\$80,000 \times .50 = \$40,000$

Step (3):  $\$40,000 - \$500 = \$39,500$ .

We will pay no more than \$39,500. The remaining \$40,500 is not covered.

#### **EXAMPLE #2 (ADEQUATE INSURANCE)**

When: The value of the building on the date of completion is: \$200,000  
The Limit of Insurance for it is: \$200,000  
The Deductible is: \$ 1,000  
The amount of loss is: \$ 80,000

The limit of Insurance in the example is adequate and therefore no penalty applies. We will pay no more than \$79,000 (\$80,000 amount of loss minus the deductible of \$1,000).

#### **3. Restriction Of Additional Coverage – Collapse**

If the Causes Of Loss – Broad Form is applicable to this Coverage Form, Paragraph C.2.f. of the Additional Coverage – Collapse does not apply to this Coverage Form.

If the Cause Of Loss – Special Form is applicable to this Coverage Form, Paragraphs D.2.c. and D.2.d of the Additional Coverage Collapse do not apply to this Coverage Form.

#### **4. When Coverage Ceases**

The insurance provided by this Coverage Form will end when one of the following first occurs:

- a. This policy expires or is cancelled.
- b. The property is accepted by the purchaser;
- c. Your interest in the property ceases;
- d. You abandon the construction with no intention to complete it;
- e. Unless we specify otherwise in writing.
  - (1) 90 days after construction is complete or;
  - (2) 60 days after any building described in the Declarations is:
    - (a) Occupied in whole or in part; or
    - (b) Put to its intended use.

**G. Definitions**

“Pollutants” means any solid, liquid, gaseous or thermal irritant or contaminant, including smoke, vapor, soot, fumes, acids, alkalis, chemicals and waste. Waste includes materials to be recycled, reconditioned or reclaimed.

## CAUSES OF LOSS – SPECIAL FORM

Words and phrases that appear in quotation marks have special meaning. Refer to Section G., Definitions.

### A. Covered Causes Of Loss

When Special is shown in the Declarations, Covered Causes of Loss means Risk of Direct Physical Loss unless the loss is:

1. Excluded in Section B., Exclusions; or
2. Limited in Section C., limitations; that follow.

### B. Exclusions

1. We will not pay for loss or damage caused directly or indirectly by any of the following. Such loss or damage is excluded regardless of any other cause or event that contributes concurrently or in any sequence to the loss.

#### a. Ordinance or Law

The enforcement of any ordinance or law:

- (1) Regulating the construction, use or repair of any property; or
- (2) Requiring the tearing down of any property, including the cost of removing its debris.

This exclusion, Ordinance Or Law applies whether the loss results from:

- (a) An ordinance or law that is enforced even if the property has not been damaged; or
- (b) The increased costs incurred to comply with an ordinance or law in the course of construction, repair, renovation, remodeling or demolition of property, or removal of its debris, following a physical loss to that property.

#### b. Earth movement

- (1) Earthquake, including any earth sinking, rising or shifting related to such event;
- (2) Landslide including any earth sinking, rising or shifting related to such event.
- (3) Mine subsidence, meaning subsidence of a man-made mine, whether or not mining activity has ceased;
- (4) Earth sinking (other than sinkhole collapse), rising or shifting including soil conditions which cause settling, cracking or other disarrangement of foundations or other parts or realty. Soil conditions include contraction, expansion, freezing, thawing, erosion, improperly compacted soil and the action of water under the ground surface.

But if Earth Movement, as described in **b.(1)** through **(4)** above, results in fire or explosion, we

will pay for the loss or damage caused by that fire or explosion.

- (5) Volcanic eruption, explosion or effusion. But if volcanic eruption, explosion or effusion results in fire, building glass breakage or Volcanic Action, we will pay for the loss or damage caused by that fire, building glass breakage or Volcanic Action.

Volcanic Action means direct loss or damage resulting from the eruption of a volcano when the loss or damage is caused by:

- (a) Airborne volcanic blast or airborne shock waves;
- (b) Ash, dust or particulate matter; or
- (c) Lava flow.

All volcanic eruptions that occur within any 168-hour period will constitute a single occurrence.

Volcanic Action does not include the cost to remove ash, dust or particulate matter that does not cause direct physical loss or damage to the described property.

#### c. Governmental Action

Seizure or destruction of property by order of governmental authority.

But we will pay for loss or damage caused by or resulting from acts of destruction ordered by governmental authority and taken at the time of a fire to prevent its spread, if the fire would be covered under this Coverage Part.

#### d. Nuclear Hazard

Nuclear reaction or radiation, or radioactive contamination, however caused.

But if nuclear reaction or radiation, or radioactive contamination, results in fire, we

will pay for the loss or damage caused by that fire.

**e. Utility Services**

The failure of power, communication, water or other utility service supplied to the described premises, however caused, if the failure:

- (1) Originates away from the described premises; or
- (2) Originates at the described premises but only if such failure involves equipment used to supply the utility service to the described premises from a source away from the described premises.

Failure of any utility service includes lack of sufficient capacity and reduction in supply. Loss or damage caused by a surge of power is also excluded, if the surge would not have occurred but for an event causing failure of power.

But if the failure or surge of power, or the failure of communication, water or other utility service, results in Covered Cause of loss, we will pay for the loss or damage caused by that Covered Cause of Loss.

Communication services include but are not limited to service relating to Internet access or access to any electronic, cellular or satellite network.

**f. War And Military Action**

- (1) War, including undeclared or civil war;
- (2) Warlike action by military force, including action in hindering or defending against an actual or expected attack, by any government, sovereign or other authority using military personnel or other agents; or
- (3) Insurrection, rebellion, revolution, usurped power, or action taken by governmental authority in hindering or defending against any of these.

**g. Water**

- (1) Flood, surface water, waves, tides, tidal waves, overflow of any body of water or their spray, all whether driven by wind or not;
- (2) Mudslide or mudflow;
- (3) Water that backs up or overflows from a sewer, drain or sump; or
- (4) Water under the ground surface pressing on, or flowing or seeping through:
  - (a) Foundations, walls, floors or paved surfaces;
  - (b) Basements, whether paved or not; or
  - (c) Doors, windows or other openings.

But if Water, as described in **g.(1)**. Through **g.(4)**. above, results in fire, explosion or

sprinkler leakage, we will pay for the loss or damage caused by that fire explosion or sprinkler leakage.

**h. "Fungus", Wet Rot, Dry Rot And Bacteria**

Presence, growth, proliferation, spread or any activity of "fungus", wet or dry rot or bacteria.

But if "fungus", wet or dry rot or bacteria results in a "specified cause of loss", we will pay for the loss or damage caused by that "specified cause of loss".

This exclusion does not apply:

- 1. When "fungus", wet or dry rot or bacteria results from fire or lightning; or
- 2. To the extent that coverage is provided in the Additional Coverage – Limited Coverage For "Fungus", Wet Rot, Dry Rot And Bacteria with respect to loss or damage by a cause of loss other than fire or lightning.

Exclusions **B.1.a.** through **B.1h.** apply whether or not the loss event results in widespread damage or affects a substantial area.

2. We will not pay for loss or damage caused by or resulting from any of the following:

- a. Artificially generated electrical, magnetic or electromagnetic energy that damages, disturbs, disrupts or otherwise interferes with any:
  - (1) Electrical or electronic wire, device, appliance, system or network; or
  - (2) Device, appliance, system or network utilizing cellular or satellite technology.

For the purpose of this exclusion, electrical, magnetic or electromagnetic energy includes but is not limited to:

- (a) Electrical current, including arcing;
- (b) Electrical charge produced or conducted by a magnetic or electromagnetic field;
- (c) Pulse of electromagnetic energy; or
- (d) Electromagnetic waves or microwaves.

But if fire results, we will pay for the loss or damage caused by the fire.

- b. Delay, loss of use or loss of market.
- c. Smoke, vapor or gas from agricultural smudging or industrial operations

- d. (1) Wear and tear;**
- (2) Rust or other corrosion, decay, deterioration, hidden or latent defect or any quality in property that causes it to damage or destroy itself;**
- (3) Smog;**
- (4) Setting, cracking, shrinking or expansion;**
- (5) Nesting or infestation, or discharge or release of waste products or secretions, by insects, birds, rodents or other animals.**
- (6) Mechanical breakdown, including rupture or bursting caused by centrifugal force. But if mechanical breakdown results in elevator collision, we will pay for the loss or damage caused by the elevator collision.**
- (7) The following causes of loss to personal property:**
  - (a) Dampness or dryness of atmosphere;**
  - (b) Changes in or extremes of temperature; or**
  - (c) Marring or scratching.**

But if an excluded cause of loss that is listed in **2.d.(1).** through **(7)** results in a “specified cause of loss” or building glass breakage, we will pay for the loss or damage caused by that “specified cause of loss” or building glass breakage.

- e. Explosion of steam boilers, steam pipes, steam engines or steam turbines owned or leased by you, or operated under your control. But if explosion of steam boilers, steam pipes, steam engines or steam turbines result in fire or combustion explosion, we will pay for the loss or damage caused by that fire or combustion explosion. We will also pay for loss or damage caused by or resulting from explosion of gases or fuel within the furnace of any fired vessel or within the flues or passages through which the gases of combustion pass.**
- f. Continuous or repeated seepage or leakage of water, or the presence or condensation of humidity, moisture or vapor, that occurs over period of 14 days or more.**
- g. Water, other liquids, powder or molten material that leaks or flows from plumbing, heating, air conditioning or other equipment (except fire protective systems) caused by or resulting from freezing, unless:**
  - (1) You do your best to maintain heat in the building or structure; or**
  - (2) You drain the equipment and shut off the supply if the heat is not maintained.**
- h. Dishonest or criminal act by you, any of your partners, members, officers, managers, employees (including leased employees), directors, trustees, authorized representatives or**

anyone to whom you entrust the property for any purpose.

- (1) Acting alone or in collusion with others; or**
  - (2) You drain the equipment and shut off the supply if the heat is not maintained.**
- This exclusion does not apply to acts of destruction by your employees (including leased employees); but theft by employees (including leased employees) is not covered.
- i. Voluntary parting with any property by you or anyone else to whom you have entrusted the property if induced to do so by any fraudulent scheme, trick, device or false pretense.**
  - j. rain, snow, ice or sleet to personal property in the open.**
  - k. Collapse, including any of the following conditions of property or any part of the property:**
    - (1) An abrupt falling down or caving in;**
    - (2) Loss of structural integrity, including separation of parts of the property or property in danger of falling down or caving in; or**
    - (3) Any cracking, bulging, sagging, bending, leaning, setting, shrinkage or expansion as such condition relates to (1) or (2) above.**

But if collapse results in a Covered Cause of Loss at the described premises, we will pay for the loss or damage caused by that Covered Cause of Loss.

The exclusion, **k.**, does not apply:

- (a) To the extent that coverage is provided under the Additional Coverage – Collapse; or**
- (b) To collapse caused by one or more of the following:**
  - (i) The “specified cause of loss”;**
  - (ii) Breakage of building glass;**
  - (iii) Weight of rain that collects on a roof; or**
  - (iv) Weight of people or personal property.**
- l. Discharge, dispersal, seepage, migration, release or escape of “pollutants” unless the discharge, dispersal, seepage, migration, release or escape is itself caused by any of the “specified causes of loss”. But if the discharge, dispersal, seepage, migration, release or escape of “pollutants” results in “specified cause of loss”, we will pay**

for the loss or damage caused by that “specified cause of loss”.

The exclusion, **I.**, does not apply to damage to glass caused by chemicals applied to glass.

**m.** Neglect of an insured to use all reasonable means to save and preserve property from further damage at and after the time loss.

**3.** We will not pay for loss or damage caused by or resulting from any of the following, **3.a.** through **3.c.** But if an excluded cause of loss that is listed in **3.a.** through **3.c.** results in a Covered Cause of Loss, we will pay for the loss or damage caused by that Covered Cause of Loss.

**a.** Weather conditions. But this exclusion only applies if weather conditions contribute in any way with a cause or event excluded in Paragraph **1.** above to produce the loss or damage.

**b.** Acts or decisions, including the failure to act or decide, of any person, group, organization or governmental body.

**c.** Faulty, inadequate or defective:

(1) Planning, zoning, development, surveying, siting;

(2) Design, specifications, workmanship, repair, construction, renovation, remodeling, grading, compaction;

(3) Materials used in repair, construction renovation or remodeling; or

(4) Maintenance;

of part or all of any property on or off the described premises.

#### **4. Special Exclusions**

The following provisions apply only to the specified Coverage Forms.

**a. Business Income (And Extra Expense) Coverage Form, Business Income (Without Extra Expense) Coverage Form, Or Extra Expense Coverage Form**

We will not pay for:

(1) Any loss caused by or resulting from:

(a) Damage or destruction of “finished stock”; or

(b) The time required to reproduce “finished stock”.

This exclusion does not apply to Extra Expense.

(2) Any loss caused by or resulting from direct physical loss or damage to radio or television antennas (including satellite dishes) and their lead in-wiring, masts or towers.

(3) Any increase of loss caused by or resulting from:

(a) Delay in rebuilding, repairing or replacing the property or resuming “operations”, due to interference at the location of the rebuilding, repair or

replacement by strikers or other persons; or

(b) Suspension, lapse or cancellation of any license, lease or contract. But if the suspension, lapse or cancellation is directly caused by the “suspension” of “operations”, we will cover such loss that affects your Business Income during the “period of restoration” and any extension of the “period of restoration” in accordance with the terms of the Extended business Income Additional Coverage and the Extended Periods Of Indemnity Optional Coverage or any variation of these.

(4) Any Extra Expense caused by or resulting from suspension, lapse or cancellation of any license, lease or contract beyond the “period of restoration”.

(5) Any other consequential loss.

#### **b. Leasehold interest Coverage Form**

(1) Paragraph **B.1.a.**, Ordinance Or Law, does not apply to insurance under this Coverage Form.

(2) We will not pay for any loss caused by:

(a) Your cancelling the lease;

(b) The suspension lapse or cancellation of any license; or

(c) Any other consequential loss.

#### **c. Legal liability Coverage Form**

(1) The following exclusions do not apply to insurance under this Coverage Form:

(a) Paragraph **B.1.a.**, Ordinance Or Law;

(b) Paragraph **B.1.c.**, Governmental Action

(c) Paragraph **B.1.d.**, Nuclear Hazard;

(d) Paragraph **B.1.e.**, Utility Services; and

(e) Paragraph **B.1.f.**, War And Military Action

(2) The following additional exclusions apply to insurance under this Coverage Form:

(a) **Contractual Liability**

We will not defend any claim or “suit”, or pay damages that you are legally liable to pay solely by reason of your assumption of liability in a contract or



agreement. But this exclusion does not apply to a written lease agreement in which you have assumed liability for building damage resulting from an actual or attempted burglary or robbery, provided that:

- (i) Your assumption of liability was executed prior to accident; and
- (ii) The building is Covered Property under this Coverage Form.

**(b) Nuclear Hazard**

We will not defend any claim or “suit”, or pay any damages, loss, expense or obligation, resulting from nuclear reaction or radiation, or radioactive contamination, however caused.

**5. Additional Exclusion**

The following provisions apply only to the specified property.

**LOSS OR DAMAGE TO PRODUCTS**

We will not pay for loss or damage to any merchandise, goods or other product caused by or resulting from error or omission by any person or entity (including those having possession under an arrangement where work or a portion of the work is outsourced) in any stage of the development, production or use of the product, including planning, testing, processing, packaging, installation, maintenance or repair. This exclusion applies to any effect that compromises the form, substance or quality of the product. But if such error or omission results in a Covered Cause loss, we will pay for the loss or damage caused by that Covered Cause of Loss.

**C. Limitations**

The following limitations apply to all policy forms and endorsements, unless otherwise stated.

- 1. We will not pay for loss of or damage to property, as described and limited in the section. In addition, we will not pay for any loss that is a consequence of loss or damage as described and limited in this section.
  - a. Steam boilers, steam pipes steam engines or steam turbines caused by or resulting from any condition or event inside such equipment. But we will pay for loss of or damage to such equipment caused by or resulting from an explosion of gases or fuel within the furnace of any fired vessel or within the flues or passages through which the gases of combustion pass.
  - b. Hot water boilers or other water heating equipment caused by ore resulting from any condition or event inside such boilers or equipment, other than an explosion.

c. The interior of any building or structure or to personal property in the building or structure, caused by or resulting from rain, snow, sleet, ice, sand or dust, whether driven by wind or not, unless:

- (1) The building or structure first sustains damage by a Covered Cause of Loss to its roof or walls through which the rain, snow, sleet, ice, sand or dust enters; or
- (2) The loss or damage is caused by or results from thawing of snow, sleet or ice on the building or structure.

d. Building materials and supplies not attached as part of the building or structure caused by or resulting from theft.

However, this limitation does not apply to:

- (1) Building materials and supplies held for sale by you, unless they are insured under the Builders Risk Coverage Form; or
- (2) Business Income Coverage or Extra Expense Coverage.

e. Property that is missing, where the only evidence of the loss or damage is a shortage disclosed on taking inventory, or other instances where there is no physical evidence to show what happened to the property.

f. Property that has been transferred to a person or to a place outside the described premises on the basis of unauthorized instructions.

2. We will not pay for loss of or damage to the following types of property unless caused by the “specified causes of loss” or building glass breakage:

- a. Animals, and then only if they are killed or their destruction is made necessary.
- b. Fragile articles such as statuary, marbles, chinaware and porcelains, if broken. This restriction does not apply to:
  - (1) Glass; or
  - (2) Containers of property held for sale.

c. Builders' machinery, tools and equipment owned by you or entrusted to you, provided such property is Covered Property.

(1) If the property is located on or within 100 feet of the described premises, unless the premises is insured under the Builders Risk Coverage Form; or

(2) To Business Income Coverage or to Extra Expense Coverage.

3. The special limit shown for each category, a. through d., is the total limit for loss of or damage to all property in that category. The special limit applies to any one occurrence of theft, regardless of the types or number of articles that are lost or damaged in that occurrence. The special limits are:

a. \$2,500 for furs, fur garments and garments trimmed with fur.

b. \$2,500 for jewelry, watches, watch movements, jewels, pearls, precious and semiprecious stones, bullion, gold, silver, platinum, and other precious alloys or metals. This limit does not apply to jewelry and watches worth \$100 or less per item.

c. \$2,500 for patterns, dies, molds and forms.

d. \$250 for stamps, tickets, including lottery tickets held for sale, and letters for credit.

These special limits are part of, not in addition to, the Limit of Insurance applicable to the Covered Property.

This limitation, C.3., does not apply to Business Income Coverage or Extra Expense Coverage.

4. We will not pay the cost to repair any defect to a system or appliance from which water, other liquid, powder or molten material escapes. But we will pay the cost to repair or replace damaged parts of fire-extinguishing equipment if the damage:

a. Results in discharge of any substance from an automatic fire protection system; or

b. Is directly caused by freezing.

However, this limitation does not apply to Business Income Coverage or to Extra Expense Coverage.

#### **D. Additional Coverage – Collapse**

The coverage provided under this Additional Coverage – Collapse applies only to an abrupt collapse as described and limited in D.1., through D.7.,

1. For the purpose of this Additional Coverage – Collapse, abrupt collapse means an abrupt falling down or caving in of a building or any part of a building with the result that building or part of the building cannot be occupied for its intended purpose.

2. We will pay for direct physical loss or damage to Covered Property, caused by abrupt collapse of building or any part of a building that is insured under this Coverage Form or that contains

Covered Property insured under this Coverage Form, if such collapse is caused by one or more of the following.

a. Building decay that is hidden from view unless the presence of such decay is known to an insured prior to collapse;

b. Insect or vermin damage that is hidden from view, unless the presence of such damage is known to an insured prior to collapse;

c. Use of defective material or methods in construction, remodeling or renovation if the abrupt collapse occurs during the course of the construction, remodeling or renovation.

d. Use of defective material or methods in construction, remodeling or renovation if the abrupt collapse occurs after the construction, remodeling or renovation is complete but only if the collapse is caused in part by:

(1) A cause of loss listed in 2.a. or 2.b.;

(2) One or more of the "specified causes of loss";

(3) Breakage of building glass;

(4) Weight of people or personal property; or

(5) Weight of rain that collects on a roof.

3. This **Additional Coverage – Collapse** does **not** apply to:

a. A building or any part of a building that is in danger of falling down or caving in;

b. A part of a building that is standing, even if it has a separated from another part of the building; or

c. A building that is standing or any part of a building that is standing even if it shows evidence of cracking, bulging, sagging, bending, leaning, setting, shrinkage or expansion.

4. With respect to the following property:

a. Outdoor radio or television antennas (including satellite dishes) and their lead-in wiring, masts or towers;

b. Awnings, gutters and downspouts;

c. Yard fixtures;

d. Outdoor swimming pools;

e. Fences;

- f. Piers, wharves and docks;
  - g. Beach or diving platforms or appurtenances;
  - h. Retaining walls; and
  - i. Walks, roadways and other paved surfaces;
- if an abrupt collapse is caused by cause of loss listed in **2.a.** through **2.d.**, we will pay for loss or damage to that property only if:

- (1) Such loss or damage is a direct result of the abrupt collapse of a building insured under this Coverage Form.
- (2) The property is Covered Property under this Coverage Form.

**5.** If personal property abruptly falls down or caves in and such collapse is **not** the result of abrupt collapse of a building, we will pay for loss or damage to Covered property caused by such collapse of personal property only if:

- a. The collapse of personal property was caused by a cause of loss listed in **2.a.** through **2.d.**;
- b. The personal property which collapses is inside a building; and
- c. The property which collapses is not of a kind listed in **4.**, regardless of whether that kind of property is considered to be personal property or real property.

The coverage stated in the Paragraph **5.** does not apply to personal property if marring and/or scratching is the only damage to that personal property caused by the collapse.

**6.** This Additional Coverage – Collapse does not apply to a personal property that has not abruptly fallen down or caved in, even if the personal property shows evidence of cracking, bulging, sagging, bending, leaning, settling, shrinkage or expansion.

**7.** This Additional Coverage – Collapse will not increase the Limits of Insurance provided in this Coverage Part.

**8.** The term Covered Cause of Loss includes the Additional Coverage – Collapse as described and limited in **D.1.** through **D.7.**

**E. Additional Coverage – Limited Coverage For “Fungus”, Wet Rot, Dry Rot And Bacteria**

**1.** The coverage described in **E.2.** and **E.6.** only applies when the “fungus”, wet or dry rot or bacteria is the result of one or more of the following causes that occurs during the policy period and only if all reasonable means were used to save and preserve the property from further damage at the time of and after that occurrence.

- a. A “specified cause of loss” other than fire or lightning; or
- b. Flood, if Flood Coverage Endorsement applies to the affected premises.

**2.** We will pay for loss or damage by “fungus” wet or dry rot or bacteria. As used in this Limited Coverage, the term loss or damage means:

- a. Direct physical loss or damage to Covered Property caused by “fungus”, wet or dry rot or bacteria including the cost of removal of the “fungus”, wet or dry rot or bacteria;
- b. The cost to tear out and replace any part of the building or other property as needed to gain access to the “fungus”, wet or dry rot or bacteria; and
- c. The cost of testing performed after removal, repair, replacement or restoration of the damaged property is completed, provided there is a reason to believe that “fungus”, wet or dry rot or bacteria are present.

**3.** The coverage described under **E.2.** of this Limited Coverage is limited to \$15,000. Regardless of the number of claims, this limit is the most we will pay for the total of all loss or damage arising out of all occurrences of “specified cause of loss” (other than fire or lightning) and Flood which take place in a 12 month period (starting with the beginning of the present annual policy period). With respect to a particular occurrence of loss which results in “fungus”, wet or dry rot or bacteria, we will not pay more than a total of \$15,000 even if the “fungus”, wet or dry rot or bacteria continues to be present or active, or recurs, in a later policy period.

**4.** The coverage provided under this Limited Coverage does not increase the applicable Limit of Insurance on any Covered Property. If a particular occurrence results in loss or damage by “fungus”, wet or dry rot or bacteria, and other loss or damage, we will not pay more, for the total of all loss or damage, than the applicable Limit of Insurance on the affected Covered Property.

If there is covered loss or damage to Covered Property, not caused by “fungus”, wet or dry rot or bacteria, loss payment will not be limited by the terms of this Limited Coverage, except to the extent that “fungus”, wet or dry rot or bacteria causes an increase in the loss. Any such increase

in the loss will be subject to the terms of this Limited Coverage.

5. The terms of this Limited Coverage do not increase or reduce the coverage provided under Paragraph F.2. (Water Damage, Other Liquids, Powder Or Molten Material Damage) of this Causes Of Loss Form or under the Additional Coverage – Collapse.

6. The following, 6.a or 6.b., applies only if Business Income and/or Extra Expense Coverage applies to the described premises and only if the “suspension” of “operations” satisfies all terms and conditions of the applicable Business Income and/or Extra Expense Coverage Form.

a. If the loss which resulted in “fungus”, wet rot or dry rot or bacteria does not in itself necessitate a “suspension” of “operations”, but such “suspension” is necessary due to loss or damage to property caused by “fungus” wet or dry rot or bacteria, then our payment under Business Income and/or Extra Expense is limited to the amount of loss and/or expense sustained in a period of not more than 30 days. The days need not be consecutive.

b. If a covered “suspension” of “operations” was caused by loss or damage other than “fungus”, wet or dry rot or bacteria but remediation of “fungus”, wet or dry rot or bacteria but remediation of “fungus”, wet or dry rot or bacteria prolongs the “period of restoration”, we will pay for loss and/or expense sustained during the delay (regardless of when such delay occurs during the “period of restoration”), but such coverage is limited to 30 days. The days need not be consecutive.

## F. Additional Coverage Extensions

### 1. Property In Transit

This Extension applies only to your personal property to which this form applies.

a. You may extend the insurance provided by this Coverage Part to apply to your personal property (other than property in the care, custody or control of your salespersons) in transit more than 100 feet from the described premises. Property must be in or on a motor vehicle you own, lease or operate while between points in the coverage territory.

b. Loss or damage must be caused by or result from one of the following causes of loss:

(1) Fire, lightning, explosion, windstorm or hail riot or civil commotion, or vandalism.

(2) Vehicle collision, upset or overturn. Collision means accidental contact of your vehicle with another vehicle or object. It does not mean your vehicle’s contact with the roadbed.

(3) Theft of an entire bale, case or package by forced entry into a securely locked body or compartment of the vehicle. There must be visible marks of the forced entry.

c. The most we will pay for loss or damage under this Extension is \$5,000.

This Coverage Extension is additional insurance. The Additional Condition, Coinsurance, does not apply to this Extension.

### 2. Water Damage, Other Liquids, Powder Or Molten Material Damage

If loss or damage caused by or resulting from covered water or other liquid, powder or molten material damage loss occurs, we will also pay the cost to tear out and replace any part of the building or structure to repair damage to the system or appliance from which the water or other substance escapes. This Coverage Extension does not increase the Limit of Insurance.

### 3. Glass

a. We will pay for expenses incurred to put up temporary plates or board up openings if repair or replacement of damaged glass is delayed.

b. We will pay for expenses incurred to remove or replace obstructions when repairing or replacing glass that is part of a building. This does not include removing or replacing window displays.

The Coverage Extension, F.3., does not increase the Limit of Insurance.

## G. Definitions

1. “Fungus” means type or form of fungus, including mold or mildew, and any mycotoxins, spores, scents or by-products produced or released by fungi.

2. “Specified cause of loss” means the following: fire; lightning; explosion; windstorm or hail; smoke; aircraft or vehicles; riot or civil commotion; vandalism; leakage from fire-extinguishing equipment; sinkhole collapse; volcanic action; falling objects; weight of snow, ice or sleet; water damage.

a. Sinkhole collapse means sudden sinking or collapse of land into underground empty spaces

created by the action of water on limestone or dolomite. This cause of loss does not include:

- (1) The cost of filling sinkholes; or
  - (2) Sinking or collapse of land into manmade underground cavities.
- b.** Falling objects does not include loss or damage to:
- (1) Personal property in the open; or
  - (2) The interior of a building or structure, or property inside a building or structure, unless the roof or an outside wall of the

building or structure is first damaged by a falling object.

- c.** Water damage means accidental discharge or leakage of water or steam as the direct result of the breaking apart or cracking of a plumbing, heating, air conditioning or other system or appliance (other than a sump system including its related equipment and system including its related equipment and parts), that is located on the described premises and contains water or steam.

EXHIBIT E  
SAMPLE ONLY

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY  
CG 20 37 04 13

**THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.**

**ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS  
SCHEDULED PERSON – COMPLETED OPERATIONS**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART  
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART

**SCHEDULE**

<b>Name Of Additional Insured Person(s) Or Organization(s):</b>	<b>Location(s) and Description Of Completed Operations</b>
Orange County Board of County Commissioners Procurement Division 400 E. South Street Orlando, FL 32801	
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

**A. Section II – Who Is An Insured** is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule but only with respect to liability for “bodily injury”, or “property damage” caused, in whole or in part by “your work” at the location designated and described in the Schedule of this endorsement performed for that additional insured and included in the “products-completed operations hazard”.

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by laws; and
2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required

by the contract or agreement to provide for such additional insured.

**B.** With respect to the insurance afforded to these additional insureds, the following is added to Section III-Limits of Insurance:

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement; or
2. Available under the applicable Limits of Insurance shown in the Declarations; Whichever is less.

**This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.**

EXHIBIT F  
SAMPLE ONLY

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY  
CG 20 10 04 13

**THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.**

**ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS-  
SCHEDULE PERSON OR ORGANIZATION**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

**SCHEDULE**

<b>Name Of Additional Insured Person(s) Or Organization(s):</b>	<b>Location(s) Of Covered Operations</b>
Orange County Board of County Commissioners Procurement Division 400 E. South Street Orlando, FL 32801	
<b>Information required to complete this Schedule, if not shown above, will be shown in the Declarations.</b>	
<p><b>A. Section II – Who is An Insured</b> is amended to include as an additional insured the person(s) or organizations(s) shown in the Schedule, but only with respect to liability for “bodily injury”, “property damage” or “personal and advertising injury” caused, in whole or in part, by:</p> <ol style="list-style-type: none"><li>1. Your acts omissions; or</li><li>2. The acts or omissions of those acting on your behalf;</li></ol> <p>In the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.</p> <p>However:</p> <ol style="list-style-type: none"><li>3. The insurance afforded to such additional insured only applies to the extent permitted by law; and</li><li>4. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.</li></ol>	<p><b>B.</b> With respect to the insurance afforded to these additional insureds, the following additional exclusions apply: This insurance does not apply to “bodily injury” or property damage occurring after::</p> <ol style="list-style-type: none"><li>1. All work , including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured (s) at the location of the covered operations has been completed; or</li><li>2. That portion of “your work” out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.</li></ol> <p><b>C.</b> With respect to the insurance afforded to these additional insureds, the following is added to Section III- Limits of Insurance: If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:</p> <ol style="list-style-type: none"><li>1. Required by the contract or agreement; or</li><li>2. Available under the applicable Limits of Insurance shown in the Declarations; whichever is less.</li></ol> <p>This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.</p>

**EXHIBIT G**  
SAMPLE ONLY

WORKERS COMPENSATION AND EMPLOYERS LIABILITY INSURANCE POLICY WC 00 03 13  
(Ed. 4-84)

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WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule. (This agreement applies only to the extent that you perform work under a written contract that requires you to obtain this agreement from us.)

This agreement shall not operate directly or indirectly to benefit anyone not named in the Schedule.

Schedule

**Name of Person or Organization:**

ORANGE COUNTY BOARD OF COUNTY COMMISSIONERS  
PROCUREMENT DIVISION  
400 E. SOUTH STREET  
ORLANDO, FL 32801

This endorsement changes the policy to which it is attached and is effective on the date issued unless otherwise stated.  
(The information below is required only when this endorsement is issued subsequent to preparation of the policy.)

Endorsement	Effective Policy No.	Endorsement No.
Insured		
Insurance Company	Countersigned by _____	

WC 00 03 13



POLICY NUMBER: \_\_\_\_\_

**COMMERCIAL GENERAL LIABILITY  
CG 24 04 0509**

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY

## **WAIVER OF TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US**

This endorsement modifies Insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART  
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART

### **SCHEDULE**

**Name of Person or Organization:**

ORANGE COUNTY BOARD OF COUNTY COMMISSIONERS  
PROCUREMENT DIVISION  
400 E. SOUTH STREET  
ORLANDO, FL 32801

(Information required to complete this Schedule, if not shown above, will be shown in the Declarations.)

The following is added to Paragraph 8, Transfer of rights of Recovery Against Others To Us of Section IV – Conditions:

We waive any right to recovery we may have against the person or organization shown in the Schedule above because of payments we make for injury or damage arising out of your ongoing operations or “your work” done under a contract with that person or organization and included in the “Products-completed operations hazard”. This waiver applies only to the person or organization shown in the Schedule above.

**ORANGE COUNTY  
OWNER DIRECT PURCHASE PROVISION**

**1. OBJECTIVE:**

To provide guidelines for Owner Direct Purchases (ODP) in order to realize the benefits of owner tax exempt status for the procurement of materials for incorporation into a public works project.

**2. AUTHORITY:**

Pursuant to *Florida Statutes*, Section 212.08(6), and *Florida Administrative Code*, Number 12A-1.094, Orange County Florida is exempt from Florida Sales Tax for the purchase of construction materials, supplies and/or equipment incorporated into a construction project. Under this program, the Florida Sales Tax rate of 6% shall apply to purchases of \$5000.01 and above. For purchases of \$5000 or less 6.5% shall apply. For example on a \$100,000 purchase 6% sales tax would apply to the total purchase and the .5% would apply to the first \$5000 only. Total sales tax saved on a \$100,000 purchase would be \$6025.

**3. DIRECTION:**

The Owner has elected to exercise this right to direct purchase selected materials on all construction projects and such direct purchase shall be without any additional cost to the Owner. **All bids are to be submitted with all applicable taxes included.**

The Contractor shall be fully responsible for all matters relating to the receipt of materials, equipment, supplies and furnishings, including but not limited to providing and obtaining all warranties and guarantees in favor of and for the benefit of the County for all materials, equipment, supplies and furnishings as required by the Contract. At the time of and subsequent to the delivery of such materials, equipment, supplies and furnishings, the County shall be liable for all loss or damage to materials, equipment, supplies and furnishings purchased pursuant to the owner direct purchase provisions. Notwithstanding the foregoing, the County shall be responsible for payment of the invoices issued by the supplier, vendor or subcontractor. The County shall retain the risk of loss of and damage to County furnished materials, equipment, supplies and furnishings for the purpose of receiving a tax exemption under Section 212.08(6), Fla. Stat, which meets the criteria in Rule 12A 1.094(4)(b)(1-4), Fla. Admin. Code, to determine if the County is the purchaser for the purposes of the tax exemption under Section 212.08(6), Fla. Stat.

The procedures outlined here may change at any time without prior notice to Contractor.

**4. TERMS** - For the purpose of this document, the following terms are defined as:

- a. **Change Order (CO):** A written order authorizing a change in the scope of work, contract amount or contract time. (Attachment F)
- b. **Contractor:** A General Contractor (GC), Construction Manager (CM) or Design Builder.
- c. **Orange County Board of County Commissioners, Orange County, Florida:** OC or Owner.

**ORANGE COUNTY  
OWNER DIRECT PURCHASE PROVISION**

- d. **Owner Direct Purchase Order (ODP):** A purchase order issued by the Owner directly to the Contractor's vendor for the purchase of materials exempt from sales tax.
- e. **Owner Direct Purchase Procedures:** Guidelines outlined in this document.
- f. **Material:** Any material, supplies, or equipment incorporated into an OC construction project.
- g. **Letter of Indemnification:** Agreement between Contractor and Owner that will undertake to indemnify Contractor from any and all liability for unpaid sales tax due to DPO. (Attachment E)
- h. **Letter of Understanding:** Agreement between Contractor and Owner that Contractor contractual duties remain the same insofar as the inspection, handling, storage, protection and installation of the direct purchase item into the work. (Attachment D)
- i. **Purchase Requisition (PR):** A request to purchase stated material or services for a quoted price. (Attachment A)
- j. **Purchase Order (PO):** A written authorization issued by the Owner for a vendor to delivery material or services at a specified price, which becomes a legally binding contract upon acceptance by the vendor.
- k. **Vendor:** A company supplying material to the Project, whether such provision includes installation or not.
- l. **Vendor List:** A list provided by the Contractor of the vendors the Owner will direct purchase material from.

**5. FUNCTIONS:**

The County reserves the right to require the Contractor to assign some or all of its subcontracts or other agreements with material suppliers directly to the County. This process will be referred to as ODP and is a method that may be utilized to create savings for the County.

A. Initial Requirements.

A purchase order may be awarded for supplies or materials without competition where such supplies or materials are being procured by the County as an ODP for incorporation into a public works project (as defined in Section 12A-1.094, 4c. of the Florida Department of Revenue, Florida Administrative Code), the contract for which was previously awarded by the County and which prior award included the cost of such supplies or materials. In such event, the County may procure the supplies or materials in compliance with the requirements of the Florida Department of Revenue, Florida Administrative Code Section 12A-1.094, as amended; for the direct purchase of materials and/or other tangible personal property that is incorporated into or becomes a part of a public facility pursuant to a public works contract, and that will not be used to furnish or equip the project in accordance with Section 12A-1.038(4) of the Florida Administrative Code, as amended. *Under no circumstances shall any materials which will not be incorporated into the public works project be purchased by the County as ODP materials, including but not limited to, any consumables such as fuel or any equipment related to the public works project which will not be affixed or otherwise incorporated into the public works project such as reusable construction equipment.*

**ORANGE COUNTY  
OWNER DIRECT PURCHASE PROVISION**

**B. Procedural Requirements.**

The following steps are to be followed unless modified by the Manager of the Procurement Division, or designee, and may be enhanced based on individual project circumstances or at the discretion of the Manager of the Procurement Division:

- i. The price for all construction materials will be provided in the Contractor's bid. The Contractor's bid shall also include all Florida State Sales and other taxes normally applicable to such material. The County may consider purchasing any approved materials.
- ii. At any time upon the request of the County, the Contractor shall provide County with a list of all intended suppliers for such materials as specified by County for consideration for procurement by the County as ODP materials. The list shall include price quotes from the suppliers, as well as a description of the materials to be supplied, estimated quantities and prices. The Owner will purchase the material from Vendors selected by the Contractor for the price originally negotiated by the Contractor.
- iii. The Contractor shall be responsible for maintaining the project schedule and the execution of the terms and conditions of the ODP purchase order, including expediting the suppliers' delivery schedules. The Contractor shall assume all risk and remain fully responsible for all material incorporated into any project, directly purchased by the Owner or not. This will include, but not be limited to, insurance, theft, storage, damage during installation, coordination, quantities ordered, submittals, protection, scheduling, shipping, security, expediting, receiving, installation, cleaning and all applicable warranties, etc.
- iv. After receipt of the Purchase Requisition Form and all required documents, the County shall prepare a purchase order for all items of material which County chooses to purchase directly. The purchase order shall include the County's Consumer's Certificate of Exemption number and a copy of the Consumer's Certificate of Exemption, and a Certificate of Entitlement (See Attachment "B"). The County's purchase order shall be sent directly to the supplier by the County with a copy sent to the Contractor, including a copy of the Certificate of Entitlement. Pursuant to the purchase order, the supplier will provide the required quantities of material at the price established in the supplier's quote to the Contractor or subcontractor.
- v. In conjunction with the PR the Contractor shall submit the Letter of Understanding and a Letter of Indemnification.

**ORANGE COUNTY  
OWNER DIRECT PURCHASE PROVISION**

- vi. In conjunction with the issuance by the County of Purchase Orders for ODP materials to suppliers, Owner shall submit a deductive change order to Contractor who shall execute and deliver to County deductive change orders, with a complete description referencing the full value of all ODP materials to be provided by each supplier from whom the County elected to purchase materials directly, plus all sales taxes associated with such materials in Contractor's bid to the County.
- vii. The Contractor shall be required to obtain consent from their Surety acknowledging that Surety's obligation under our Payment and Performance. Bond remains unmodified and in full force and effect, notwithstanding that Orange County has entered into a separate Purchase Order with (Supplier) for the direct purchase of the Materials that will be deducted and deleted from the Contract by the Deductive Change Order. This must accompany the deductive change order.
- viii. Notwithstanding the transfer of ODP materials by the County to the Contractor's possession, the County shall retain legal and equitable title to any and all ODP materials. The transfer of possession of ODP materials from the County to the Contractor shall constitute a bailment for the mutual benefit of the County and the Contractor. The County shall be considered the bailor and the Contractor the bailee of the ODP materials. Transfer of possession shall be deemed to occur immediately and automatically upon delivery of ODP materials to the County without notice from County to Contractor. ODP materials shall be considered returned to the County for purposes of their bailment at such time as they are incorporated into the project. While in Contractor's possession, Contractor shall handle and store all ODP materials in a manner consistent with the supplier's or manufacturer's instructions regarding handling and storage to ensure later installation of ODP materials in a sound and undamaged condition.
- ix. The County will make payment directly to the suppliers of the ODP materials.
- x. The Contractor shall purchase and maintain builders risk insurance sufficient to protect against any loss of or damage to ODP materials. Such insurance shall cover the full value of any ODP materials not yet incorporated into the work during the period between the time the County first takes title to any of such ODP materials and the time when the last of such is incorporated into the work. The Contractor shall purchase and maintain builders risk, "all-risk" insurance based on the completed value of the Project. The Contractor must name the County as additional insured on its policy with respect to all ODP materials and County shall be solely entitled to all proceeds related to the loss or damage of ODP materials.
- xi. The Contractor shall be required to review all invoices submitted to the County by suppliers of ODP materials and either concur or object to the County's issuance of payment to the suppliers, based upon Contractor's records of materials and any defects detected in such materials.

**ORANGE COUNTY  
OWNER DIRECT PURCHASE PROVISION**

The County shall directly pay all suppliers with respect to ODP materials purchased by the County.

- xii. The Contractor shall ensure that ODP materials conform to all specifications contained in the contract documents.

Contractor shall determine prior to incorporation into the work if such materials are patently defective, and whether such materials are identical to the materials ordered and match the description on the bill of lading.

If the Contractor discovers defective or non-conformities in ODP materials upon such visual inspection, the Contractor shall not utilize such nonconforming or defective materials in the work and instead shall promptly notify the County of the defective or nonconforming condition so that repair or replacement of those materials can occur without any undue delay or interruption to the work.

If the Contractor fails to perform such inspection and otherwise incorporates into the work such defective or nonconforming ODP materials, the condition of which it either knew or should have known by performance of an inspection, Contractor shall be responsible for all damages to County resulting from Contractor's incorporation of such materials into the work, including liquidated or delay damages.

- xiii. In order to arrange for timely payment to the suppliers of ODP materials, Contractor shall promptly submit to County within five (5) days of County's receipt of an invoice from a supplier (i) a copy of the applicable purchase order as receiving report, (ii) copies of the delivery tickets, (iii) written acceptance of the delivered items by the Contractor, and (iv) such other documentation as may be reasonably required by the COUNTY. Upon receipt of the appropriate documentation, the County shall prepare a check drawn to the supplier based upon the data provided by Contractor. This check will be made payable and remitted directly to the supplier. The Contractor agrees to assist the County to immediately obtain partial or final release of waivers as appropriate.

- xiv. The Contractor shall maintain records of all ODP materials it incorporates into the work. The Contractor shall account monthly to the County for any ODP materials delivered into the Contractor's possession, indicating portions of all such materials which have been incorporated into the work

- xv. The Contractor shall be responsible for obtaining and managing all warranties and guarantees for all ODP materials in the same manner and on the same terms as materials obtained by the Contractor as required by the contract documents. All repair, maintenance or damage-repair calls shall be forwarded to the Contractor for resolution with the appropriate supplier or subcontractor.

**ORANGE COUNTY  
OWNER DIRECT PURCHASE PROVISION**

The Contractor agrees and understands that it shall undertake all warranty enforcement and other related duties of the County for all ODP materials. Additionally, all ODP materials shall be warranted and guaranteed by the Contractor as part of the Contractor's warranty and guarantee of the work to the same extent and degree as other materials procured and provided to the work by Contractor. Contractor's warranty and guarantee duties shall be governed by and carried out pursuant to the terms of the contract documents. To that end, the Contractor expressly agrees it shall make no distinction in discharging such warranty and guarantee duties and obligations between ODP materials and equipment and materials otherwise supplied by the Contractor.

- xvi. The County shall in no way be liable for any interruption or delay in the public works project, for any defects or other problems with the public works project, or for any extra costs resulting from any delay in the delivery of, or defects in ODP materials. Contractor's sole or exclusive remedy shall be an extension of the time of completion of the public works project for such reasonable time as determined by County.

**6. REQUIREMENTS FOR PURCHASE ORDER ISSUANCE:**

The Procurement Division will issue a Purchase Order to the intended supplier and a deductive change order will be prepared by the County's Project Manager to reduce the amount of the contract with the Contractor by the cost of materials purchased through ODP (including tax savings).

Upon request from the County and in a timely manner, Contractor shall prepare a Purchasing Requisition Request Form which shall, in form and detail acceptable to County, specifically identify the materials which County, in its discretion, has identified and elected to purchase directly as ODP materials. The Purchasing Requisition Request Form shall include:

- a. the name, address, telephone number and a contact person for the material supplier;
  - b. the manufacturer or brand, model or specification number of the item;
  - c. quantity needed as estimated by Contractor;
  - d. the price quoted by the supplier for the materials identified;
  - e. any sales tax associated with such quote;
  - f. delivery dates as established by Contractor;
  - g. the PR and the quote must indicate FOB Destination or Job Site.
- The Owner will not pay shipping and handling charges.

Upon receipt of a Purchase Order Request Form, the PM will initiate a requisition specifying price, quantity, delivery, material/equipment description, etc. and provide a copy of the Purchase Order Request form and all backup to the Procurement Division. Upon receipt of the electronic requisition, the Procurement Division will review all submittals and issue the purchase order.

**ORANGE COUNTY  
OWNER DIRECT PURCHASE PROVISION**

The original ODP purchase order, along with a copy of the County's Tax Exemption Certificate and the signed Certificate of Entitlement, will be either e-mailed or faxed and mailed to the material supplier; and a copy will be sent to the Contractor including a copy of the Certificate of Entitlement.

**7. REQUIREMENTS FOR PURCHASE ORDER PAYMENT:**

- a. Upon delivery of ODP materials to such locations as the County may designate, the Contractor shall visually inspect all shipments from suppliers, and sign off on all receiving reports for ODP material delivered or received. The Contractor shall assure that each delivery of ODP materials is accompanied by delivery tickets or such other documentation as is adequate to identify the purchase order against which the purchase is made. This documentation may consist of a delivery ticket and a copy of the invoice from the supplier conforming to the purchase order together with such additional information as the County may require. The Contractor will then forward the delivery tickets to the County to match up with the invoice for payment. The County shall be directly invoiced by the suppliers for all ODP materials. In the event that Contractor receives any invoices (other than copies of invoices the originals of which have been sent directly by the supplier to the County), Contractor shall not pay such invoice and shall immediately notify the supplier that the County must be directly invoiced on all ODP materials.
- b. Invoices for payment will be submitted by the materials supplier to the County. The purchase order number must be noted on all invoices.
- c. Except as expressly stated herein, Contractor shall be fully responsible for all matters relating to the procurement of ODP materials furnished by and incorporated into the public works project including, but not limited to, assuring the correct quantities, verifying documents and the placement of all orders in a timely manner, assuring coordination of purchases, providing and obtaining all warranties and guarantees required by the contract documents, and inspection and acceptance of the materials at the time of delivery. The Contractor shall coordinate delivery locations and schedules, sequence of delivery, loading orientation, and other arrangements normally required by the Contractor for the particular materials furnished. The Contractor shall provide all services required for the unloading, handling and storage of materials through installation. **The County assumes the risk of loss of ODP materials from the time title to such material passes from the supplier at purchase, or upon delivery if allowed by Laws and Regulations.**

**8. REFERENCES:**

Attachment "A" - Owner Direct Purchase Requisition Form  
Attachment "B" - Certificate of Entitlement  
Attachment "C" - Consumers Certificate of Exemption  
Attachment "D" - Letter of Understanding  
Attachment "E" - Letter of Indemnification  
Attachment "F" - Change Order Form  
Attachment "G" - Example Consent of Surety



## DIRECT PURCHASE REQUISITION

Project Name: \_\_\_\_\_ Request No: \_\_\_\_\_

**It is requested that Orange County make arrangements for Direct Purchase by the County of the following item which is included in the work to be done by the Contractor pursuant to the requirements set forth in Contract #Y18-703**

**ITEM (Brief Description):**

**COST** (Value) of item to be purchased:

Total Cost (Value) including taxes and freight charges	\$
Amount of Florida State Sales Tax	\$
Direct Purchase Cost Less Florida State Sales Tax	\$

**PURCHASE** Directly from (Vendor):

Vendor's Complete Company Name:  
Federal Employee Identification No.:

Mailing Address:

Contact Person:  
Position/Title:

Telephone No.:  
Email Address:

**Purchase Deletion:**

This Direct Purchase is to be deleted by Change Order to the contract which has been executed between the Contractor and:

Company/Trade/Sub Contractor Name  
Trade/Sub Contract Execution Date

**REQUEST MADE BY:**

Construction Manager/General Contractor/Design Builder  
By:  
Title:  
Date:

**CERTIFICATE OF ENTITLEMENT**

(For direct purchase of construction materials by a governmental entity pursuant to 212.08(6), F.S. and Rule 12A-1.094, F.A.C.)

The undersigned authorized representative of Orange County Board of County Commissioners (hereinafter "Governmental Entity"), Florida Consumer's Certificate of Exemption Number 85-8012622266C-O, affirms that the tangible personal property purchased pursuant to Purchase Order Number \_\_\_\_\_ from \_\_\_\_\_ (Vendor) on or after \_\_\_\_\_ (date) will be incorporated into or become a part of a public facility as part of a public works Contract # Y \_\_\_\_\_ with \_\_\_\_\_ (Name of Contractor) for the construction of \_\_\_\_\_.

Governmental Entity affirms that the purchase of the tangible personal property contained in the attached Purchase Order meets the following exemption requirements contained in Section 212.08(6), F.S., and Rule 12A-1.094, F.A.C.:

*Initial each of the following requirements.*

- \_\_\_\_\_ 1. The attached Purchase Order is issued directly to the vendor supplying the tangible personal property the Contractor will use in the identified public works.
- \_\_\_\_\_ 2. The vendor's invoice will be issued directly to Governmental Entity.
- \_\_\_\_\_ 3. Payment of the vendor's invoice will be made directly by Governmental Entity to the vendor from public funds.
- \_\_\_\_\_ 4. Governmental Entity will take title to the tangible personal property from the vendor at the time of purchase or of delivery by the vendor.
- \_\_\_\_\_ 5. Governmental Entity assumes the risk of damage or loss at the time of purchase or delivery by the vendor.

Governmental Entity affirms that if the tangible personal property identified in the attached Purchase Order does not qualify for the exemption provided in Section 212.08(6), F.S. and Rule 12A-1.094, F.A.C., Governmental Entity will be subject to the tax, interest, and penalties due on the tangible personal property purchased. If the Florida Department of Revenue determines that the tangible personal property purchased tax-exempt by issuing this Certificate does not qualify for the exemption, Governmental Entity will be liable for any tax, penalty, and interest determined to be due.

I understand that if I fraudulently issue this certificate to evade the payment of sales tax I will be liable for payment of the sales tax plus a penalty of 200% of the tax and may be subject to conviction of a third degree felony.

Under penalties of perjury, I declare that I have read the foregoing Certificate of Entitlement and the facts stated in it are true.

\_\_\_\_\_  
Carrie Woodell, MPA, CFCM, CPPO, C.P.M.  
CPPB, APP, Manager, Procurement Division

\_\_\_\_\_  
Date

Federal Employer Identification Number: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

**You must attach a copy of the Purchase Order to this Certificate of Entitlement.**

Do not send to the Florida Department of Revenue.

This Certificate of Entitlement must be retained in the vendor's and the contractor's books and records.



## Consumer's Certificate of Exemption

DR-14  
R. 04/11

Issued Pursuant to Chapter 212, Florida Statutes

85-8012622266C-0	10/31/2012	10/31/2017	COUNTY GOVERNMENT
Certificate Number	Effective Date	Expiration Date	Exemption Category

This certifies that

ORANGE COUNTY BOARD OF COUNTY  
COMMISSIONERS  
201 S ROSALIND AVE 4TH FL  
ORLANDO FL 32801-3527

is exempt from the payment of Florida sales and use tax on real property rented, transient rental property rented, tangible personal property purchased or rented, or services purchased.



## Important Information for Exempt Organizations

DR-14  
R. 04/11

1. You must provide all vendors and suppliers with an exemption certificate before making tax-exempt purchases. See Rule 12A-1.038, Florida Administrative Code (F.A.C.).
2. Your *Consumer's Certificate of Exemption* is to be used solely by your organization for your organization's customary nonprofit activities.
3. Purchases made by an individual on behalf of the organization are taxable, even if the individual will be reimbursed by the organization.
4. This exemption applies only to purchases your organization makes. The sale or lease to others of tangible personal property, sleeping accommodations, or other real property is taxable. Your organization must register, and collect and remit sales and use tax on such taxable transactions. Note: Churches are exempt from this requirement except when they are the lessor of real property (Rule 12A-1.070, F.A.C.).
5. It is a criminal offense to fraudulently present this certificate to evade the payment of sales tax. Under no circumstances should this certificate be used for the personal benefit of any individual. Violators will be liable for payment of the sales tax plus a penalty of 200% of the tax, and may be subject to conviction of a third-degree felony. Any violation will require the revocation of this certificate.
6. If you have questions regarding your exemption certificate, please contact the Exemption Unit of Account Management at 800-352-3671. From the available options, select "Registration of Taxes," then "Registration Information," and finally "Exemption Certificates and Nonprofit Entities." The mailing address is PO Box 6480, Tallahassee, FL 32314-6480.

**LETTER OF UNDERSTANDING**

**CM/DB/GC \_\_\_\_\_, in its capacity as Construction Manager/Design Builder/General Contractor, agrees that the direct purchase of \_\_\_\_\_ by Orange County, Owner, from \_\_\_\_\_, as Supplier/Vendor, does not in any way or manner diminish or modify the contractual duties of the Construction Manager/Design-Builder/General Contractor to the Owner insofar as the inspection, handling, storage, protection, and installation of the aforementioned direct purchase item into the Work is concerned and that such duties pertinent thereto as are set forth in the contract between CM/DB/GC, as Construction Manager/Design-Builder/General Contractor, and Orange County, as Owner, remain unchanged.**

ORANGE COUNTY  
BOARD OF COUNTY COMMISSIONERS

CM/DB/GC

By: \_\_\_\_\_  
Carrie Woodell, MPA, CFCM, CPPO, C.P.M.  
CPPB, APP, Manager, Procurement Division

By: \_\_\_\_\_

\_\_\_\_\_  
Name Typed

Date: \_\_\_\_\_

\_\_\_\_\_  
Title

**LETTER OF INDEMNIFICATION**

The County does hereby undertake to indemnify \_\_\_\_\_ (CM/DB/GC) from any and all liability for unpaid sales tax which the CM/DB/GC may suffer as a result of claims, demands, costs or judgments against the CM/DB/GC, made by or in favor of the State of Florida on occasion by any claim on account of failure of the CM/DB/GC to pay Florida State taxes on materials purchased by County under this Purchase Order. The County agrees to defend against any such claims or actions brought against the CM/DB/GC whether rightfully or wrongfully brought or filed. The CM/DB/GC agrees that it will promptly notify the County in writing of any such claim, demand or action.

ORANGE COUNTY  
BOARD OF COUNTY COMMISSIONERS CM/DB/GC

By: \_\_\_\_\_ By: \_\_\_\_\_  
Carrie Woodell, MPA, CFCM, CPPO, C.P.M.  
CPPB, APP, Manager, Procurement Division

\_\_\_\_\_  
Name Printed

Date: \_\_\_\_\_

\_\_\_\_\_  
Title:

**ORANGE COUNTY PROCUREMENT DIVISION  
CHANGE ORDER REQUEST FORM**

DATE	DEPARTMENT/DIVISION	CONTACT NAME	CONTACT PHONE

CHANGE ORDER NO.	VENDOR	DOCUMENT NO.	DOOC	POOC	CONTRACT NUMBER	ORIGINAL DOCUMENT APPROVAL BUYER/PA/CA NAME

**INCREASE, DECREASE OR DELETE COMMODITY LINE**

CMDTY. LINE NO.	ACTION		PREVIOUS LINE DOLLAR AMOUNT	NEW LINE DOLLAR AMOUNT	COMMODITY LINE DESCRIPTION/COMMENTS	NET DOLLAR CHANGE
	FROM	TO				

**ADD COMMODITY LINE**

CMDTY. LINE NO.	CMDTY. CODE	DESCRIPTION		QTY.	UNIT OF MEAS.	UNIT COST	ACCOUNTING LINE	NET DOLLAR CHANGE
		FOR D.O. YOU MUST SPECIFY AN MA LINE	MA LINE					

**ACCOUNTING LINE CHANGE**

CMDTY. LINE NO.	ACCTG. LINE NO.	FROM AMOUNT	FROM ACCOUNTING LINE		TO ACCOUNTING LINE	

**OTHER CHANGES**

DESCRIBE

**ENCUMBERED/DE-ENCUMBERED (REQUIRED FOR ALL TRANSACTIONS)**

ORIGINAL PO/DO AMT.	NET DOLLARS PREVIOUS C/O <input type="checkbox"/> ADD <input type="checkbox"/> SUBTRACT	NET DOLLARS FOR THIS C/O <input type="checkbox"/> ADD <input type="checkbox"/> SUBTRACT	DOCUMENT TOTAL AFTER THIS C/O

**CONTRACT AMOUNT**

AWARD AMOUNT	NET DOLLARS PREVIOUS C/O <input type="checkbox"/> ADD <input type="checkbox"/> SUBTRACT	NET DOLLARS FOR THIS C/O <input type="checkbox"/> ADD <input type="checkbox"/> SUBTRACT	CONTRACT TOTAL AFTER THIS C/O

- CANCEL ENTIRE PO/DO
- DO NOT MAIL VENDOR COPY

**JUSTIFICATION (REQUIRED FOR ALL TRANSACTIONS)**

--

*By signing this agreement, the Contractor hereby releases the County, its agents and employees from any and all liabilities under this contract for further equitable adjustments and/or claims associated with this change order.*

VENDOR/ CONTRACTOR AUTHORIZATION \_\_\_\_\_ DATE: \_\_\_\_\_

DEPARTMENT APPROVAL SIGNATURE \_\_\_\_\_ DATE: \_\_\_\_\_

**OFFICIAL PROCUREMENT DIVISION USE ONLY**

PROCUREMENT DIVISION APPROVAL: _____	DATE: _____
ADD THE FOLLOWING TEXT TO PO/DO: TRACK CHANGES: <input type="checkbox"/> YES <input type="checkbox"/> NO	CHANGE AWARD AMOUNT TO : _____

CHANGE ORDER REQUEST FORM CONTINUATION SHEET

CHANGE ORDER NO.	DOCUMENT NUMBER

**INCREASE, DECREASE OR DELETE COMMODITY LINE**

CMDTY. LINE NO.	ACTION		PREVIOUS LINE DOLLAR AMOUNT	NEW LINE DOLLAR AMOUNT	COMMODITY LINE DESCRIPTION/COMMENTS	NET DOLLAR CHANGE
	FROM	TO				

**ADD COMMODITY LINE**

CMDTY. LINE NO.	CMDTY. CODE	DESCRIPTION		QTY.	UNIT OF MEAS.	UNIT COST	ACCOUNTING LINE	NET DOLLAR CHANGE
		FOR D.O. YOU MUST SPECIFY AN MA LINE	MA LINE					

**ACCOUNTING LINE CHANGE**

CMDTY. LINE NO.	ACCTG. LINE NO.	FROM AMOUNT	FROM ACCOUNTING LINE	TO AMOUNT	TO ACCOUNTING LINE

**OTHER CHANGES**

DESCRIBE

Proc (01/2014)



Date

Contractor/Trade Contractor/Subcontractors Name

Point of Contact

Address

Re:Orange County Project Name and Contract Number

Please be advised that we have reviewed a copy of Deductive Change Order No. \_\_\_\_\_ issued to (CM/DB/GC) and we acknowledge that its obligation under our Payment and Performance Bond remains unmodified and in full force and effect, notwithstanding that Orange County has entered into a separate Purchase Order with (Supplier) for the direct purchase of the Materials deducted and deleted from the Contract by the Deductive Change Order.

Sincerely,

(Name of Attorney in Fact for Surety)

Attorney in Fact

(Name of Surety)

**NOTE: Must be accompanied by effectively dated Power of Attorney**

\*\*\*\*\*  
IFB NO. Y18-703-CH

INVITATION FOR BIDS  
FOR  
SHERRY DRIVE BRIDGE REPLACEMENT

\*\*\*\*\*

VOLUME II  
PART G  
AND  
PART H

## PART G

### SUPPLEMENTAL CONDITIONS / SPECIAL PROVISIONS

## SUPPLEMENTAL CONDITIONS

### 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 2017 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.

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.

## PART G

### SUPPLEMENTAL CONDITIONS / SPECIAL PROVISIONS

## SUPPLEMENTAL CONDITIONS

### ARTICLE 3 – 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," 2017 edition, the "Supplemental Specifications for Road and Bridge Construction," 2017 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 specifications 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.

### 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 (PSM), 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

## PART G

### SUPPLEMENTAL CONDITIONS / SPECIAL PROVISIONS

#### SUPPLEMENTAL CONDITIONS

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 all 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 that the existing benchmark elevations are relative to at least two 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 proposed roadway centerline, 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 Standards of Practice, 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.

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

**Specific Staking Requirements:** When performing new base construction as part of the project, the CONTRACTOR shall set stakes to establish lines and grades for subgrade, base, curb, and related items at intervals along the line of the work no greater than 50 feet on tangents and 25 feet on curves. The CONTRACTOR shall set grade stakes at locations that the Engineer directs to facilitate checking of subgrade, base, and pavement elevations in crossovers, intersections, and irregular shaped areas.

## PART G

### SUPPLEMENTAL CONDITIONS / SPECIAL PROVISIONS

#### SUPPLEMENTAL CONDITIONS

For bridge construction stakes and other control, the CONTRACTOR shall set references at sufficiently frequent intervals to ensure construction of all components of a structure in accordance with the lines and grades shown in the plans.

For projects where the plans do not show a centerline or other survey control line for construction of the work (resurfacing, safety modifications, etc.), the CONTRACTOR shall provide only such stakes as necessary for horizontal and vertical control of work items.

For resurfacing and resurfacing-widening type projects, the CONTRACTOR shall establish horizontal controls adequate to ensure that the asphalt mix added matches with the existing pavement. In tangent sections, set horizontal control points at 100 foot intervals by an instrument survey. In curve sections, set horizontal control points at 25 foot intervals by locating and referencing the centerline of the existing pavement.

The CONTRACTOR shall establish by an instrument survey, and mark on the surface of the finished pavement at 25 foot intervals, the points necessary for striping of the finished roadway. As an exception, for resurfacing and resurfacing/widening projects, the CONTRACTOR shall establish these points in the same manner as used for horizontal control of paving operations. The CONTRACTOR shall mark the pavement with white paint. If performing striping, the PROJECT MANAGER may approve an alternate method for layout of striping provided that the CONTRACTOR achieves an alignment equal to or better than the alignment that would be achieved using an instrument survey.

For projects that include temporary or permanent striping of "no passing zones", the CONTRACTOR shall provide the location and length of these zones as shown in the plans, except projects where the vertical or horizontal alignment is new or altered from the preconstruction alignment. For projects that consist of new or altered vertical or horizontal alignment, the COUNTY will provide the location and length of the "no passing zones" during construction. For these projects, the CONTRACTOR shall notify the PROJECT MANAGER not less than 21 calendar days prior to beginning striping.

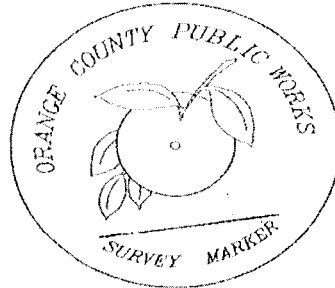
**Benchmarks:** During construction the CONTRACTOR shall provide a Control Point Metal Disk set in concrete (e.g. in headwalls, back of sidewalks, back of inlets, etc.) at the beginning and end of the project and at a maximum of 1100 feet between existing or established benchmarks along the project alignment – (see attached disc requirements). The CONTRACTOR'S Professional Surveyor and Mapper (PSM) shall conduct a three wire leveling run (closed loop) 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 PSM to the PROJECT MANAGER. Benchmark elevations shall be expressed in English units.

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### SUPPLEMENTAL CONDITIONS / SPECIAL PROVISIONS

#### SUPPLEMENTAL CONDITIONS

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](http://www.berntsen.com) Berntsen disc no. C35D-(3-1/2" domed) Logo no. B9119 (800-356-7388).



**Control Points:** At the end of construction, all permanent control points as shown on the construction plans survey control sheet shall be set along the centerline of construction. Permanent control points that fall on a hard surface such as pavement or concrete shall be set as p.k. nails and discs or other form of monumentation that is both durable and identifiable and must be approved by the County Surveyor or authorized agent. All others shall be 4" x 4" concrete monuments having a minimum of 24" in length. All points shall be marked with a cap or disk bearing the surveyor's registration number or licensed business number.

**Property Corners:** Property corners shall be set at intersections of right-of-way lines and property lines (at all corners that have been destroyed during construction for all Orange County construction projects). Monumentation meeting the requirements described above under "Control Points" shall be set at all breaks in right-of-way lines, P.C.'s, P.T.'s, curve intersections and at least every 1,000 feet along the right-of-way line and shall bear the registration number of the surveyor or licensed business number.

**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.

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

**PART G**

**SUPPLEMENTAL CONDITIONS / SPECIAL PROVISIONS**

**SUPPLEMENTAL CONDITIONS**

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. monuments, public land corners, property corners, or right-of-way monuments. Survey field book(s) shall be used throughout the course of the project by the contractors PSM. The complete survey field book(s) 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 also 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 highway/street construction, and be able to speak and understand English. The superintendent shall have full authority to receive 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



## PART G

### SUPPLEMENTAL CONDITIONS / SPECIAL PROVISIONS

#### SUPPLEMENTAL CONDITIONS

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, 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 and include the As-Built Survey Requirements as stated below.

#### **Qualifications of Surveyor and Mapper or Engineer**

The Florida Licensed Professional Engineer(s) or Florida Registered Professional Surveyor and Mapper(s) who are proposed by the CONTRACTOR to provide services for the Project, are subject to the approval of the PROJECT MANAGER and/or the County Surveyor. Prior to any services being performed, the CONTRACTOR shall submit the name and address of any

## PART G

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proposed registered professional and a written acknowledgement from the Professional Surveyor and Mapper stating that he has the hardware, software and adequate scope of services to complete the As-Built Survey requirements as stated below. These submittals shall be provided to the PROJECT MANAGER at the Pre-Construction conference. It is recommended that the Professional Surveyor and Mapper attend the Preconstruction conference. It is mandatory that any Surveyor and Mapper who has not previously performed work for the County in the past attend the Preconstruction conference.

##### **As-Built Survey Requirements**

- a. The Contractor shall require the Professional Surveyor and Mapper to locate all improvements for the As-Built Survey using State Plane Coordinates and the vertical datum referenced on the Construction drawings. The CONTRACTOR shall obtain an electronic copy of the Construction Drawings from the COUNTY for use as only a base for the As-Built Survey. The As-Built Survey shall clearly show the designed and constructed locations and elevations for ease of comparison. This shall be accomplished by adding the As-Built information on a separate CAD layer, while keeping all the design call-outs and construction requirements visible. The As-Built information shall be labeled as such and be shown with a bolder text weight in order to be easily identifiable. All planned improvements referenced by station and offset on the Plans, shall also be referenced on the As-Built Survey in the same manner. All constructed improvements that have location and/or elevation information called-out on the Plans, shall have the same information identified on the As-Built Survey. If a structure information table was provided on the Plans, then the As-Built information shall be shown in the table in bold print. Design call-outs shall have a strike through line through the design call-out and all As-Built information must be labeled (or abbreviated "AB") and be shown in a bolder text that is completely legible. As-Built Survey shots shall be taken at the same locations as shown on the Plans for ease of comparison. Any variations from required material sizes shall also be noted.
- b. If survey points are disturbed, it is the responsibility of the Contractor's Surveyor and Mapper to reset the points at the Contractor's expense and show on the As-Built Survey. Copies of the Contractor's Surveyor and Mappers field notes and/or electronic files for point replacement shall be provided to the County Surveyor through the Project Manager, and shall include hard-copies, that are signed and sealed by the Professional Surveyor and Mapper.
- c. The Contractor's Professional Surveyor and Mapper shall locate all improvements for the Project As-Built using State Plane Coordinates as the horizontal datum and the benchmark(s) referenced on the Plans as the vertical datum. The Project Manager, or County Surveyor will provide electronic files of the Plans to be used by the Surveyor and Mapper in complying with these specifications. Construction layout shall be established from the reference points (CONTROL) shown or listed on the Plans and will either be recovered or re-set by the Contractor's Professional Surveyor and Mapper and identified on the As-Built Survey. The Contractor's Professional Surveyor and Mapper shall identify on the As-Built Survey and replace any Project control points, boundary corners,



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benchmarks, section corners that may be lost or destroyed, at no additional cost to Orange County. A certified copy of each Certified Corner Record that the Contractor's Professional Surveyor and Mapper has been required to complete will also be submitted to the County Surveyor through the Project Manager.

#### 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 final "As-Built Plans" **as described in the previous As-Built Survey Requirements (G-8 of the Supplemental Conditions)**, be prepared by an appropriately licensed PSM 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 final "As-Built Plans", as described below, signed and sealed by the appropriately licensed PSM that prepared them.
- Signed and Sealed Field Book(s), Copies of Adjusted Benchrun, Raw Data files-(horiz.).
- Signed and Sealed Certification Letter per Highway Construction's Project Completion List – **Substantial Completion**.

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) - 24"x36" 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 sheet of the AS-BUILT PLANS certifying all of the sheets or certifying each individual sheet. The Statements of Certification shall be signed and sealed by a

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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 final signed and sealed AS-BUILT PLANS and PDF file on disc from a licensed Professional Surveyor and Mapper. The cost of the AS-BUILT PLANS and pdf file shall be included in the pay item 900-1, 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

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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.

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. The COUNTY does not warrant or guarantee the accuracy or correctness of this information with respect to actual subsurface conditions. 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. This information is not guaranteed, however, and 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.

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:** The entire street shall be cleaned by sweeping or washing, as determined by the PROJECT MANAGER, prior to final acceptance.

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##### **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 weekly or 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. The CONTRACTOR shall incorporate the durations listed in the Utility Relocation Schedules into his Contract Schedule, and transmit copies of that schedule to each Utility owner. The CONTRACTOR shall constantly communicate the status of the progress of the project to the Utility Owners, and advise them of any potential impacts to the progress due to the presence of the utilities. The CONTRACTOR shall keep the COUNTY and the County's PROJECT MANAGER apprised of all developments related to Utility Relocation and job progress. The CONTRACTOR shall coordinate during the period of this contract with the applicable lighting facility owners for the installation of roadway lighting facilities for the project. 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.

##### **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.

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**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.

**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.



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**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.

**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 – OWNER DIRECT PURCHASE**

No changes. See PART F GENERAL CONDITIONS.

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**ARTICLE 29 – PUBLIC RECORDS COMPLIANCE (APPLICABLE FOR SERVICE CONTRACTS)**

No changes. See PART F GENERAL CONDITIONS.

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**ARTICLE 30 - PROSECUTION AND PROGRESS OF WORK**

ARTICLE 30, PROSECUTION AND PROGRESS OF WORK, is added as follows:

**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 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 6:00 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

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**PROJECT REPRESENTATIVE.** Reimbursement shall be made by the CONTRACTOR at the rate of \$45.00 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 submit a quality video documenting before and after construction field conditions for the entire project. The PROJECT MANAGER will approve all views.

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

**Project Progress Aerial Photographs:** The CONTRACTOR shall submit aerial photographic prints monthly with progress payment requests. The first set of aerial photographic prints must be taken prior to any clearing and grubbing. The aerial photographs shall be in color and at least 11" x 14" (280 mm x 356 mm) in size. Exposures shall be made at 10 per mile (10 per 1.6 km) minimum plus one exposure for each offsite construction area. The PROJECT MANAGER will approve all views.

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

#### ARTICLE 31 - METHOD OF MEASUREMENT

ARTICLE 31, METHOD OF MEASUREMENT, is added as follows:

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.

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THIS ENDS THE SUPPLEMENTAL CONDITIONS

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1. **ROADWAY IMPROVEMENTS:** The proposed project will consist of constructing a 24 foot wide roadway along the east side of the Little Wekiva River (Canal LW-9) from Kelvington Drive to Sherry Drive, removal of the existing bridge at Sherry Drive, and constructing a T-shaped cul-de-sac on the west side of the Little Wekiva River on Sherry Drive. Portions of Sherry Drive will also be milled and resurfaced. A five-foot sidewalk will also be constructed along the west side of the proposed roadway and on the north side of Sherry Drive. Additionally, a concrete revetment block system will be installed in the canal from just north of Kelvington Drive to approximately 130' north of Sherry Drive.
2. **CONSTRUCTION SCHEDULE / LIQUIDATED DAMAGES:** This work requires Substantial Completion in 240 days from the date of Notice of Proceed with Final Completion in 300 days. If substantial and final completion is not met by the required time, liquidated damages will be applied at the rate of \$1,548.00 per day as per the provisions in the Contract governing liquidated damages.
3. **UTILITY IMPROVEMENTS:** This work entails the construction of approximately 328 linear feet of 8" D.I. water main that will connect to existing mains on Kelvington Drive and Sherry Drive. The water main will be owned and maintained by Orange County Utilities (OCU).
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. **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 required to complete the project. The CONTRACTOR shall exercise utmost care to ensure that neither construction activities nor any type of encroachments occur outside the County's existing right-of-way under any circumstances. The CONTRACTOR shall be completely responsible to pay for all the damages resulting from encroachment onto private properties.
6. **MAINTENANCE OF TRAFFIC:** At the pre-construction conference the CONTRACTOR shall submit a detailed Maintenance of Traffic plan approved by Orange County, Traffic Engineering to the Orange County Highway Construction Division. The Maintenance of Traffic plan shall address the maintenance of vehicular and pedestrian traffic between the limits of construction, 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 including Orange County permit fee in the amount of \$128 shall be included in Pay Item 102-1, Maintenance of

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Traffic. The attached Maintenance of Traffic plans provided by the COUNTY is 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 CONTRACTOR shall provide uniformed off-duty law enforcement officer(s) for all night time lane closures. The Cost shall be included in pay item number 102-1, Maintenance of Traffic.

7. **STREET SIGNS:** CONTRACTOR is notified that the name of “Sherry Court” is being determined. The new street name will be provided to the Contactor no later than 60 days prior to the substantial completion of the project. CONTRACTOR is responsible in furnishing and installing of the new street signs. No special compensation will be made to CONTRACTOR to defray cost of any of the works or delays for complying with the above. Such cost shall be considered as having been included in the price stipulated for the several items of work to be done under this contract.
8. **COMPACTION:** No vibratory compaction allowed on this project.
9. **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.
10. **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 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.
11. **DRIVEWAY CONSTRUCTION:** There are a total of thirteen driveways. The CONTRACTOR shall complete the construction of the driveways and all associated work. This work shall be included under associated pay items.
12. **ENVIRONMENTAL CONCERNS:**
  - a. **FEDERALLY OR STATE DESIGNATED LISTED SPECIES:** The Florida Fish and Wildlife Conservation Commission maintains the state list of animals designated as Federally-designated Endangered or Threatened, State-designated Threatened, or State designated Species of Special Concern, in accordance with Rules

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68A-27.003 and 68A-27.005. The CONTRACTOR must comply with the above-mentioned rules at no cost to the County. There also shall be no additional compensation 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 Federally or State listed 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 listed species as mentioned above.

The CONTRACTOR is informed that limited suitable upland habitat has been identified adjacent to Sherry Drive Bridge Replacement for the gopher tortoise (*Gopherus polyphemus*), a species listed as a Species of Special Concern by the Florida Fish and Wildlife Conservation Commission. No gopher tortoises or their burrows were observed during the field review. Although the likelihood of occurrence of this species within the proposed project limits is low, contractor shall conduct a population census in accordance with Florida Fish and Wildlife Conservation Commission (FFWCC) guidelines prior to construction activities.

The CONTRACTOR is informed that a number of regionally common, but state and/or federally listed birds including but not limited to, the tricolored heron (*Egretta tricolor*), snowy egret (*Egretta thula*), white ibis (*Eudocimus albus*), little blue heron (*Egretta caerulea*), and wood stork (*Mycteria americana*) are expected to utilize the areas within the project limits. All of the species expected to occur are listed as a Species of Special Concern by the State of Florida with the exception of wood stork, which is state and federally listed as endangered.

13. **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.
14. **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.

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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. A Right-of-Way Utilization Permit shall be issued by the Highway Construction Division for performing borings within the project limits. Contact the Highway Construction Division to obtain information regarding a Right-of-Way utilization permit. 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.

The CONTRACTOR shall notify Orange County in writing if the limits of the unsuitable materials are different from what is shown on the construction plans. Prior approval shall be obtained from COUNTY before removing any unsuitable material in excess of what is shown on the construction plan.

The CONTRACTOR shall provide Orange County Highway Construction with a signed and sealed survey, prepared by a registered Florida surveyor, including elevations and cross sections of the area where unsuitable soils are found to be in excess of what is shown on the construction plans. The elevations shall be provided every 25 feet and shall be representative of the conditions. The purpose of the survey, with cross sections, is to verify the quantity of the unsuitable soils removed. The cost shall be included under Pay Item 120-4, Subsoil Excavation (Unsuitable Material).

15. **PIPE QUALITY CONTROL AND INSPECTION:** CONTRACTOR is hereby notified that at the COUNTY'S discretion the County will direct the COUNTY'S lab of record to the drainage pipe manufacturer and/or drainage structure manufacturer. The purpose shall be to inspect the drainage pipes and / or drainage structures as they are being produced. If the COUNTY notifies the CONTRACTOR that the COUNTY'S lab will be inspecting the pipe, then only drainage pipes and drainage structures that have been inspected during the manufacturing process and stamped by the COUNTY'S lab of record shall be delivered to the project site. This inspection by the COUNTY'S lab of record in no way precludes the COUNTY'S right and ability to reject damaged pipe as a result of manufacturing, transporting, handling, installing/laying, videoing, etc. It shall be the CONTRACTOR'S responsibility to coordinate this inspection with the COUNTY and to determine the manufacturer's schedule and to ensure that the procurement of these materials does not impact the CONTRACTOR'S overall project schedule.

No additional time or compensation will be made to the CONTRACTOR to defray time or costs of any of the work or delays for complying with the requirements set forth above, 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.



## PART G

### SUPPLEMENTAL CONDITIONS / SPECIAL PROVISIONS

#### SPECIAL PROVISIONS

##### 16. PERMITS

###### 1. St. Johns River Water Management District Permit

- A. The CONTRACTOR shall be responsible for conditions 1 through 22 of the St. Johns River Water Management District Permit No. 133762-2, issued on October 16, 2014 and conditions 1 through 22 of Permit No. 133762-3, issued on November 3, 2016. Specifically, the CONTRACTOR is responsible for such aforementioned obligations of the permits. No special compensation will be made to the CONTRACTOR to defray costs of any of the work or delays for complying with the requirements of St. Johns River Water Management District Permit Nos. 133762-2 and 133762-3, 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.
- B. ST. JOHNS RIVER WATER MANAGEMENT DISTRICT (SJRWMD) The CONTRACTOR shall be responsible for compliance with all applicable requirements of Rule 40C-2.042(9), Florida Administrative Code (F.A.C.), for a General Permit for 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-2.042(9), 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.

###### 2. Army Corps of Engineers Permit

The CONTRACTOR shall also be responsible for Special Conditions 1 through 7 and General Conditions 1 through 6 of the Department of the Army Corps of Engineers (ACOE) Permit No. SAJ-2016-01693, issued on March 24, 2017. Specifically, the CONTRACTOR is responsible for such aforementioned obligations of the permits.

No 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-referenced Department of the Army Corps of Engineers (ACOE) Permit, 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.

###### 3. National Pollutant Discharge Elimination System (NPDES) permit

**General:** The CONTRACTOR is responsible to obtain or modify, as necessary, all dewatering and land clearing permits required by STATE and COUNTY agencies pursuant to 62-621.300 F.A.C. and Orange County Code.

- A. **Land Clearing:** The Contractor shall be responsible to prepare and submit the Notices of Intent (NOI) and the Notice of Termination (NOT) to the Florida Department of Environmental Protection (FDEP). The Contractor shall be responsible to adhere to the

## PART G

### SUPPLEMENTAL CONDITIONS / SPECIAL PROVISIONS

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construction plan sheet documents addressing the Stormwater Pollution Prevention Plan (SWPPP) and shall identify and incorporate any and all additional needs to prevent, control and reduce erosion and water pollution, meeting the requirements or special conditions of all permits authorizing project construction. In the event no SWPPP is provided the CONTRACTOR shall be responsible to prepare the SWPPP. The SWPPP and NOI forms, attached to this document, must be completed and submitted by the CONTRACTOR to the COUNTY prior to the preconstruction meeting.

- The NOI should be submitted at least two days prior to commencement of construction (permit fees are the responsibility of the CONTRACTOR).
- The NOT should be submitted within 14 days of final completion of the project (permit fees, if any, are the responsibility of the CONTRACTOR).

The CONTRACTOR shall be responsible for compliance with the EPA's NPDES Stormwater Construction permit, the Stormwater Pollution Prevention Plan and the FDEP Generic Permit for Stormwater Discharge from Construction Activities that Disturb One or More Acres of Land. Furthermore, the Contractor shall also comply with the FDEP Generic Permit for Stormwater Discharge from Large and Small Construction Activities. The Contractor shall comply with the requirements indicated by the Florida Department of Environmental Protection.

The cost of this work will be included under pay item No 104-14 - Prevention, Control and Abatement of Erosion and Water Pollution.

**B. Dewatering:** The CONTRACTOR shall be responsible for compliance with the FDEP Generic Permit for Stormwater Discharge from Large and Small Construction Activities. The following is a link to the above permit:[http://www.dep.state.fl.us/legal/Rules/shared/62-621.300\(4\).doc](http://www.dep.state.fl.us/legal/Rules/shared/62-621.300(4).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 search to determine the extent, if any, of contaminated sites within 500 feet of the PROJECT boundaries. 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 Stormwater

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Discharge from Large and Small Construction Activities, 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, related to the National Pollutant Discharge Elimination System (NPDES).

The CONTRACTOR shall be 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 TP-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 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 pay items 104-14 or 900-3.

CONTRACTOR shall be responsible to include in his/her bid all cost for treatment and disposal of dewatering effluent. Should it become necessary for the CONTRACTOR to treat and dispose dewatering effluent off site, 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.

#### 24. REPORTS

The following Documents are being provided for informational purposes only and can be accessed at the following website:

**PART G**

**SUPPLEMENTAL CONDITIONS / SPECIAL PROVISIONS**

**SPECIAL PROVISIONS**

[ftp://ftp.ocfl.net/divisions/Public\\_Works/pub/Engineering%20Design/SHERRY%20DR%20BRIDGE/](ftp://ftp.ocfl.net/divisions/Public_Works/pub/Engineering%20Design/SHERRY%20DR%20BRIDGE/)

1. Geotechnical Report SHERRY DRIVE BRIDGE REPLACEMENT

**THIS ENDS THE SPECIAL PROVISIONS**

## **SCOPE OF WORK**

### **SHERRY DRIVE BRIDGE REPLACEMENT**

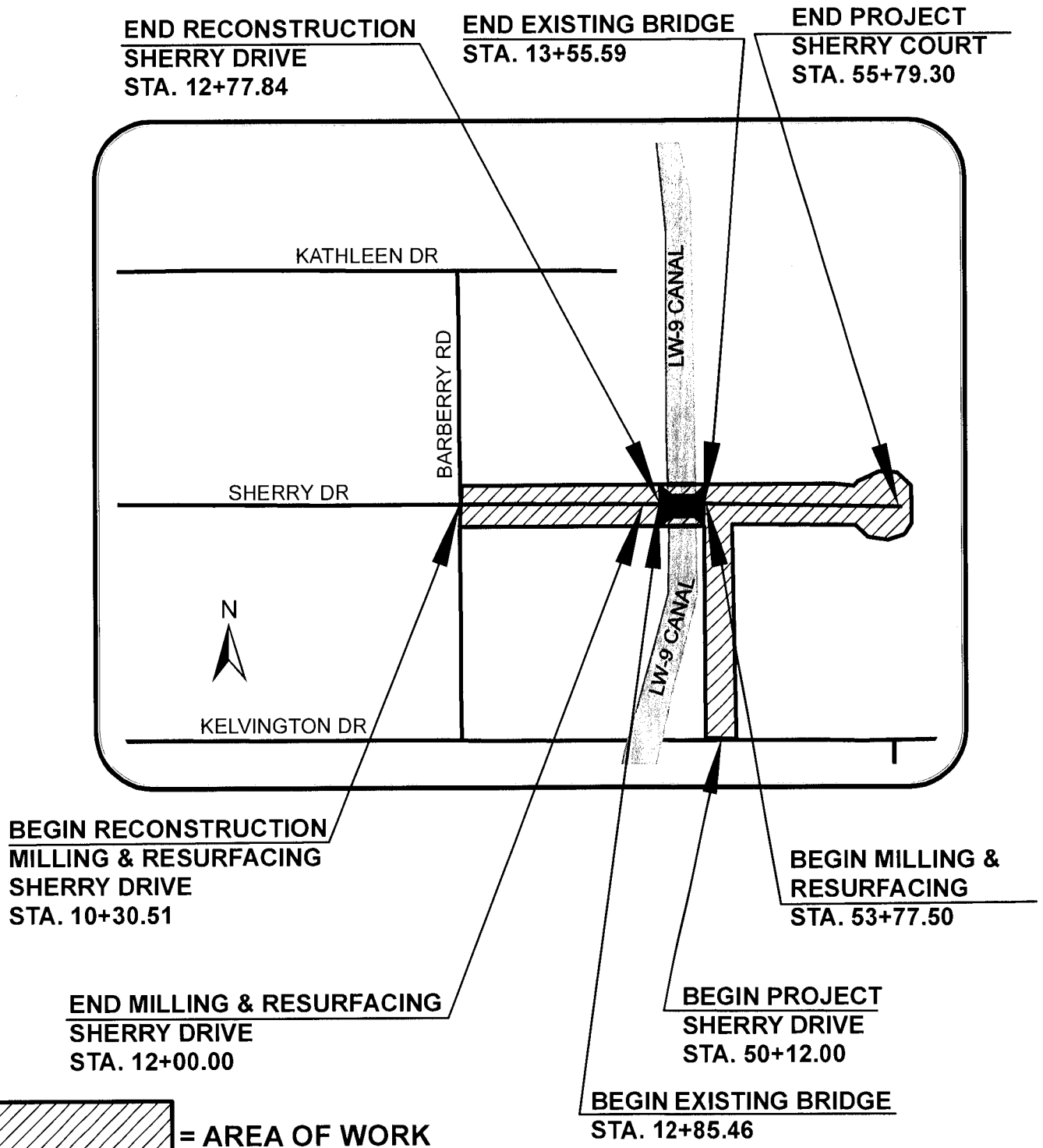
This project consist of the removal of the existing Sherry Drive Bridge over the LW-9 canal and the installation of concrete revetment block for erosion control and bank stabilization. The project also includes the construction of a T-turnaround on Sherry Drive on the west side of the canal and a new roadway connecting Sherry Drive to Kelvington Drive on the east side of the canal. Existing portions of Sherry Drive will also be milled and resurfaced as part of the project.

The project also includes the construction of approximately 328 linear feet of 8” ductile iron water main along the new roadway that will connect via wet taps to the existing mains on Kelvington Drive and Sherry Drive. The water main will be owned and maintained by Orange County Utilities (OCU).

The project length is 892 feet (0.169 miles) of demolition, new construction, pavement and drainage improvements and is located in Orange County, Section 33, Township 21 South, Range 29 East. The project will be constructed within the public right-of-way, maintenance or construction easements, or County-owned property.

# SHERRY DRIVE BRIDGE REPLACEMENT PROJECT

## LOCATION MAP SECTION 33, TOWNSHIP 21 SOUTH, RANGE 29 EAST



# **NES**

**Nadic Engineering Services, Inc.**

**Draft Geotechnical Engineering Report  
for Sherry Drive Improvements  
Orange County, Florida  
NES Project No: R12016**

*Prepared for:*

**GTC Engineering Corporation  
98 South Semoran Boulevard  
Orlando, Florida 32807**

*Prepared by:*

**Nadic Engineering Services, Inc.  
601 N. Hart Blvd  
Orlando, Florida 32818  
407-521-4771**

Consultants in: Civil · Environmental · Geotechnical Engineering  
Offices in: Orlando · Miami



**NADIC ENGINEERING SERVICES, INC.**  
**Civil, Environmental, and Geotechnical Consultants**

January 7, 2013

**GTC Engineering Corporation**  
98 South Semoran Boulevard  
Orlando, FL 32807

Attention: Mr. Claude L Cassagnol, P.E.

Re: Draft Geotechnical Engineering Report for Sherry Drive Improvements  
Orange County, Florida  
NES Project No. R12-016

Dear Mr. Cassagnol:

**Nadic Engineering Services, Inc. (NES)** is pleased to submit this Draft Geotechnical Engineering Report for the above referenced project. The purpose of this exploration was to evaluate the soil and groundwater conditions along Sherry Drive and to provide geotechnical recommendations for the proposed roadway improvements and bank stabilization. This Geotechnical investigation was authorized through a sub-consultant agreement between GTC Engineering Corporation and NES. This report is presented to support the development of Roadway Plans.

NES appreciates the opportunity to be of service to GTC and the Orange County Public Works Department on this project. We look forward to a continued association. Please contact us if you have any questions, or if we may be of further assistance to you as this project proceeds.

Sincerely,  
**NADIC ENGINEERING SERVICES, INC.**  
**Engineering Business No. 8214**

Ikenna A. Uju, M.S., E.I.  
Staff Engineer

Godwin N. Nnadi, Ph.D., P.E.  
Principal Engineer  
FL Registration No. 50637

Roadway: Ikenna\R12016\_Draft Report for Sherry Drive(1-7-13)

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Figure 4	Potentiometric Surface Map
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Sheet 2	Auger Boring Profiles
Sheet 3	Report of SPT Borings (Roadway and Bank Stabilization)
Sheet 4	Report of Muck Probe Results

Appendix C

Table 4	Pavement Evaluation and Condition Data Sheet
Plates 1 and 2	Pavement Core Photographs
	Slope Stability Analyses

## **1.0 PROJECT LOCATION AND DESCRIPTION**

This project is located on Sherry Drive, Orange County, Florida. The project consists of milling and resurfacing improvements to the existing Sherry Drive from east of Barberrry Road to Sherry Drive Cul de sac, a length of approximately 500 feet. Also included in the project improvements is construction of a connector roadway from Kelvington Drive to Sherry Drive for approximately 320 feet. In addition, Orange County plans to construct a stormwater pond and replace the existing Bridge Gabions at Sherry Drive Bridge with recommended bank stabilization materials.

The project site is located in Section 33, Township 21 South, and Range 29 East in Orange County, Florida.

This report presents the findings of our subsurface exploration, and provides geotechnical recommendations for the proposed roadway improvements. The project location map is shown in **Figure 1** in **Appendix A**.

## **2.0 PURPOSE AND SCOPE OF SERVICES**

The purpose of this study was to obtain information on the general subsurface conditions including soil and groundwater conditions along the roadway improvements and channel banks in order to make geotechnical engineering assessments and recommendations to guide the proposed roadway and channel improvements.

Our services for this project are in general accordance with the Florida Department of Transportation (FDOT), "Soils and Foundation Manual." The services include review of geologic and topographic information, field reconnaissance, groundwater table measurements, roadway soil survey, and laboratory classification testing. Others include engineering analyses, evaluation, and engineering design recommendations.

## **3.0 REVIEW OF AVAILABLE DATA**

### **3.1 General**

To obtain general information on soil and groundwater conditions along the project alignment, NES reviewed available data including aerial maps, United States Geological Survey (USGS) Quadrangle Topographic Maps and the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Soil Survey for Orange County and other published sources. A summary of this information is presented below in the following report sections. The Project Location Map is presented as **Figure 1** in **Appendix A**.

### **3.2 USGS Topographic Map**

The "Orlando West, Florida" United States Geological Survey (USGS) topographic map issued in 1956 (photo revised in 1980) were reviewed. The map shows the ground surface elevation in the

project vicinity to range from about +90 to + 93 feet, North American Vertical Datum of 1988 (NAVD-88). The project alignment is shown on an excerpt of the USGS topographic map presented in **Figure 2** in **Appendix A**.

**3.3 USDA, NRCS Soil Survey**

The "Soil Survey of Orange County, Florida" published by the United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) was reviewed. The USDA soil survey indicates three (3) primary mapping soil units within the project vicinity. These soil units are presented on the following page in **Table 1**. Refer to **Figure 3** in **Appendix A** for a reproduction of the NRCS map for the project area.

**Table 1: Soil Survey Summary**

Soil Unit	Depth (inches)	Soil Description	Soil Classification		USDA SHGWT (feet)*
			AASHTO	USCS	
(3) Basinger	0-7	Fine sand	A-3	SP	+2-1.0
	7-32	Sand, fine sand	A-3, A-2-4	SP, SP-SM	
	32-47	Sand, fine sand	A-3, A-2-4	SP, SP-SM	
	47-80	Sand, fine sand	A-3, A-2-4	SP, SP-SM	
(45) Smyrna	0-18	Fine sand	A-3, A-2-4	SP, SP-SM	0-1.0
	18-28	Sand, fine sand, loamy fine sand	A-3, A-2-4	SM, SP-SM	
	28-80	Sand, fine sand	A-3	SP, SP-SM	
Urban land	-	-	-	-	
(48) Tavares	0-6	Fine sand	A-3	SP, SP-SM	3.5-6.0
	6-80	Sand, fine sand	A-3	SP, SP-SM	
Urban land	-	-	-	-	

\*SHGWT= Seasonal High Ground Water Table

Information contained in the NRCS Soil Survey is very general and may be outdated due to recent development in the site vicinity. These developments may have modified soil condition or surface/subsurface drainage.

**3.4 Potentiometric Surface Map**

Based on review of the "Potentiometric Surface of the Upper Floridan Aquifer in the St. Johns River Water Management District and Vicinity, Florida, May 2009" map, published by the USGS, the elevation of the potentiometric surface in the vicinity of the project alignment appears to be approximately +45 to +47 feet, North Geodetic Vertical Datum of 1929 (NGVD-29). A portion of this map is presented in **Figure 4** in **Appendix A**.

**3.5 Area Geology**

The geology of Central Florida area is characterized by sedimentary strata formed during three distinct geologic periods. The surficial stratum is composed of undifferentiated Holocene/

Pleistocene/Pliocene age sands containing varying amounts of silt and clay, which extend typically to depths on the order of 40 to 60 feet below the ground surface. This upper, mostly sandy zone contains the surficial aquifer (water table). A Miocene age deposit, the Hawthorn Formation, frequently underlies the surficial sands and is typically composed of clay, clayey sands and sandy limestone sometimes containing appreciable amounts of phosphate. This stratum extends to, typically, a depth of 80 to 120 feet beneath the existing ground surface and serves as the confining layer for the underlying Floridian Aquifer.

The Eocene age Ocala and Avon Park limestone formations are contained in the Floridian Aquifer, which is one of the most productive aquifers in the world. The extremely high productivity of this aquifer is directly related to its numerous cavities and interconnected channels. The deepest formation of the Eocene age is the Avon Park limestone. The Avon Park limestone consists mostly of hard brown dolostone and tan, granular limestone. In Orange County, the Avon Park limestone formation is approximately 300 to 350 feet thick. Above the Avon Park limestone is the Ocala limestone. The Ocala limestone is a loose to moderate well cemented mass of very small to large microfossils with much less dolostone than the Avon Park limestone. Typically, the Ocala limestone contains almost pure limestone with no dolostone, although the lower few feet can be partly dolomitized in some areas.

#### 4.0 FIELD EXPLORATION

##### 4.1 General

To evaluate the subsurface conditions along the proposed roadway improvements, canal bank stabilization improvements and stormwater management area; Auger borings, Standard Penetration Test (SPT) borings and pavement cores were performed. The subsurface conditions along the existing Sherry Drive were evaluated by performing two (2) Auger borings to a depth of 6 feet below the bottom of the base course, two (2) SPT borings to a depth of 60 feet below existing grade within the proposed roadway and channel bank improvements, three (3) Auger borings along the Sherry Drive Canal banks and two (2) auger borings within the vicinity of the stormwater area. In addition, two (2) pavement corings were performed along Sherry Drive.

All borings were backfilled upon completion and after groundwater measurement for safety. The boring and coring locations were not established by survey but rather by taping the distance from the edge of existing pavement and landmarks. All boring and coring locations were staked in the field by a representative of NES and logged with a Global Positioning System (GPS). The GPS locations were later converted to approximate Northing and Easting and surveyed by Orange County Public Works Survey Section. The locations of the Auger borings, Standard Penetration Test borings and Pavement corings were determined by GTC.

The Roadway Cross Section of Soil Survey is presented on **Sheet 1 in Appendix B**. The results of soil classification and groundwater measurement of the boring program are shown on **Sheets 2 and 3 in Appendix B**. The results of the laboratory tests and environmental classification tests performed

are presented on the Summary of Laboratory Test Results and Summary of Corrosion Series Tests on **Tables 2** and **3** in **Appendix A**, respectively.

#### **4.2 Standard Penetration Test (SPT)**

The SPT boring procedure was conducted in general conformance with American Society for Testing and Materials (ASTM) test designation D-1586. The borings were drilled with the use of a truck-mounted drill rig. Soil sampling using a 1<sup>3/8</sup> inch diameter (ID) split-barrel sampler was performed at closely spaced intervals from the ground surface to 10 feet below existing grade and at five-foot intervals thereafter. After seating the sampler six (6) inches, the number of successive blows required to drive the sampler 12 inches into the soil constitutes the test result commonly referred to as the "N" value. The "N" value has been empirically correlated with various soil properties and is considered indicative of the relative density of cohesionless soils and the consistency of cohesive soils. The recovered split-barrel samples were described in the field with representative portions of the samples placed in airtight jars and transported to our Orlando office for visual classification and laboratory testing. Following completion, the SPT borings were grouted for safety.

#### **4.3 Hand Auger Borings**

Soil test borings were performed to depths ranging from 6.5 to 10 feet below the bottom of the base course or existing grade or by manually twisting and advancing a bucket auger into the ground in 4 to 6-inch increments. These borings were performed in general accordance with the American Society of Testing and Material (ASTM) Testing Designation D-1452. As each soil type was revealed, representative samples were placed in air-tight jars and returned to our laboratory for visual examination and classification by a geotechnical engineer. These boreholes were backfilled after groundwater level measurement.

#### **4.4 Power Auger Borings**

Power auger borings were performed by advancing a 4-inch diameter continuous flight auger slowly into the ground in a "corkscrew" fashion in 5-foot increments. Additional flights are added until the desired termination depth was achieved. These borings were performed in general accordance with the ASTM test designation D-1452. The flight auger was then retrieved and representative samples were obtained. The soil samples were visually classified in the field and placed in air-tight jars for transportation to our laboratory for further classification and testing. After groundwater level measurement, the boreholes were backfilled. Groundwater measurements were taken 24 hours after drilling operation.

#### **4.5 Muck Probe**

Muck probing is being performed by NES personnel within the base of the channel to delineate the extent of muck if present. The approximate locations of the muck probes are shown on **Sheet 4** in **Appendix B**.

Muck probing is performed by advancing a 0.5 inch diameter steel rod through the surficial soft sediments/organics until manual refusal is achieved. Generally, it can be pushed through soft organic and/or clayey soils, and terminate upon encountering sandy soils or relatively stiff clay. Muck probes, however, cannot detect peat or muck layers that are present beneath layers of sand or dense soils, which cannot be penetrated. In addition, no soil samples are typically collected for visual classification and laboratory testing. Therefore, in muck probing, the soil type is referred solely by evaluating the relative resistance of the soil to penetration. These limitations can lead to misrepresentation of the extent and thickness of muck layer. It is not recommended that muck probe data be used for earthwork quantity estimates except on a very preliminary basis.

#### **4.6 Pavement Corings**

The pavement cores were performed by NES at designated locations. At each location, the pavement was cored with a four-inch diameter core barrel. The core was removed and measured for pavement thickness and base thickness. Pavement conditions encountered within project limits were categorized according to the classification system outlined in the Florida Department of Transportation (FDOT) Flexible Pavement Condition Survey Handbook. The data for the individual core samples is included in the "Pavement Evaluation and Condition Data Sheet" presented on **Table 4** in **Appendix C** and Pavement core photographs shown on **Plates 1** and **2** in the **Appendix C**.

### **5.0 LABORATORY TESTING**

Representative soil samples were retrieved from the borings and returned to NES's laboratory for further visual classification, stratification and selective soil testing. Laboratory classification tests consisted of sieve analysis, moisture content, and Atterberg Limits. The results of these tests are presented on the Summary of Laboratory Test Results, **Table 2** in **Appendix A**. The results of the corrosion series tests are presented on **Table 3** in **Appendix A**. Results of roadway laboratory tests are summarized on the Roadway Soil Survey Sheet (**Sheet 1** in **Appendix B**). The types of tests performed with their associated test designations are presented below.

#### **Laboratory Testing Performed**

<b>Test Type</b>	<b>FDOT</b>	<b>ASTM</b>
Grain Size Analysis	FM 1-T 088	D-422
Percent Fines	FM 1-T 088	D-1140
Moisture Content	FM 1-T 265	D-2216
Atterberg Limits	FM 1-T 089 and FM 1-T 090	D-4318
Corrosion Series	FM 5-550, FM 5-551, FM 5-552 and FM 5-553	G51, G57, D512, and D4130

## 6.0 SUBSURFACE CONDITIONS

### 6.1 General

The results of the borings are presented in the form of soil profiles in the attached **Sheet 2** in **Appendix B**. The roadway auger borings and pond borings were classified using the AASHTO Soil Classification System (A-3, A-2-4, etc.). The SPT borings performed within the vicinity of the proposed connector road were classified using the USCS soil classification system (SM, SP-SM, etc.). The borings were described using the ASTM soil descriptions such as sand with silt. Soil classification and stratification are based on visual examination of the recovered soil samples, laboratory testing, and interpretation of field boring logs by geotechnical engineer. The stratification lines represent approximate boundaries between soil types of significantly different engineering properties; however, the actual transition between layers may be gradual. Based on the soil boring and laboratory test results, the soils encountered along the project alignment have been grouped into three strata. Each stratum exhibits a range of engineering properties related to application for roadway construction as outlined by FDOT Standard Indices 500 and 505. Included with the soil profiles on **Sheets 2** and **3** in **Appendix B** are the groundwater levels measured at the time the borings were performed and the estimated seasonal high groundwater levels.

### 6.2 Auger Boring Results (Roadway and Bank slope)

Boring AB-1 performed along the existing Sherry Drive encountered fine sand to fine sand with varying amount of silt/clay, trace limerock (Stratum 1) followed by clayey sand (Stratum 2) to the boring termination depth. Boring AB-2 however, encountered sandy clay (Stratum 3) from bottom of the base course to boring termination depth of 6 feet.

Borings AB-3 through AB-5 were performed along the north and south bank slopes of Sherry Drive canal. These borings generally encountered fine sand with varying amount of silt/clay, trace limerock (Stratum 1). However, sandy clay soil was encountered in Boring AB-2 at a depth of one (1) foot to two (2) feet below existing grade.

At the time of our field exploration, groundwater levels were only encountered at borings performed at the channel slope at depths ranging from 7.5 feet to 10 feet. Groundwater conditions will vary with environmental variations, seasonal conditions and man-made influences.

The soil strata encountered, soil descriptions, AASHTO classifications and FDOT 505 Embankment Soil Utilization designations are summarized below:

<b>Stratum</b>	<b>Soil Description</b>	<b>AASHTO</b>	<b>Index 505 Classification</b>
1	Brown to gray fine SAND to fine SAND with silt/clay, trace limerock	(A-3)	Select (S)
2	Gray to brown clayey SAND	(A-2-6)	Plastic (P)
3	Brown to gray sandy CLAY	(A-7-6)	High Plastic (H)



The above subsurface conditions are only general descriptions. For details refer to the boring profiles in **Sheet 2** in **Appendix B**.

### **6.3 Stormwater Management Boring Results**

The two (2) borings performed within the vicinity of the proposed stormwater pond encountered fine sand to fine sand with varying amount of silt/clay, trace limerock (Stratum 1) followed by clayey sand (Stratum 2) to the boring termination depth of 10 feet below existing grade.

Groundwater was not encountered in any of the borings.

The soil strata encountered, soil descriptions, AASHTO classifications and FDOT 505 Embankment Soil Utilization designations are summarized below:

<b>Stratum</b>	<b>Soil Description</b>	<b>AASHTO</b>	<b>Index 505 Classification</b>
1	Brown to gray fine SAND to fine SAND with silt/clay, trace limerock	(A-3)	Select (S)
2	Gray to brown clayey SAND	(A-2-6)	Plastic (P)

The above subsurface conditions are only general descriptions. Details of soil profiles are presented on **Sheet 2** in **Appendix B**.

### **6.4 SPT Boring Results**

Borings TB-1 and TB-2 were completed at the north bank top of the Canal. Generally, the borings encountered fine sand with varying amounts of fines, clayey sand followed by sandy clay layer to boring termination depths of 60 feet below existing grade.

SPT "N" values in the sandy soils ranged from 4 to 14 blows per foot, indicating loose to medium dense soils. The "N" values in the clayey soils ranged from 2 to about 50 blows per foot, indicating soft to hard consistency.

The above subsurface conditions are only general descriptions, for details at each boring location including tests, refer to **Sheet 3** in **Appendix B**.

Groundwater was encountered at a depth of eight (8) feet below the existing grade.

The results of the environmental corrosion series tests for Boring TB-1 indicated a pH of 7.32; a resistivity of 9,260 ohm-centimeters (ohm-cm); Chloride in parts per million (ppm) of 80.1 ppm and sulfate in ppm of 80 ppm. Based on the Florida Department of Transportation (FDOT) Criteria for Substructure Environmental Classification, the soil at Boring TB-1 is classified as slightly aggressive for steel and slightly aggressive for concrete.

### **6.5 Muck Probe Results**

The muck probes performed along the base of the channel indicated surficial soft soil thickness ranging from 13 to 59 inches. No muck was encountered at the muck probe locations. Water depths at the time of exploration ranged approximately from 9 to 34 inches at the muck probe locations. Muck probe results are presented in the Report of Muck Probe Results **Sheet 4** in **Appendix B**.

In general, the shallow soft deposits observed along the channel lie within the feasible range of demucking, if necessary and should be replaced with competent fill materials. Any demucking should be performed in accordance with FDOT Standard Specification for Road and Bridge Construction Section 110 and current Orange County Specifications.

### **6.6 Groundwater**

Groundwater was encountered in Borings AB-3 through AB-5 and SPT Borings TB-1 and TB-2 at depths ranging from 7.5 to 10 feet below the existing grade at the time of exploration (November - December 2012). Groundwater conditions will vary with environmental variations and seasonal conditions, such as the frequency and magnitude of rainfall patterns, as well as man-made influences, such as swales, drainage ponds, underdrains, and areas of covered soil (roadways, sidewalks, etc.).

For the purposes of this report, estimated seasonal high groundwater levels are defined as groundwater levels that are anticipated at the end of the wet season of a "normal rainfall year" under current site conditions. "Normal rainfall year" is defined as a year in which rainfall quantity and distribution were at or near historical rainfall averages. Based upon our observations at the sites and in the borings performed by NES, a review of the Orange County Soil Survey, and rainfall data of the area, it is our opinion that the seasonal high groundwater level is at least five (5) feet, below the existing grade in the project area. The estimated seasonal high groundwater levels presented next to the boring profiles (**Sheets 2 and 3** in **Appendix B**) are based on the soil stratigraphy, measured groundwater levels, USDA/NRCS information, review of roadway plans, and past experience with similar soil conditions.

In general, the estimated seasonal high groundwater level is not intended to define a limit or ensure future seasonal fluctuations in groundwater levels will not exceed the estimated levels. Post-development groundwater levels could exceed the seasonal high groundwater level estimates as a result of a series of rainfall events, changed conditions at the site which alter surface water drainage characteristics, or variations in the duration, intensity, or total volume of rainfall.

## **7.0 EVALUATION AND RECOMMENDATIONS**

### **7.1 General**

The evaluation and recommendations contained in this report are based in part on the data obtained from a limited number of soil samples and groundwater measurements obtained from widely spaced borings. The exploration methods used indicate subsurface conditions at specific boring locations only, at the time they were performed and to the depths penetrated. Borings cannot be relied upon to accurately reflect the variations that usually exist between boring locations and these variations may not become evident until construction. If variations from the conditions described in this report become evident during the course of construction, or project characteristics described in this report change, NES should be retained to re-evaluate the conclusions and recommendations contained in this report in light of such changes.

### **7.2 Roadway Construction**

The results of our geotechnical exploration indicate that the subsurface soils encountered along roadway alignment are generally suitable for support of the proposed roadway improvement after proper subgrade preparation. Non select soils, muck, clays or debris, if encountered within the limits, should be removed and replaced with selected soils in accordance with FDOT Index Nos. 500 and 505. Site preparation and roadway construction should be in accordance with the latest version of the FDOT Standard Specifications for Road and Bridge Construction, FDOT Standard Specifications and Index Nos. 500 and 505.

...Stratum No. 1 should be treated as Select (S) materials in accordance with Index No. 505. Strata Nos. 2 and 3 should be treated as Plastic (P) and High Plastic (H),

The soils encountered in our borings classified as Stratum No. 1 should be treated as Select (S) materials in accordance with Index No. 505. Strata Nos. 2 and 3 should be treated as Plastic (P) and High Plastic (H) respectively, in accordance with Index No. 505. If plastic and/or organic material is encountered along the project alignment during construction, at locations that were not indicated in this report or where soil borings were not performed, these materials should be removed in accordance

with Index Nos. 500 and 505 unless shown "to remain" in the plans.

All fill soils placed for the roadway improvement should be selected in accordance with Index No. 505. In-place density tests should be performed on the fill soils to verify the specified degree of compaction. The minimum test frequency should be in accordance with the FDOT Materials, Sampling, Testing and Reporting Guide.

### **7.3 Groundwater Control**

Groundwater table fluctuates seasonally depending upon intensity and duration of rainfall and presence and proximity of any artificial drainage facilities. Based on the encountered groundwater, seasonal groundwater level is anticipated to be at least five (5) below existing grade. Surface water runoff may be controlled by a drainage system consisting of swales, cross drains and storm trenchline sewers.

One of the most critical influences on pavement performance in Central Florida is the relationship between pavement sub-grade and the seasonal high groundwater level. Many roadways have been destroyed as a result of deterioration of the base and the base/surface course bond. It is NES's opinion that at least two (2) feet of clearance be provided between the bottom of the proposed pavement base course and the estimated seasonal high groundwater levels along the roadway alignment.

**7.4 Stormwater Management Area**

The soil conditions encountered at the stormwater management area are represented by the pond borings shown on **Sheet 2** in **Appendix B**. The borings generally encountered fine sand to fine sand with varying amount of silt/clay, trace limerock (Stratum 1) followed by clayey sand (Stratum 2) to the boring termination depth of 10 feet below existing grade.

Groundwater was not encountered in the borings at the time of exploration (November 2012). The estimated seasonal high groundwater table and other pertinent information for design are presented in **Table 5** below.

**Table 5: Stormwater Pond Design Information**

Pond ID	Existing Average GSE (ft, NAVD-88)	Approx. Pond Bottom Elevation (ft, NAVD-88)	Approx. Average GWE <sup>b</sup> (ft, NAVD-88)	Average Estimated SHGWE <sup>c</sup> (ft, NAVD-88)	Average K-value (ft/day)	Base of Aquifer (ft, NAVD-88)
Pond	85.4	81.5	75.4	80.4	3.8	75.4

GSE<sup>a</sup> – Ground surface elevation, GWE<sup>b</sup> – Groundwater elevation, SHGWE<sup>c</sup> - Seasonal high groundwater elevation

**7.5 Pond Borrow Suitability**

Stratum 1 soils encountered in the pond borings ..... are classified as Select (S) soils.....

Stratum 1 soils encountered in the pond borings are classified as Select (S) soils. Strata Nos. 2 and 3 are classified as Plastic and High Plastic soils, respectively. All soils excavated from the pond sites should be utilized in accordance with Index 505 of the FDOT Design Standards.

We anticipate the contractor would attempt to reuse the soils excavated from the stormwater pond areas for the proposed realignment. The suitability of the soil types encountered in the ponds is discussed below.

Stratum 1 (A-3)

Stratum 1 soils are classified as Select (S) soils. These soils generally have fine contents of less than 10 percent and are commonly referred to as “clean sands.” These soils are highly desirable for use as fill because they drain freely.

### Stratum 2 (A-2-6)

Stratum 2 soils are classified as Plastic (P) soils. These soils consist of sands with significant amounts of clay and exhibit slightly plastic to plastic texture. These soils do not drain as Select (S) soils. These soils may be used for embankment construction above the existing ground water level, as long as they are kept out of the subgrade portion of the roadbed. They require close attention to moisture content to use successfully as fill. Suitable compaction of these soils is generally achieved across a narrow range of moisture. Because of complications associated with reusing these soils, it is our recommendation that Stratum 3 should be utilized at least four (4) feet below the base course as per index 505 of the FDOT Design Standard; otherwise they should be disposed and replaced with Select (S) soils.

### 7.6 Pavement Coring Results

The pavement condition inspection indicates the existing pavement condition is generally fair to poor. **Plates 1 and 2 in Appendix C** illustrate the general condition of the existing pavement. Based on the limited data obtained during the Pavement Evaluation Coring and existing condition survey, the pavement within the project vicinity is generally in fair to poor condition. Branch and block cracks were observed within the project vicinity. Pavement core thickness ranged from 3.2 to 4.3 inches with an overall average of 3.8 inches. Compacted sand base was observed in Core C-1. Limerock base thickness of about 6 inches was observed beneath a 0.8 inch of concrete in Core C-2. The summary of average thickness of core length and base course is presented below:

Roadway	Core Length (inch)	Base Course (inch)	Base Course Type
Sherry Drive	3.2	6.0	Compacted Sand
	4.3	6.0	Limerock

### 7.7 Canal Bank Stability

We understood that Orange County plans on removing the existing bridge Gabion mattress close to Sherry Drive Bridge. These Gabions were used as countermeasures against bridge scour which can lead to bridge failure. The existing gabions are planned to be removed during the Sherry Drive Bridge improvements.

Global or rotational slope stability analysis was performed for the existing (without gabion mattress) canal bank cross-section to evaluate the stability of the banks. The results (Factor of safety > 1.0) show that the banks would require some form of slope stabilization to maintain its integrity.

The slope stability analysis was performed using SLOPE/W Version 2007 developed by Geo-Slope International Ltd in general accordance with the USACE publication EM1110-2-1902. The stability analysis was performed using Spencer's method which satisfies all conditions of

equilibrium for an existing slope. Spencer's method considers both the shear and normal interstate forces, satisfies both moment and force equilibrium, and assumes a constant interslice force function. The analyses were performed for a Steady State Seepage (Long Term) condition adapted from EM1110-2-1902 Slope Stability, dated October 31, 2003. The results of the global stability analysis are summarized below on Table 6 and are available in **Appendix C**.

**Table 6  
 Global (Rotational Slope) Stability Analyses Results**

	Station No.	North Bank	South Bank	Recommended Minimum Factor of Safety
Existing Slope	50+72	1.0	0.34	1.5
	52+50	0.45	0.76	1.5

The soil parameters used in the analyses are based on the result of our exploration and laboratory tests. The boundary conditions included slope configuration, bench width and phreatic surface. Detailed assumptions of soil parameters are provided in **Appendix C**.

To improve the longevity of the canal banks after removal of the gabions and to reduce long term maintenance, the following slope stabilization techniques are recommended:

- Install new gabion mattress after bridge structural integrity improvements.
- Flatten the slope to 3H:1V
- 2H:1V slope with fabric formed concrete rip rap
- 2H:1V slope with Anchor Reinforced System
- 1.5H:1V slope with Articulatory Concrete Block Revetment System (ACB)

These recommended slope stabilization methods will decrease scour vulnerability of the canal bank slopes.

## **8.0 CONSTRUCTION CONSIDERATIONS**

### **8.1 General**

The ground surface within the limits of construction should be cleared or stripped of all vegetation, roots, topsoil, debris, surficial muck and other deleterious material in accordance with the FDOT Standard Specifications for Road and Bridge Construction and Orange County Public Works Department requirements.

After proper subsoil preparation, the pavement subgrade, pavement base and surface courses should be constructed in accordance with current FDOT Standard Specifications for Road and Bridge Construction.

Roadway construction should be performed in accordance with the appropriate sections of the FDOT current edition of the Standard Specifications for Road and Bridge Construction. If needed, backfill should generally consist of select materials (A-3) and (A-2-4) compacted in accordance with the FDOT Standard Specification for Road and Bridge Construction. Removal of organic materials and plastic soils within the project limits should be accomplished in accordance with the FDOT Index 500 unless otherwise shown on the plans.

In-place density tests should be performed on the fill soils to verify the specified degree of compaction. The minimum test frequency should be in accordance with the FDOT Materials, Sampling, Testing and Reporting Guide.

Prior to canal bank stabilization, provision should be made to relocate any interfering utility lines within the construction area to appropriate locations consistent with project specifications. The project site should be cleared and all debris completely removed including vegetation from ground surface (roots, topsoil, shrubs, stumps and trees identified for removal), surficial muck and other deleterious material in accordance with the Orange County Specifications (TP 530-78 Part H) and FDOT Standard Specification for Road and Bridge Construction.

Any soft pockets of soil and/or organic soils should be over-excavated and backfilled with suitable material. Removal of organic materials and plastic soils working within the project limits should be accomplished in accordance with the FDOT Index 500 and current Orange County Specifications, unless otherwise shown on the plans.

## **8.2 Excavation**

Excavation, if necessary, should be performed in accordance with Section 125 and 455 D of the current FDOT Standard Specifications for Road and Bridge Construction.

All excavation and below grade construction activities should be in accordance with the Occupational Safety and Health Administration (OSHA). The side slopes of all excavation greater than four (4) feet deep should be sloped at a maximum of one point five (1.5) horizontal to one (1) vertical (1.5H: 1V) as required by OSHA. Steeper slopes can be established by a "competent person" (as defined by OSHA) and supported with a system designed by a registered Professional Engineer.

For temporary excavation support system, we recommend the following:

Saturated unit weight	120 pcf
Angle of soil friction	30 degrees
Cohesion	0
Surcharge load	250 psf

## **9.0 REPORT LIMITATIONS**

Our professional services have been performed, our findings obtained and our recommendations prepared in accordance with generally accepted geotechnical engineering principles and practices. We are not responsible for the conclusions, opinions or recommendations made by others based on the data presented herein.

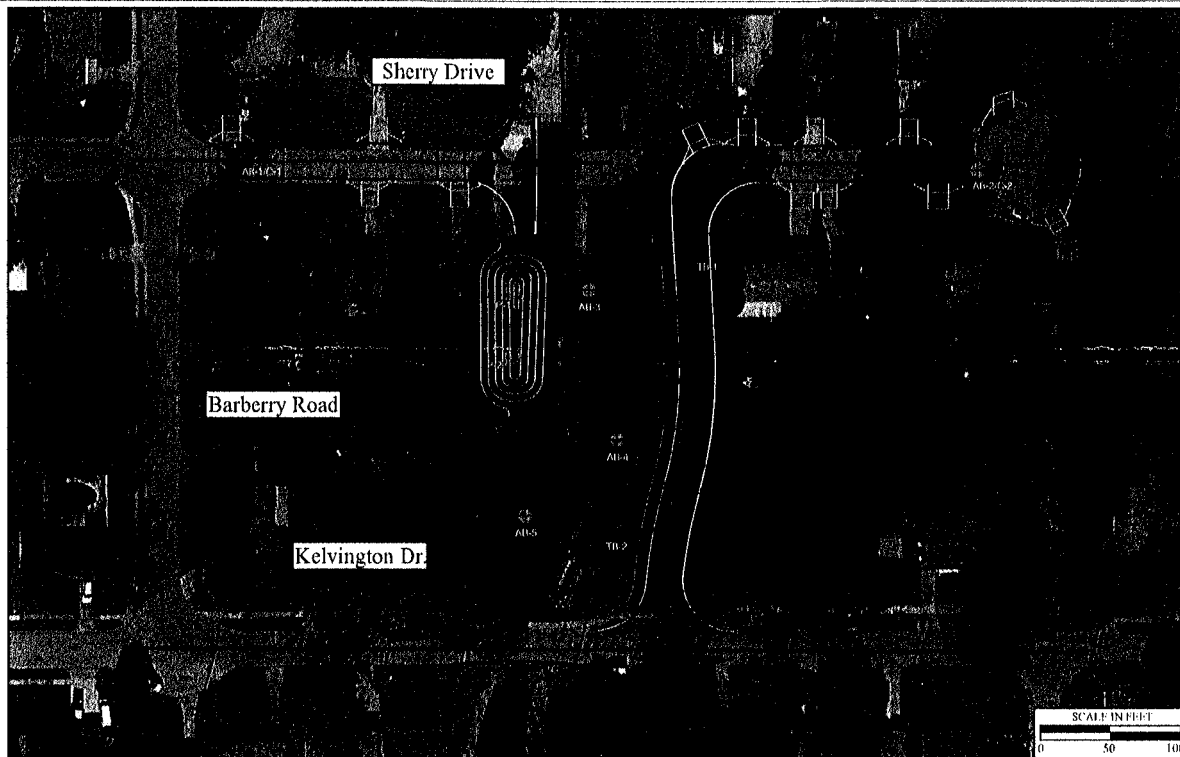
The scope of the exploration was intended to evaluate soil and groundwater conditions within the influence of roadway improvement. The analyses and recommendations submitted in this report are based upon the data obtained from the soil borings performed at the locations indicated and does not reflect any variations which may occur among these borings. If any variations become evident during the course of this project, a re-evaluation of the recommendations contained in this report will be necessary after we have had an opportunity to observe the characteristics of the conditions encountered. The applicability of the report should be reviewed in the event of significant changes occurring in the design, nature or location of the proposed roadway improvements.

The scope of services of this project, included herein, did not include any environmental assessment for the presence or absence of hazardous or toxic materials in the soil, surface water and groundwater, air on the site, below and around the site. Any statements in this report or on the boring logs regarding odors, colors, unusual or suspicious items and conditions are strictly for the information of the client.



# APPENDIX A

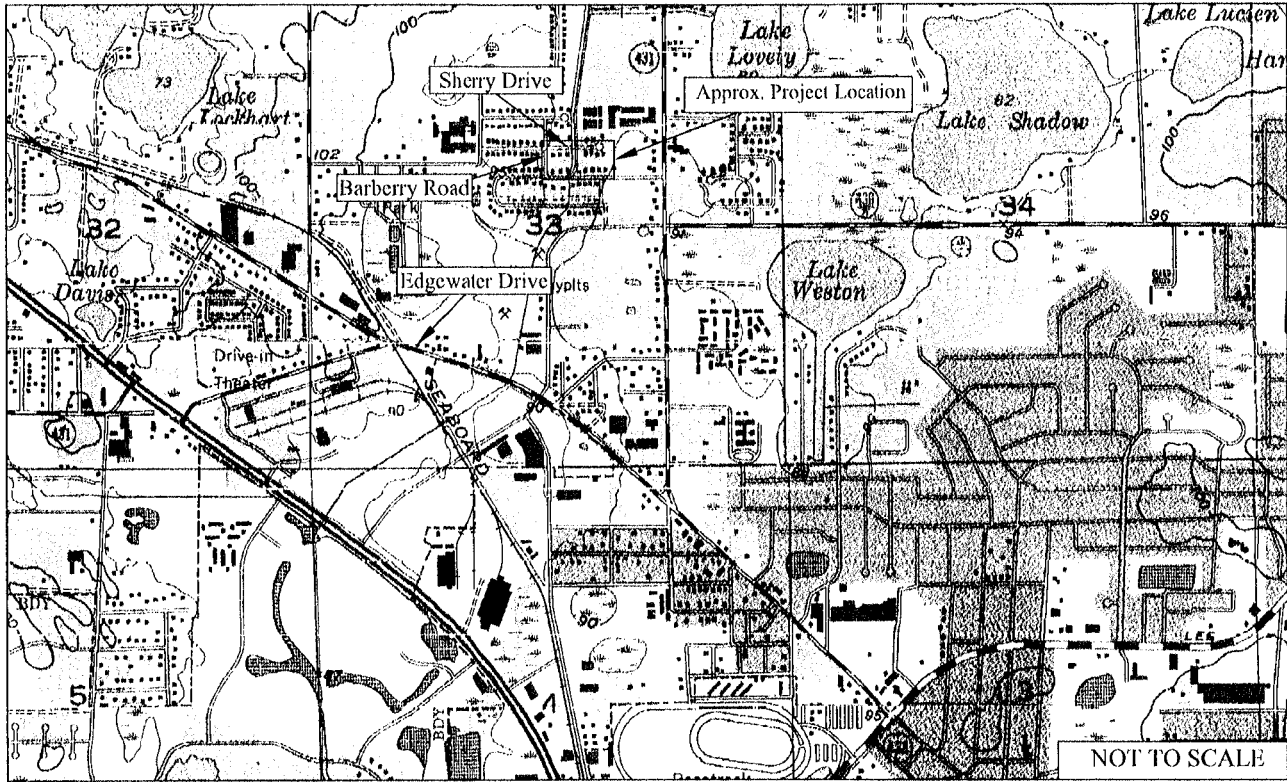
<b>Figure 1</b>	<b>Project Location Map</b>
<b>Figure 2</b>	<b>USGS Topographic Map</b>
<b>Figure 3</b>	<b>USDA/NRCS Soils Map</b>
<b>Figure 4</b>	<b>Potentiometric Surface Map</b>
<b>Table 2</b>	<b>Summary of Laboratory Test Results</b>
<b>Table 3</b>	<b>Summary of Corrosion Test Results</b>



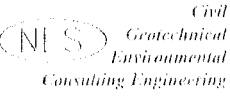

REFERENCE: Google Earth Aerial Maps

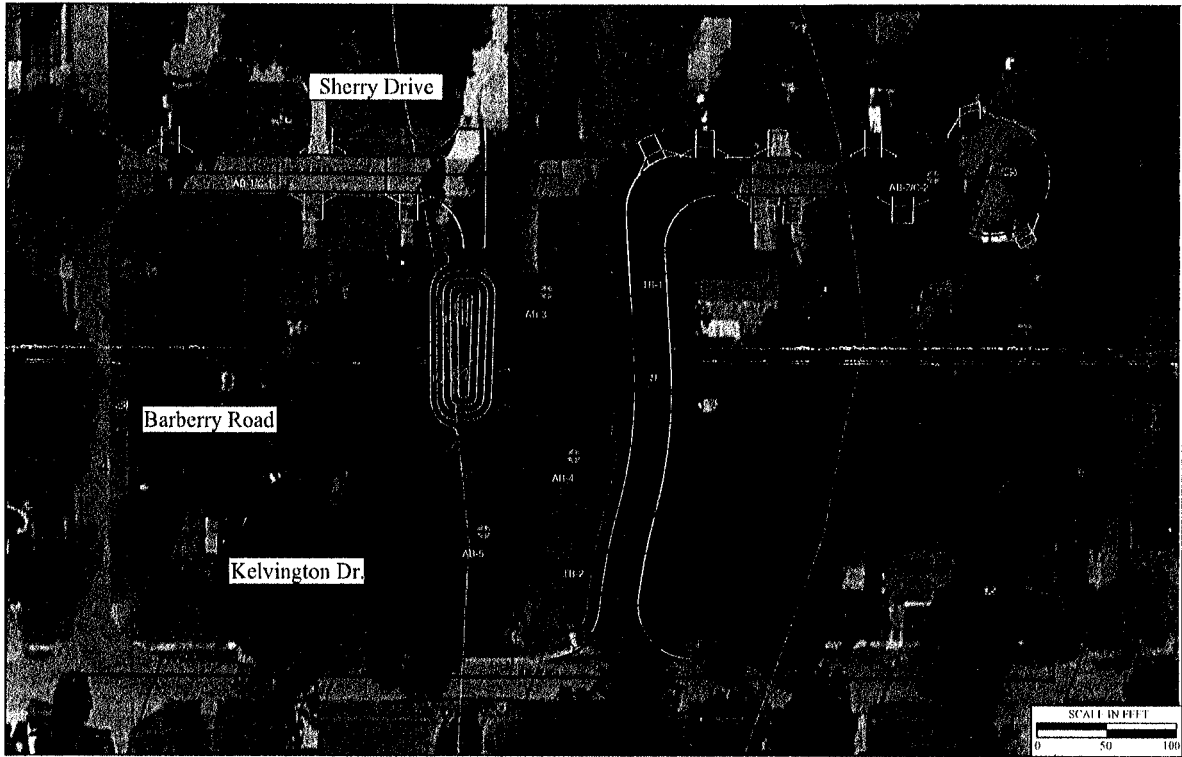
- LEGEND**
- Approximate SPT Boring Location
  - Approximate Pond Boring Location
  - Approximate Auger Boring/Pavement Core Location

REFERENCE: United States Geological Survey (USGS)	PROJECT LOCATION S26, T25S, R29E	U.S.G.S. QUADRANGLE MAP Orlando West, FLA.	ISSUED 1956	PHOTO REVISITED 1980			<b>ORANGE COUNTY PUBLIC WORKS</b>	<b>FIGURE 1: Project Location Map</b> Sherry Drive		NES PROJECT No. R12016
								COUNTY ORANGE	PROJECT No. Y11-901B	
					DATE: DRAWN: CHECKED:	12-30-2012 LAU GNN				



REFERENCE: United States Geological Survey (USGS)

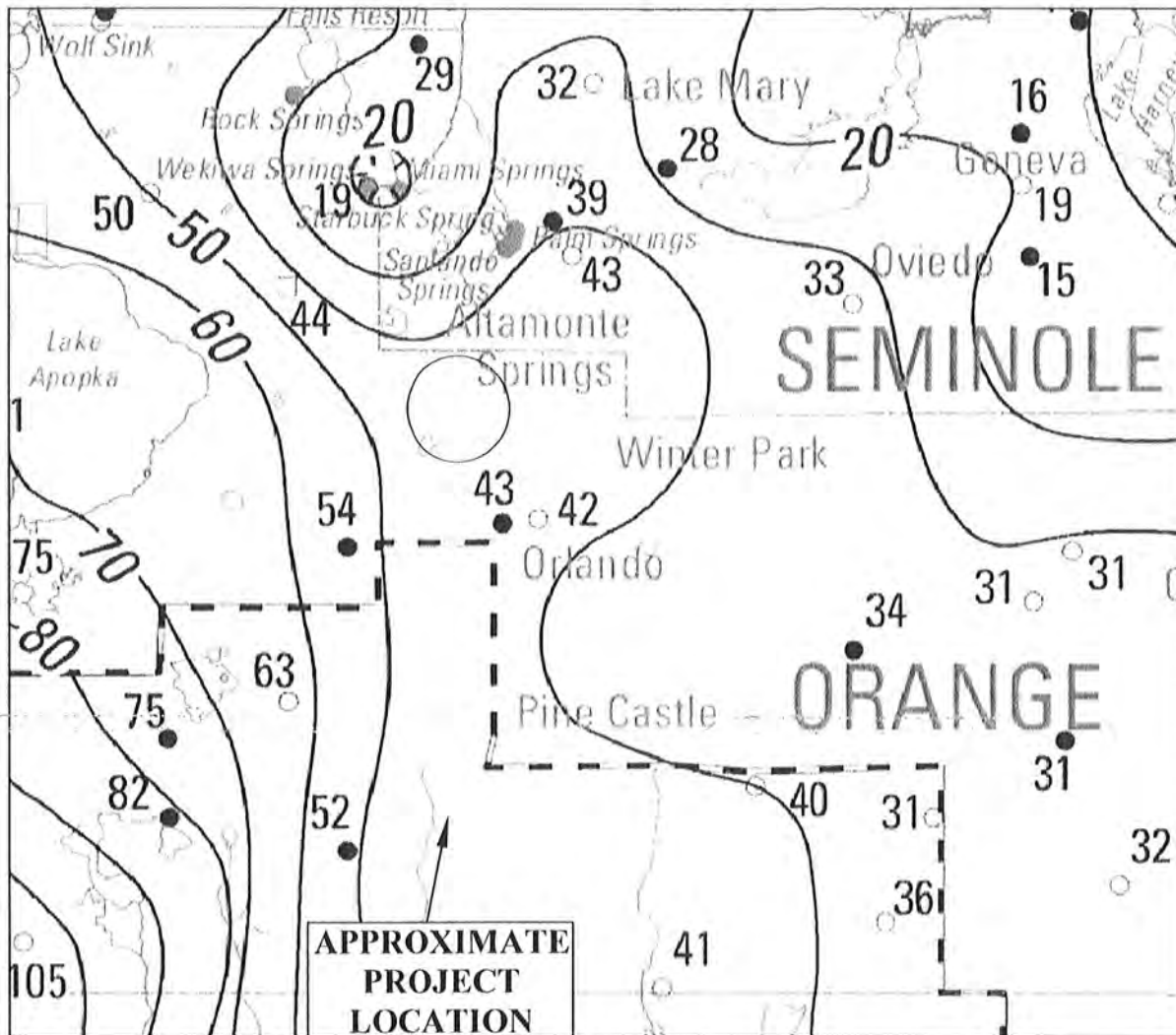
REFERENCE	PROJECT LOCATION	U.S.G.S QUADRANGLE MAP	ISSUED	PHOTOREVISED	 Civil Geotechnical Environmental Consulting Engineering	 ORANGE COUNTY PUBLIC WORKS	FIGURE 2: USGS Topographic Map		NIES PROJECT No.
United States Geological Survey (USGS)	S33; T21S; R29E	Orlando West, FLA.	1956	1980			Voltaire Canal Drainage Improvements	COUNTY	PROJECT No.
					DATE: DRAWN: CHECKED:	08-17-2012 AGA GNN	ORANGE	Y11-901B	FIGURE 2



REFERENCE: United States Department of Agriculture (USDA),  
Natural Resources Conservation Service (NRCS)

- LEGEND**
- Approximate SPT Boring Location
  - Approximate Pond Boring Location
  - Approximate Auger Boring/Pavement Core Location
- 3 Basinger fine sand
  - 45 Smyrna-Urban land complex
  - 48 Tavares-Urban land complex

REFERENCE	PROJECT LOCATION	U.S.G.S. QUADRANGLE MAP	ISSUED	PHOTOREVISED	Civil Geotechnical Environmental Consulting Engineering		ORANGE COUNTY PUBLIC WORKS	FIGURE 3: USDA/NRCS Soils Map Sherry Drive		NCS PROJECT No.
United States Geological Survey (USGS)	S26, T23S, R29E	Orlando West, F.L.A.	1950	1980	DATE: DRAWN: CHECKED:	12-30-2012 IAU GNN		ORANGE COUNTY FLORIDA	COUNTY	PROJECT No.
							ORANGE		Y11-901B	FIGURE 1



**REFERENCE:** "Potentiometric Surface of the Upper Floridan Aquifer in the St. Johns River Water Management District and Vicinity, Florida, 2009," published by the United States Geological Survey (USGS).

**QUAD:** ORLANDO WEST, FLA. (Issued 1956, Photo Revised 1980)

**SECTION:** 33;

**TOWNSHIP:** 21 SOUTH;

**RANGE:** 29 EAST.

**LEGEND**

— 40 — POTENTIOMETRIC CONTOUR—Shows altitude at which water level would have stood in tightly cased wells. Contour interval is 10 feet.

Note: Elevations shown on map are in feet, National Geodetic Vertical Datum of 1929 (NGVD-29)

POTENTIOMETRIC SURFACE MAP  
SHERRY DRIVE  
ORANGE COUNTY, FLORIDA

**NES** *Civil Geotechnical Environmental Consulting Engineering*

DRAWN: IAU	SCALE: N.T.S.	PROJECT NO. G12013
CHKD: GNN	DATE: 12-30-2012	FIGURE 4

GTC

Sherry Drive

NES Project No.: R12016

December 30, 2012

<b>TABLE 2 SUMMARY OF LABORATORY TEST RESULTS SHERRY DRIVE ORANGE COUNTY, FLORIDA NES PROJECT NO. R12016</b>													
Location	Boring Number	Sample Depth (feet)	Stratum No.	Moisture Content (%)	Organic Content (%)	Sieve Analysis (Percent Passing)					Atterberg Limits (%)		AASHTO
						#10	#40	#60	#100	#200	Liquid Limit	Plasticity Index	
Sherry Drive	P-1	0.5	1	3	-	91	88	82	49	3	-	-	A-3
	P-2	2.0	1	4	-	100	98	94	56	8	-	-	A-3
	AB-1	3.5	2	15	-	100	99	96	68	21	-	-	A-2-6
	P-1	7	2	20	-	-	-	-	-	31	25	11	A-2-6
	P-2	6.5	2	8	-	100	99	94	58	13	-	-	A-2-6
	AB-2	1	2	22	-	100	100	99	94	41	33	18	A-7-6
	AB-2	6	2	21	-	100	100	99	96	46	-	-	A-7-6

<b>TABLE 2 CONTINUED SUMMARY OF LABORATORY TEST RESULTS SHERRY DRIVE - ROADWAY &amp; BANK STABILIZATION ORANGE COUNTY, FLORIDA NES PROJECT NO. R12016</b>													
Location	Boring Number	Sample No.	Sample Depth (feet)	Moisture Content (%)	Organic Content (%)	Sieve Analysis (Percent Passing)					Atterberg Limits (%)		USCS
						#10	#40	#60	#100	#200	Liquid Limit	Plasticity Index	
Sherry Drive	TB-1	7	19	33	-	-	-	-	-	34	45	29	SC
	TB-1	9	29	38	-	-	-	-	-	21	-	-	SC
	TB-1	12	44	42	-	-	-	-	-	95	49	19	CH
	TB-2	7	19	36	-	-	-	-	-	40	45	20	SC
	TB-2	10	34	36	-	-	-	-	-	28	-	-	SC
	TB-2	12	44	33	-	-	-	-	-	90	39	11	CH

GTC  
Sherry Drive  
NES Project No.: R12016

December 30, 2012

TABLE 3 CORROSION SERIES TEST RESULTS – SHERRY DRIVE ORLANDO, FLORIDA NES PROJECT NO. R12016								
Location	Boring No.	Sample Depth (feet)	pH	Resistivity (Ohm-cm)	Chlorides (ppm)	Sulfate (ppm)	Substructure Environmental Classification	
							Steel	Concrete
Connector Rd	TB-1	1	7.32	9,260	80.1	80	Slightly Aggressive	Slightly Aggressive

# **APPENDIX B**

<b>Sheet 1</b>	<b>Roadway Soil Survey</b>
<b>Sheet 2</b>	<b>Auger Boring Profiles</b>
<b>Sheet 3</b>	<b>Report of SPT Borings</b> <b>- (Roadway &amp; Bank Stabilization)</b>
<b>Sheet 4</b>	<b>Report of Muck Probe Results</b>



NES PROJECT NO.: R12016

PROJECT DESCRIPTION: SHERRY DRIVE

SUBMITTED BY: NES

NADIC ENGINEERING SERVICES, INC

ROADWAY SOIL SURVEY

REPORT OF TESTS

QUADRANGLE: ORLANDO WEST, FLA  
SECTION: 33  
TOWNSHIP: 21 SOUTH  
RANGE: 29 EAST

SURVEY BEGINS: 10/00, SHERRY DRIVE  
SURVEY ENDS: 16/39, SHERRY DRIVE

DATE REPORTED: December 2012

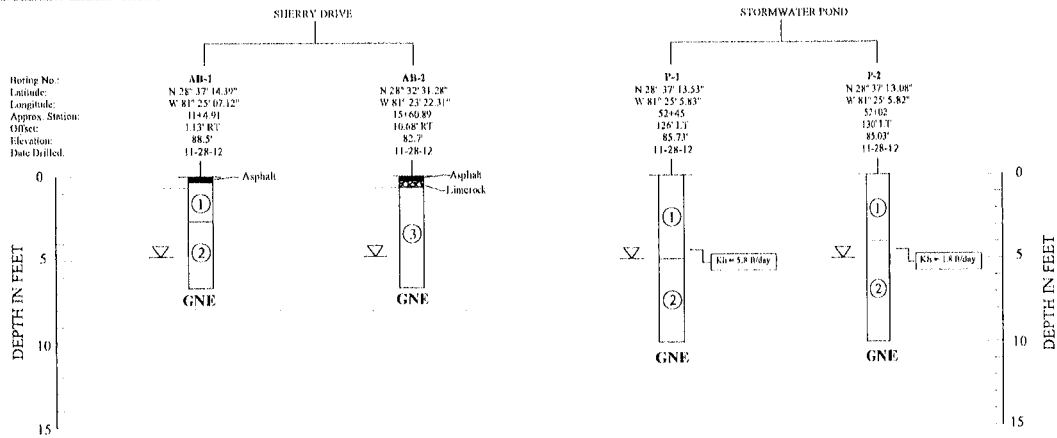
STRATUM NO.	ORGANIC CONTENT		MOISTURE CONTENT		SIEVE ANALYSIS RESULTS						ATTENBERG LIMITS (%)		CORROSION TEST RESULTS				SUBSTRUCTURE ENVIRONMENTAL CLASSIFICATION			
	No. OF TESTS	% ORGANIC	No. OF TESTS	% MOISTURE CONTENT	% PASSING 10 MESH	% PASSING 40 MESH	% PASSING 60 MESH	% PASSING 100 MESH	% PASSING 200 MESH	% OF TESTS	LIQUID LIMIT	PLASTICITY INDEX	AASHTO GROUP	No. OF TESTS	pH	RESISTIVITY (OHM-CM)	CHLORIDE S (PPM)	SOIL SAT. (PPM)	CONCRETE	UTIL.
1	-	-	2	3-4	2 (100%)	91-100	88-98	92-99	99-100	8	-	-	A-3	-	-	-	-	-	-	-
2	-	-	1	8-15	3 (100%)	100	98	91-96	58-66	13-21	-	-	A-2-6	-	-	-	-	-	-	-
3	-	-	2	21-22	2 (100%)	100	100	99	93-96	11-16	1	13	A-7-6	-	-	-	-	-	-	-

NOTES

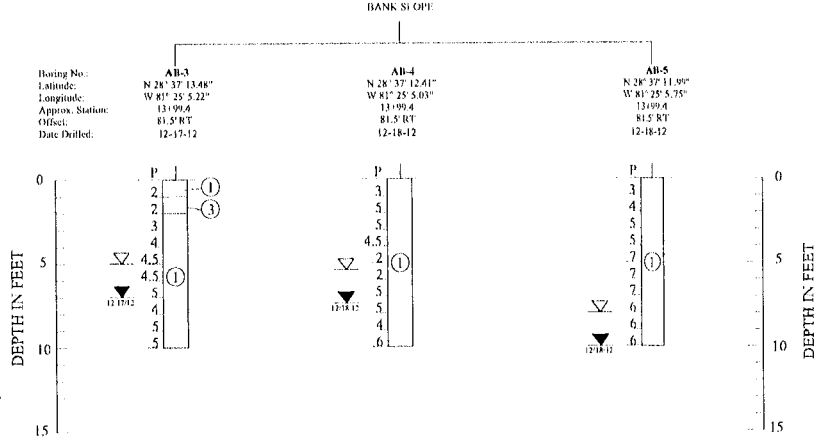
- (1) STRATA BOUNDARIES ARE APPROXIMATE AND REPRESENT SOIL STRATA AT EACH TEST HOLE LOCATION ONLY. ANY STRATUM CONNECTING LINES SHOWN ARE FOR ESTIMATING LARDWORK ONLY AND DO NOT INDICATE ACTUAL STRATUM LIMITS. SUBSURFACE VARIATIONS BETWEEN BORINGS SHOULD BE ANTICIPATED AS INDICATED IN TEST SECTION 3-1. FOR FURTHER DETAIL SEE DOT STANDARD SPECIFICATIONS SECTION 120-3.
- (2) SOIL PARAMETER NOT TESTED DENOTED AS "-" ABOVE.
- (3) INDICATES WATER TABLE ENCOUNTERED AT THE TIME OF SURVEY
- (4) INDICATES ESTIMATED SEASONAL HIGH WATER LEVEL.
- (5) INDICATES GROUNDWATER NOT ENCOUNTERED IN TOP TEST
- (6) REMOVAL OF PLASTIC MATERIAL OCCURRING WITHIN THE ROADWAY SHALL BE ACCOMPLISHED IN ACCORDANCE WITH INDEX NO. 500 UNLESS OTHERWISE STATED IN THE PLANS. THE MATERIAL UTILIZED IN EMBANKMENT CONSTRUCTION SHALL BE IN ACCORDANCE WITH DOT STANDARD INDEX NO. 505.
- (7) STRATUM 1 SHALL BE TREATED AS SILTY (S) MATERIALS PER INDEX NO. 505.
- (8) STRATUM 2 SHALL BE TREATED AS PLASTIC (P) MATERIALS PER INDEX NO. 500 & 505.
- (9) STRATUM 3 SHALL BE TREATED AS HIGH PLASTIC (H) MATERIALS PER INDEX NO. 500 & 505.

REVIS IONS		GODWIN N. KNADL Ph.D., P.E. P.E. NO. 50637 NES 601 N. Hart Boulevard ORLANDO, FLORIDA 32818	ORANGE COUNTY PUBLIC WORKS	ROAD NO. COUNTY PROJECT ID SHERRY DRIVE ORANGE Y11-901B	ROADWAY SOIL SURVEY	SHEET NO.
DATE	DESCRIPTION					

USER: AD DATE: 12/28/12 TIME: 10:17 AM FILE: Z:\Roadway\Main\011\Sherry Drive\Road



- LEGEND**
- ① Brown to gray fine SAND to fine SAND with silt/clay, trace linerrock, (A-3)
  - ② Gray to brown clayey SAND, (A-2-6)
  - ③ Brown to gray sandy CLAY, (A-7-6)
  - GNE: Groundwater not encountered in the top 10 feet
  - ▽: Groundwater level encountered on date shown
  - ∇: Estimated seasonal high groundwater level
  - (A-3) A.A.S.H.T.O. Soil classification group symbol as determined by visual examination
  - Kh: Horizontal Infiltration Rate, feet/day



Correlation Between Hard Cone Penetrometer Readings & Consistency			
FINE SAND		CLAY	
Dial Reading (x10 <sup>-3</sup> inches)	Relative Compaction	Dial Reading (x10 <sup>-3</sup> inches)	Consistency
<6	Very Loose	0 to 1	Very Soft
6 to 11	Loose	1 to 2	Soft
11 to 20	Medium	2 to 4	Medium
20 to 30	Dense	4 to 6	Stiff
>30	Very Dense	6 to 11	Very Stiff
..	..	>11	Hard

USGS QUADRANGLE MAP: ORLANDO WEST, FLA  
SECTION: 33  
TOWNSHIP: 21 South  
RANGE: 29 East

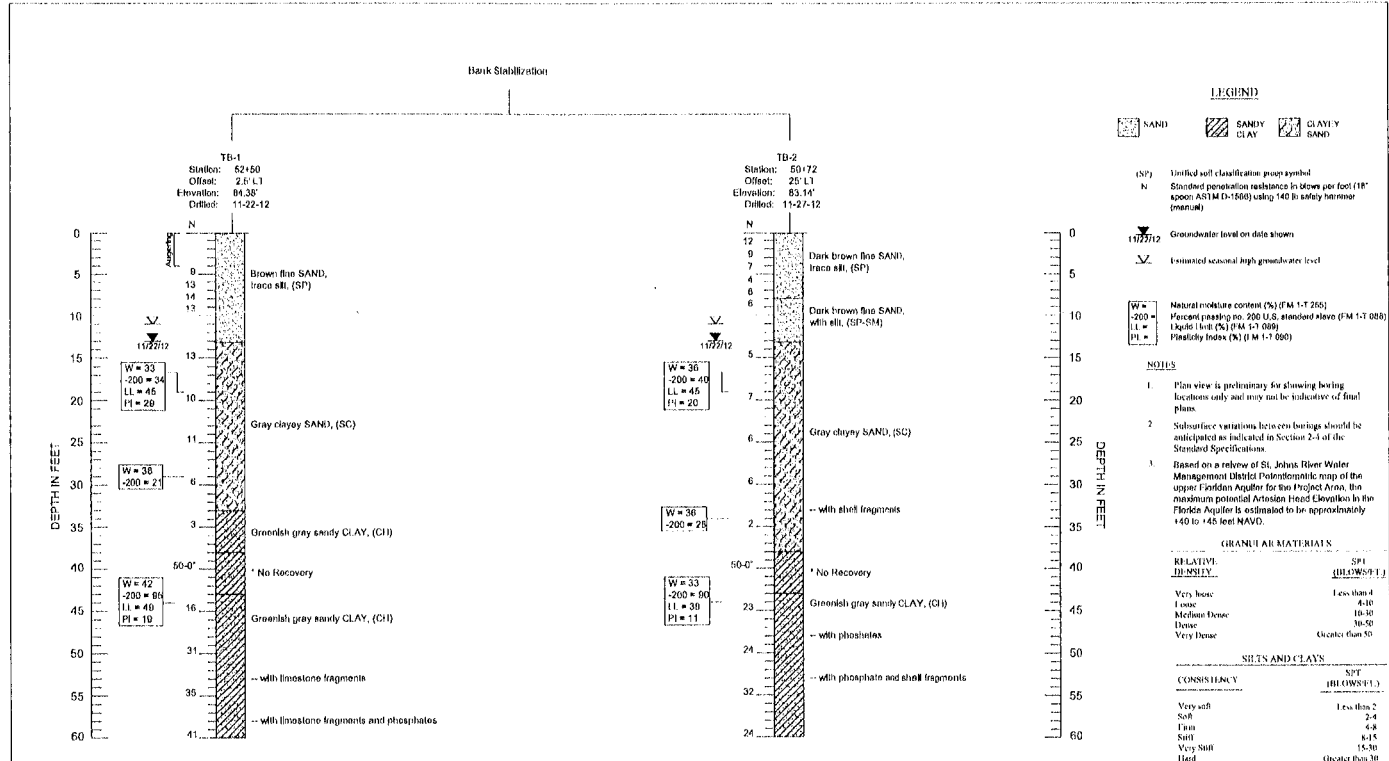
REVISIONS				NAMES		DATES		LOGGERS		PROJECT INFO	
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DATE	BY	PROJECT NO.	SHEET NO.

GOOWIN N. NNAOK, P.E., P.E.  
31 REGISTRATION NO. 50697  
MARIO TRINGOLINO, REGISTERED CIVIL ENGINEER  
460 N. HART HOLLOW ROAD  
ORLANDO, FL 32801  
PHONE: 321-477-1171 FAX: 407-521-1132  
CERTIFICATE OF AUTHORIZATION NO. 9211

ORANGE COUNTY PUBLIC WORKS

SHEET TITLE  
AUGER BORING PROFILES  
PROJECT NAME: Sherry Drive  
SHEET NO.: 187

Bank Stabilization



### LEGEND

	SAND		SANDY CLAY		CLAYEY SAND
--	------	--	------------	--	-------------

(SP) Unified soil classification group symbol  
 (SF) Standard penetration resistance in blow per foot (18" spoon ASTM D-1586) using 140 lb safety hammer (manual)

Groundwater level on date shown  
 Estimated seasonal high groundwater level

**W =** Natural moisture content (%) (FM 1-T-26)  
**L =** Percent passing no. 200 U.S. standard sieve (FM 1-T-028)  
**P =** Liquid Limit (%) (FM 1-T-009)  
**P<sub>L</sub> =** Plasticity Index (%) (FM 1-T-060)

**NOTES**

- Plan view is preliminary for showing boring locations only and may not be indicative of final plans.
- Subsurface variations between borings should be anticipated as indicated in Section 2-3 of the Standard Specifications.
- Based on a review of St. Johns River Water Management District Preliminary map of the upper Florida Aquifer for the Project Area, the maximum potential Artesian Head Elevation in the Florida Aquifer is estimated to be approximately +40 to +45 feet MWD.

**GRANULAR MATERIALS**

RELATIVE DENSITY	SPT (BLOWN/1)
Very loose	Less than 4
Loose	4-10
Medium Dense	10-30
Dense	30-50
Very Dense	Greater than 50

**SILTS AND CLAYS**

CONSISTENCY	SPT (BLOWN/1)
Very soft	Less than 2
Soft	2-4
Firm	4-8
Stiff	8-15
Very Stiff	15-30
Hard	Greater than 30

**ENVIRONMENTAL CLASSIFICATION**

SUBSTRUCTURE	SUPERSTRUCTURE

USGS QUADRANGLE MAP: ORLANDO WEST, FLA  
 SECTION: 33  
 TOWNSHIP: 21 South  
 RANGE: 29 East

REVISIONS		DATE		BY		DESCRIPTION	

<b>REVISED</b>	<b>DATE</b>	<b>BY</b>	<b>DESCRIPTION</b>
01/15/12	12/05/12	MSJ	
01/15/12	12/05/12	MSJ	
01/15/12	12/05/12	MSJ	
01/15/12	12/05/12	MSJ	

<b>REVISED</b>	<b>DATE</b>	<b>BY</b>	<b>DESCRIPTION</b>
01/15/12	12/05/12	MSJ	
01/15/12	12/05/12	MSJ	
01/15/12	12/05/12	MSJ	
01/15/12	12/05/12	MSJ	

<b>REVISED</b>	<b>DATE</b>	<b>BY</b>	<b>DESCRIPTION</b>
01/15/12	12/05/12	MSJ	
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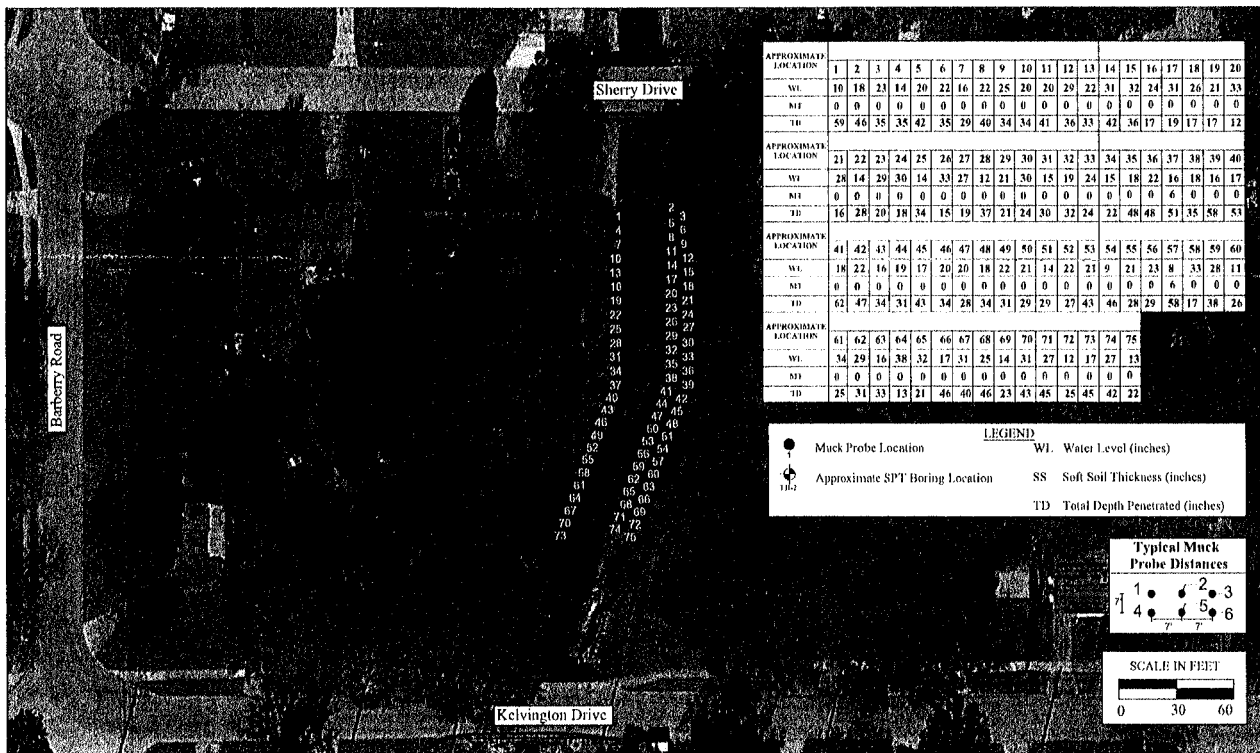
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01/15/12	12/05/12	MSJ	

<b>REVISED</b>	<b>DATE</b>	<b>BY</b>	<b>DESCRIPTION</b>
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01/15/12	12/05/12	MSJ	
01/15/12	12/05/12	MSJ	

<b>REVISED</b>	<b>DATE</b>	<b>BY</b>	<b>DESCRIPTION</b>
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01/15/12	12/05/12	MSJ	
01/15/12	12/05/12	MSJ	
01/15/12	12/05/12	MSJ	

<b>REVISED</b>	<b>DATE</b>	<b>BY</b>	<b>DESCRIPTION</b>
01/15/12	12/05/12	MSJ	
01/15/12	12/05/12	MSJ	
01/15/12	12/05/12	MSJ	
01/15/12	12/05/12	MSJ	

Z:\Projects\Borings\GIS\Sherry Dr



APPROXIMATE LOCATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
WL	10	18	21	14	20	22	16	22	25	20	20	29	22	31	32	24	31	26	21	33
SS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TD	59	46	35	35	42	35	29	40	34	34	41	36	33	42	36	17	19	17	17	12

APPROXIMATE LOCATION	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
WL	28	14	29	30	14	33	27	32	21	30	15	19	24	15	18	22	16	18	16	17
SS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TD	16	28	20	18	34	15	19	37	21	24	30	32	24	23	48	46	51	35	58	53

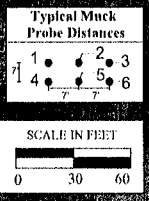
APPROXIMATE LOCATION	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
WL	18	22	16	19	17	20	20	18	22	21	14	22	21	9	21	23	8	53	28	11
SS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TD	61	47	34	31	43	34	28	34	31	29	29	27	43	46	28	29	58	17	38	26

APPROXIMATE LOCATION	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
WL	34	29	16	38	32	17	31	25	14	31	27	12	17	27	13
SS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TD	25	31	33	13	21	46	40	46	23	43	45	15	45	42	23

**LEGEND**

- Muck Probe Location
- Approximate SPT Boring Location
- WL: Water Level (inches)
- SS: Soft Soil Thickness (inches)
- TD: Total Depth Penetrated (inches)



REFERENCE: Google Earth 9/12

REVISIONS				DATE	BY	DESCRIPTION	NAME	JANET	ORANGE COUNTY PUBLIC WORKS	SHEET #	PROJECT NAME	ORANGE COUNTY	PROJECT NO.	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	NAME	JANET	ORANGE COUNTY PUBLIC WORKS	SHEET #	PROJECT NAME	ORANGE COUNTY	PROJECT NO.	SHEET NO.	
						Drawn by: JGA	08/25/11							
						Checked by: GSK	08/25/11							
						Designed by: N/A	N/A							
						Located by: N/A	N/A							
						Approved by:								

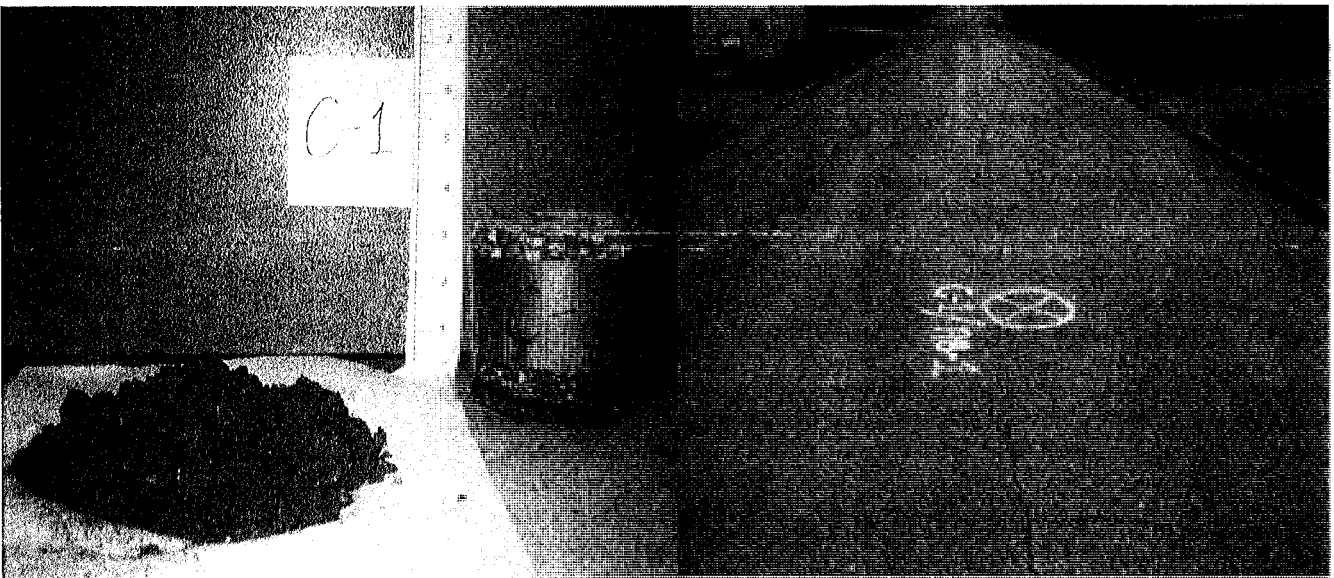
NOTICE: The accuracy of this plan sheet is the contractor's responsibility. The contractor shall be liable under the terms of the contract for any errors.



**Table 4**  
**State of Florida Department of Transportation**  
**PAVEMENT EVALUATION AND CONDITION DATA SHEET**

Project No.: R12016			Cored By: NES: RJ/SM						Date: 11-28-12			Page No.: 1 of 1												
County: Orange			Highway Sect. No.: --						From: --			To: --												
Road No.: Sherry Dr.			Begin: --						End M.P.: --			Length: --												
Core No.	Roadway	Approximate Station and Offset	Dist. From Left Edge of Lane	Lane	Wheel Path	Pavement Layer (in)					Base			Crack				Pavt Cond.	Rut Depth (in)	Cross Slope (%)	Comments			
						FC-6	TYPE S-1	TYPE S-3	Concrete	Core Length (in)	Type	Thickness (in)	Depth (in)	Type	Class	Extent								
C-1	Sherry Dr.	11+05, 1.1' RT	32"	R1	X	-	3.2	-	-	3.2	CS	6.0	FD	BL	H	S	P	0.3	2.4	Block cracks				
C-2	Sherry Dr.	15+61, 10.7' RT	-	-	-	-	3.5	-	0.8	4.3	LR	6.0	FD	BR	I	M	F	0.8	-	Branch cracks				
Remarks: CS = Compacted Sand Base LR = Limerock Base R1 = Northbound or Eastbound Inside Lane BL = Block Cracking BR = Branch Cracking P = Poor F = Fair S = Severe																								

## SHERRY DRIVE



Core No.: C-1

Baseline: Sherry Drive

Approx. Station & Offset: 11+4.91, 1.13' RT

Location: Eastbound Lane, R1

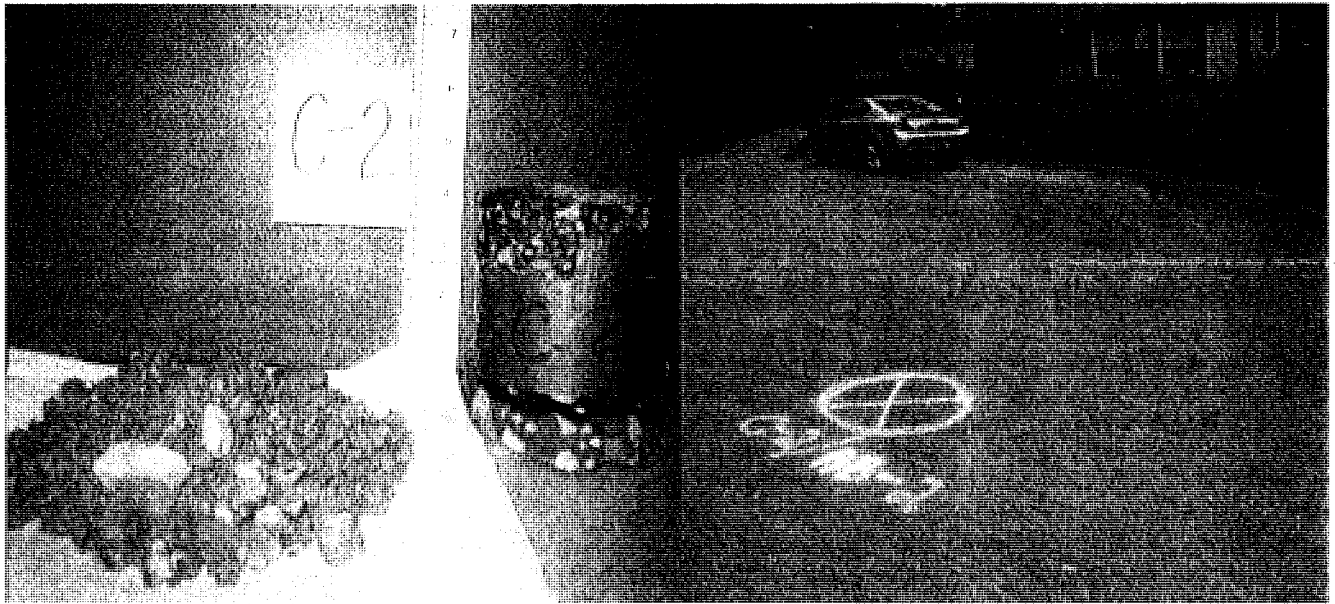
Thickness: 3.2 inches

Pavement Condition: Poor

Class II Block cracks

**Plate 1**

## SHERRY DRIVE



Core No.: C-2

Baseline: Sherry Drive

Approx. Station & Offset: 15+60.89, 10.68' RT

Location: Loop

Thickness: 4.3 inches

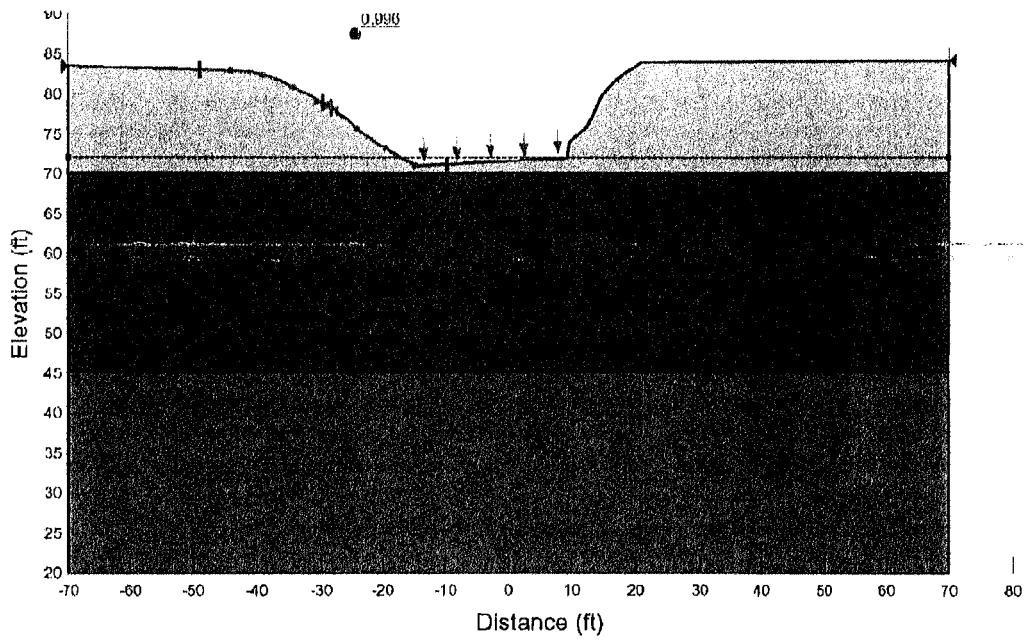
Pavement Condition: Fair

Class I Branch Cracks

**Plate 2**

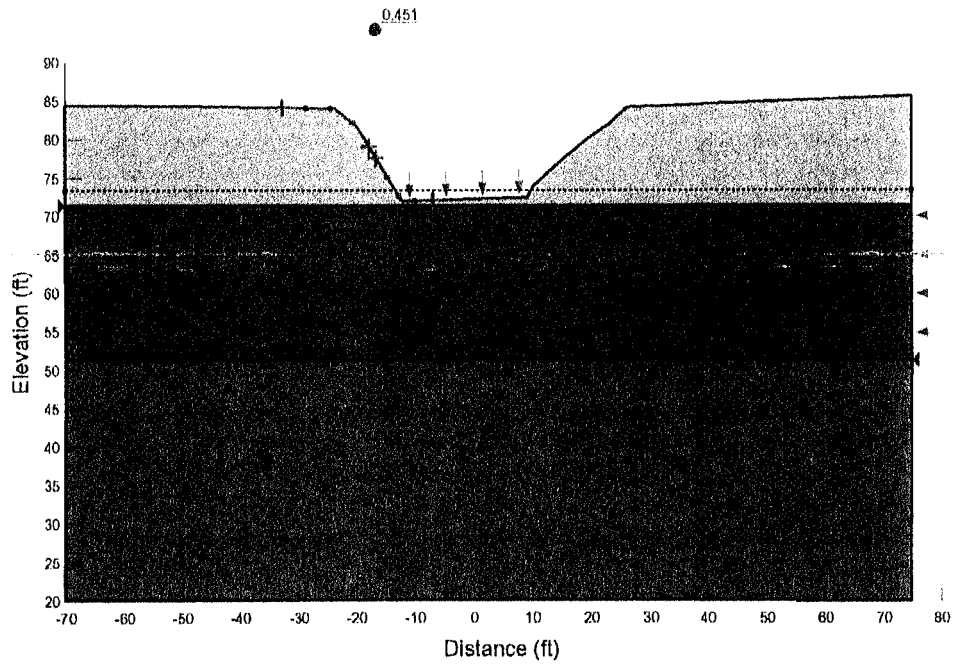


## Station 50+72 (Existing North Bank Slope)



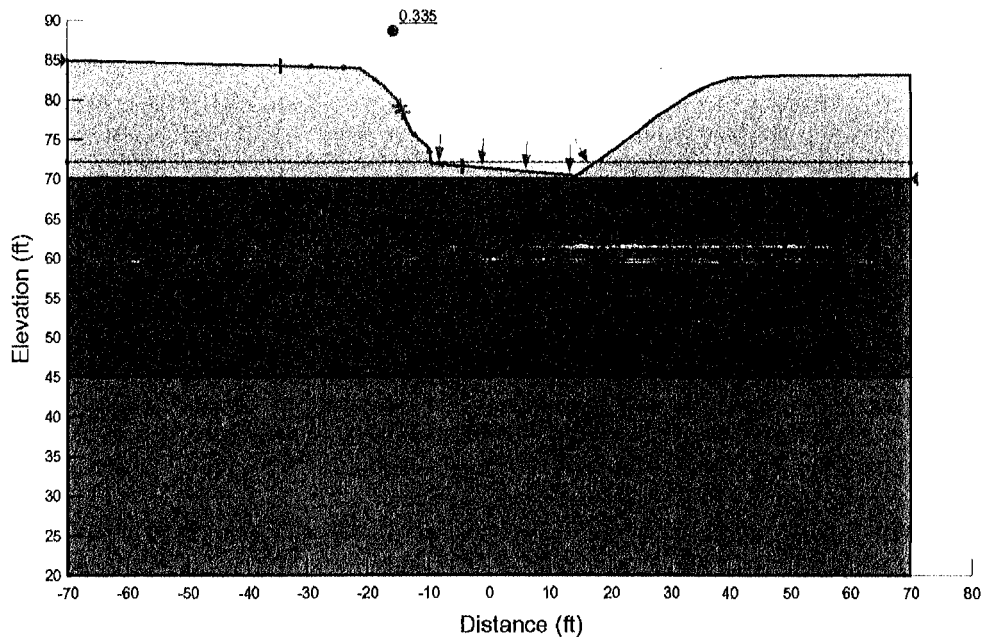
Boring No.	Depth (feet)	USCS	Eff. Unit Wt	Angle of Int. Friction	Cohesion
TB-1	0 - 11	SP	110	30	-
	11 - 33	SP, SC	42.6	-	350
	33 - 60	CH	52.6	-	2000

## Station 52+50 (Existing North Bank Slope)



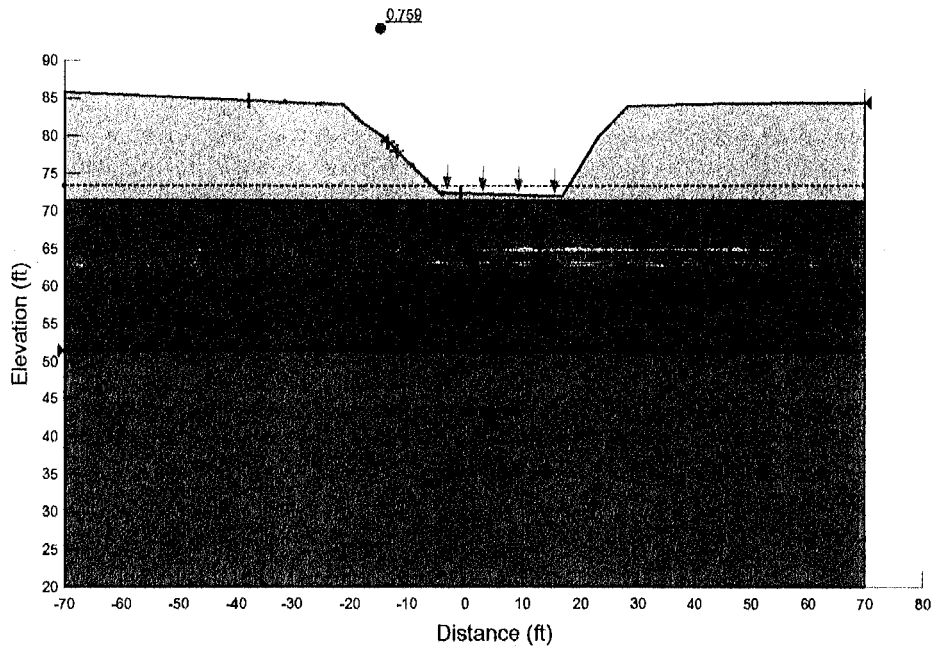
Boeing No.	Depth (feet)	USCS	Eff. Unit Wt	Angle of Int. Friction	Cohesion
	0 - 11	SP	110	30	-
TB-1	11 - 33	SP, SC	42.6	-	350
	33 - 60	CH	52.6	-	2000

### Station 50+72 (Existing South Bank Slope)



Boring No.	Depth (feet)	USCS	Eff. Unit Wt	Angle of Int. Friction	Cohesion
TB-1	0 - 11	SP	110	30	-
	11 - 33	SP, SC	42.6	-	350
	33 - 60	CH	52.6	-	2000

## Station 52+50 (Existing South Bank Slope)



Boring No.	Depth (ft)	USCS	Eff. Unit Wt	Angle of Int. Friction	Cohesion
TB-1	0 - 11	SP	110	30	-
	11 - 33	SP, SC	42.6	-	350
	33 - 60	CH	52.6	-	2000



DEPARTMENT OF THE ARMY  
JACKSONVILLE DISTRICT CORPS OF ENGINEERS  
400 HIGH POINT DRIVE, SUITE 600  
COCOA, FLORIDA 32926

March 24, 2017

REPLY TO  
ATTENTION OF

Regulatory Division  
North Permits Branch  
Cocoa Permits Section  
SAJ-2016-01693 (NW-JLC)

Ghulam Qadir  
Chief Engineer  
Orange County Public Works  
4200 S. John Young Parkway  
Orlando, Florida 32839

Dear Mr. Qadir:

Your application for a Department of the Army permit has been assigned number SAJ-2016-01693. A review of the information and drawings provided shows the proposed Little Wekiva River bank stabilization project involves the installation of approximately 480 linear feet of concrete block revetment on a 1.5:1 slope along the banks and bottom of the Little Wekiva River (RPW); replace two sets of gabions on the north side of Sherry Bridge; install two sets of rip rap rubble at either end of the block revetment and install 5 outfall pipes. The project is situated at the Sherry Drive Bridge in Section 33, Township 21 South, Range 29 East Orlando, Orange County, Florida.

Your project, as depicted on the enclosed drawings (Attachment 1), is authorized by Nationwide Permit Numbers 3, 12 and 13. In addition, project specific conditions have been enclosed. This verification is valid until **March 18, 2022**. Furthermore, if you commence or are under contract to commence this activity before the date that the relevant nationwide permit is modified or revoked, you will have 12 months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this nationwide permit. Please access the U.S. Army Corps of Engineers' (Corps) Jacksonville District's Regulatory Internet page to access Internet links to view the Final Nationwide Permits, Federal Register Vol. 82, dated January 6, 2017, specifically pages 1983 to 2008, and the table of Regional Conditions. The Internet page address is:

<http://www.saj.usace.army.mil/Divisions/Regulatory/sourcebook.htm>.

Please be aware this web address is case sensitive and should be entered as it appears above. Once there you will need to click on "Nationwide Permits." These files contain the description of the Nationwide Permit authorization, the Nationwide Permit general conditions, and the regional conditions, which apply specifically to this verification for NWP's 3, 12 and 13. Enclosed is a list of the six General Conditions, which apply to all Department of the Army authorizations. You must comply with all of the special and general conditions and any project specific condition of this authorization or you may be subject to enforcement action. In the event you have not completed construction of your project within the specified time limit, a separate application or re-verification may be required.

The following special conditions are included with this verification:

**1. Reporting Address:** The Permittee shall submit all reports, notifications, documentation and correspondence required by the general and special conditions of this permit to the following address:

a. For standard mail: U.S. Army Corps of Engineers, Regulatory Division, Special Projects and Enforcement Branch, 10117 Princess Palm Avenue, Suite 120, Tampa, FL 33610-8302.

b. For electronic mail: CESAJ-ComplyDocs@usace.army.mil (not to exceed 10 MB), and to Tracy.E.Hurst@usace.army.mil

c.) The Permittee shall reference this permit number, SAJ-2016-01693 (NW-3, 12 and 13) on all submittals.

**2. Commencement Notification:** Within 10 days from the date of initiating the authorized work, the Permittee shall provide to the Corps a written notification of the date of commencement of work authorized by this permit.

**3. Completion Notification:** Within 60 days of completion of the work authorized, the attached "Self-Certification Statement of Compliance" must be completed and submitted to the U.S. Army Corps of Engineers.

**4. Cultural Resources/Historic Properties:**

a. No structure or work shall adversely affect impact or disturb properties listed in the *National Register of Historic Places* (NRHP) or those eligible for inclusion in the NRHP.

b. If during the ground disturbing activities and construction work within the permit area, there are archaeological/cultural materials encountered which were not the subject of a previous cultural resources assessment survey (and which shall include, but not be limited to: pottery, modified shell, flora, fauna, human remains, ceramics, stone tools or metal implements, dugout canoes, evidence of structures or any other physical remains that could be associated with Native American cultures or early colonial or American settlement), the Permittee shall immediately stop all work and ground-disturbing activities within a 100-meter diameter of the discovery and notify the Corps within the same business day (8 hours). The Corps shall then notify the Florida State Historic Preservation Officer (SHPO) and the appropriate Tribal Historic Preservation Officer(s) (THPO(s)) to assess the significance of the discovery and devise appropriate actions.

c. Additional cultural resources assessments may be required of the permit area in the case of unanticipated discoveries as referenced in accordance with the above

Special Condition ; and if deemed necessary by the SHPO, THPO(s), or Corps, in accordance with 36 CFR 800 or 33 CFR 325, Appendix C (5). Based, on the circumstances of the discovery, equity to all parties, and considerations of the public interest, the Corps may modify, suspend or revoke the permit in accordance with 33 CFR Part 325.7. Such activity shall not resume on non-federal lands without written authorization from the SHPO for finds under his or her jurisdiction, and from the Corps.

d. In the unlikely event that unmarked human remains are identified on non-federal lands, they will be treated in accordance with Section 872.05 Florida Statutes. All work and ground disturbing activities within a 100-meter diameter of the unmarked human remains shall immediately cease and the Permittee shall immediately notify the medical examiner, Corps, and State Archeologist within the same business day (8-hours). The Corps shall then notify the appropriate SHPO and THPO(s). Based, on the circumstances of the discovery, equity to all parties, and considerations of the public interest, the Corps may modify, suspend or revoke the permit in accordance with 33 CFR Part 325.7. Such activity shall not resume without written authorization from the State Archeologist and from the Corps.

**5. Erosion Control and Turbidity:** Prior to the initiation of any work authorized by this permit, the Permittee shall install erosion control devices and turbidity barriers around all work areas to prevent fill material and any erodible ground surface from being displaced into adjacent wetlands or surface waters. Immediately (within 24 hours) after completion of the final grading of the land surface, all slopes, land surfaces, and filled areas shall be stabilized using sod, degradable mats, barriers, or a combination of similar stabilizing materials to prevent erosion. The erosion control measures shall remain in place and be maintained until all authorized work has been completed and the site has been stabilized.

**6. Regulatory Agency Changes:** Should any other regulatory agency require changes to the work authorized or obligated by this permit, the Permittee is advised that a modification to this permit instrument is required prior to initiation of those changes. It is the Permittee's responsibility to request a modification of this permit from the Cocoa Regulatory Office.

**7. Eastern Indigo Snake Protection Measures:** The Permittee shall comply with U.S. Fish and Wildlife Service's "Standard Protection Measures for the Eastern Indigo Snake" dated August 12, 2013 and provided in Attachment 2 of this permit.

This letter of authorization does not obviate the necessity to obtain any other Federal, State, or local permits, which may be required. Prior to the initiation of any construction, projects qualifying for this Nationwide permit must qualify for an exemption under section 403.813(1), F.S. or 373.406, F.S., or otherwise be authorized by the applicable permit required under Part IV of Chapter 373, F.S., by the Department of Environmental Protection, a water management district under section 373.069, F.S., or a local government with delegated authority under section 373.441, F.S., and receive

Water Quality Certification (WQC) and applicable Coastal Zone Consistency Concurrence (CZCC) or waiver thereto, as well as any authorizations required for the use of state-owned submerged lands under Chapter 253, F.S., and, as applicable, Chapter 258, F.S. You should check State-permitting requirements with the Florida Department of Environmental Protection or the appropriate water management district.

This letter of authorization does not include conditions that would prevent the 'take' of a state-listed fish or wildlife species. These species are protected under sec. 379.411, Florida Statutes, and listed under Rule 68A-27, Florida Administrative Code. With regard to fish and wildlife species designated as species of special concern or threatened by the State of Florida, you are responsible for coordinating directly with the Florida Fish and Wildlife Conservation Commission (FWC). You can visit the FWC license and permitting webpage (<http://www.myfwc.com/license/wildlife/>) for more information, including a list of those fish and wildlife species designated as species of special concern or threatened. The Florida Natural Areas Inventory (<http://www.fnai.org/>) also maintains updated lists, by county, of documented occurrences of those species.

This letter of authorization does not give absolute Federal authority to perform the work as specified on your application. The proposed work may be subject to local building restrictions mandated by the National Flood Insurance Program. You should contact your local office that issues building permits to determine if your site is located in a flood-prone area, and if you must comply with the local building requirements mandated by the National Flood Insurance Program.

If you are unable to access the internet or require a hardcopy of any of the conditions, limitations, or expiration date for the above referenced NWP, please contact Jim Carr by telephone at 321-504-3771, Extension 26.

Thank you for your cooperation with our permit program. The Corps Jacksonville District Regulatory Division is committed to improving service to our customers. We strive to perform our duty in a friendly and timely manner while working to preserve our environment. We invite you to take a few minutes to visit <http://per2.nwp.usace.army.mil/survey.html> and complete our automated Customer Service Survey. Your input is appreciated – favorable or otherwise. Again, please be aware this web address is case sensitive and should be entered as it appears above.

Sincerely,  
CARR.JAMES.LAWS  
ON.II.1216431711  
James L. Carr II  
Project Manager

Digitally signed by  
CARR.JAMES.LAWSON.II.1216431711  
DN: c=US, o=U.S. Government, ou=DoD,  
ou=PKI, ou=USA  
cn=CARR.JAMES.LAWSON.II.1216431711  
Date: 2017.03.24 13:07:02 -04'00'

Enclosures  
Copies Furnished: CESAJ-RD-PE



GENERAL CONDITIONS  
33 CFR PART 320-330  
PUBLISHED FEDERAL REGISTER DATED 13 NOVEMBER 1986

1. The time limit for completing the work authorized ends on March 18, 2022. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow a representative from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

**SELF-CERTIFICATION STATEMENT OF COMPLIANCE**

Permit Number: NW-3, 12, 13  
Application Number: SAJ-2016-01693

Permittee's Name & Address (please print or type): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Telephone Number: \_\_\_\_\_

Location of the Work: \_\_\_\_\_

\_\_\_\_\_

Date Work Started: \_\_\_\_\_ Date Work Completed: \_\_\_\_\_

Description of the Work (e.g., bank stabilization, residential or commercial filling, docks, dredging, etc.): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Acreage or Square Feet of Impacts to Waters of the United States:

\_\_\_\_\_

Describe Mitigation completed (if applicable): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Describe any Deviations from Permit (attach drawing(s) depicting the deviations):

\_\_\_\_\_  
\_\_\_\_\_

\*\*\*\*\*

I certify that all work, and mitigation (if applicable) was done in accordance with the limitations and conditions as described in the permit. Any deviations as described above are depicted on the attached drawing(s).

\_\_\_\_\_  
Signature of Permittee

\_\_\_\_\_  
Date

**DEPARTMENT OF THE ARMY PERMIT TRANSFER REQUEST**

**PERMIT NUMBER: SAJ-2016-01693(NW-JLC)**

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. Although the construction period for works authorized by Department of the Army permits is finite, the permit itself, with its limitations, does not expire.

To validate the transfer of this permit and the associated responsibilities associated with compliance with its terms and conditions, have the transferee sign and date below and mail to the U.S. Army Corps of Engineers, Enforcement Section, Post Office Box 4970, Jacksonville, FL 32232-0019.

\_\_\_\_\_  
(TRANSFEREE-SIGNATURE)

\_\_\_\_\_  
(SUBDIVISION)

\_\_\_\_\_  
(DATE)

\_\_\_\_\_  
(LOT)

\_\_\_\_\_  
(BLOCK)

\_\_\_\_\_  
(STREET ADDRESS)

\_\_\_\_\_  
(NAME-PRINTED)

\_\_\_\_\_  
(MAILING ADDRESS)

\_\_\_\_\_  
(CITY, STATE, ZIP CODE)

**STANDARD PROTECTION MEASURES FOR THE EASTERN INDIGO SNAKE**  
**U.S. Fish and Wildlife Service**  
**August 12, 2013**

The eastern indigo snake protection/education plan (Plan) below has been developed by the U.S. Fish and Wildlife Service (USFWS) in Florida for use by applicants and their construction personnel. At least **30 days prior** to any clearing/land alteration activities, the applicant shall notify the appropriate USFWS Field Office via e-mail that the Plan will be implemented as described below (North Florida Field Office: [jaxregs@fws.gov](mailto:jaxregs@fws.gov); South Florida Field Office: [verobeach@fws.gov](mailto:verobeach@fws.gov); Panama City Field Office: [panamacity@fws.gov](mailto:panamacity@fws.gov)). As long as the signatory of the e-mail certifies compliance with the below Plan (including use of the attached poster and brochure), no further written confirmation or “approval” from the USFWS is needed and the applicant may move forward with the project.

If the applicant decides to use an eastern indigo snake protection/education plan other than the approved Plan below, written confirmation or “approval” from the USFWS that the plan is adequate must be obtained. At least 30 days prior to any clearing/land alteration activities, the applicant shall submit their unique plan for review and approval. The USFWS will respond via e-mail, typically within 30 days of receiving the plan, either concurring that the plan is adequate or requesting additional information. A concurrence e-mail from the appropriate USFWS Field Office will fulfill approval requirements.

The Plan materials should consist of: 1) a combination of posters and pamphlets (see **Poster Information** section below); and 2) verbal educational instructions to construction personnel by supervisory or management personnel before any clearing/land alteration activities are initiated (see **Pre-Construction Activities** and **During Construction Activities** sections below).

**POSTER INFORMATION**

Posters with the following information shall be placed at strategic locations on the construction site and along any proposed access roads (a final poster for Plan compliance, to be printed on 11” x 17” or larger paper and laminated, is attached):

**DESCRIPTION:** The eastern indigo snake is one of the largest non-venomous snakes in North America, with individuals often reaching up to 8 feet in length. They derive their name from the glossy, blue-black color of their scales above and uniformly slate blue below. Frequently, they have orange to coral reddish coloration in the throat area, yet some specimens have been reported to only have cream coloration on the throat. These snakes are not typically aggressive and will attempt to crawl away when disturbed. Though indigo snakes rarely bite, they should NOT be handled.

**SIMILAR SNAKES:** The black racer is the only other solid black snake resembling the eastern indigo snake. However, black racers have a white or cream chin, thinner bodies, and **WILL BITE** if handled.

**LIFE HISTORY:** The eastern indigo snake occurs in a wide variety of terrestrial habitat types throughout Florida. Although they have a preference for uplands, they also utilize some wetlands

and agricultural areas. Eastern indigo snakes will often seek shelter inside gopher tortoise burrows and other below- and above-ground refugia, such as other animal burrows, stumps, roots, and debris piles. Females may lay from 4 - 12 white eggs as early as April through June, with young hatching in late July through October.

**PROTECTION UNDER FEDERAL AND STATE LAW:** The eastern indigo snake is classified as a Threatened species by both the USFWS and the Florida Fish and Wildlife Conservation Commission. "Taking" of eastern indigo snakes is prohibited by the Endangered Species Act without a permit. "Take" is defined by the USFWS as an attempt to kill, harm, harass, pursue, hunt, shoot, wound, trap, capture, collect, or engage in any such conduct. Penalties include a maximum fine of \$25,000 for civil violations and up to \$50,000 and/or imprisonment for criminal offenses, if convicted.

Only individuals currently authorized through an issued Incidental Take Statement in association with a USFWS Biological Opinion, or by a Section 10(a)(1)(A) permit issued by the USFWS, to handle an eastern indigo snake are allowed to do so.

**IF YOU SEE A LIVE EASTERN INDIGO SNAKE ON THE SITE:**

- Cease clearing activities and allow the live eastern indigo snake sufficient time to move away from the site without interference;
- Personnel must NOT attempt to touch or handle snake due to protected status.
- Take photographs of the snake, if possible, for identification and documentation purposes.
- Immediately notify supervisor or the applicant's designated agent, **and** the appropriate USFWS office, with the location information and condition of the snake.
- If the snake is located in a vicinity where continuation of the clearing or construction activities will cause harm to the snake, the activities must halt until such time that a representative of the USFWS returns the call (within one day) with further guidance as to when activities may resume.

**IF YOU SEE A DEAD EASTERN INDIGO SNAKE ON THE SITE:**

- Cease clearing activities and immediately notify supervisor or the applicant's designated agent, **and** the appropriate USFWS office, with the location information and condition of the snake.
- Take photographs of the snake, if possible, for identification and documentation purposes.
- Thoroughly soak the dead snake in water and then freeze the specimen. The appropriate wildlife agency will retrieve the dead snake.

**Telephone numbers of USFWS Florida Field Offices to be contacted if a live or dead eastern indigo snake is encountered:**

**North Florida Field Office – (904) 731-3336**

**Panama City Field Office – (850) 769-0552**

**South Florida Field Office – (772) 562-3909**

### **PRE-CONSTRUCTION ACTIVITIES**

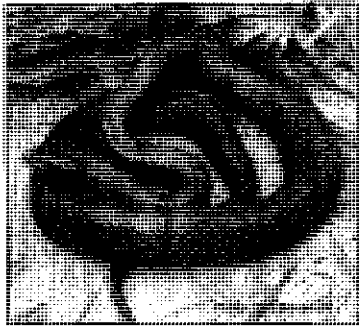
1. The applicant or designated agent will post educational posters in the construction office and throughout the construction site, including any access roads. The posters must be clearly visible to all construction staff. A sample poster is attached.
2. Prior to the onset of construction activities, the applicant/designated agent will conduct a meeting with all construction staff (annually for multi-year projects) to discuss identification of the snake, its protected status, what to do if a snake is observed within the project area, and applicable penalties that may be imposed if state and/or federal regulations are violated. An educational brochure including color photographs of the snake will be given to each staff member in attendance and additional copies will be provided to the construction superintendent to make available in the onsite construction office (a final brochure for Plan compliance, to be printed double-sided on 8.5" x 11" paper and then properly folded, is attached). Photos of eastern indigo snakes may be accessed on USFWS and/or FWC websites.
3. Construction staff will be informed that in the event that an eastern indigo snake (live or dead) is observed on the project site during construction activities, all such activities are to cease until the established procedures are implemented according to the Plan, which includes notification of the appropriate USFWS Field Office. The contact information for the USFWS is provided on the referenced posters and brochures.

### **DURING CONSTRUCTION ACTIVITIES**

1. During initial site clearing activities, an onsite observer may be utilized to determine whether habitat conditions suggest a reasonable probability of an eastern indigo snake sighting (example: discovery of snake sheds, tracks, lots of refugia and cavities present in the area of clearing activities, and presence of gopher tortoises and burrows).
2. If an eastern indigo snake is discovered during gopher tortoise relocation activities (i.e. burrow excavation), the USFWS shall be contacted within one business day to obtain further guidance which may result in further project consultation.
3. Periodically during construction activities, the applicant's designated agent should visit the project area to observe the condition of the posters and Plan materials, and replace them as needed. Construction personnel should be reminded of the instructions (above) as to what is expected if any eastern indigo snakes are seen.

### **POST CONSTRUCTION ACTIVITIES**

Whether or not eastern indigo snakes are observed during construction activities, a monitoring report should be submitted to the appropriate USFWS Field Office within 60 days of project completion. The report can be sent electronically to the appropriate USFWS e-mail address listed on page one of this Plan.



# **ATTENTION:**

## **THREATENED EASTERN INDIGO SNAKES MAY BE PRESENT ON THIS SITE!!!**

### **IF YOU SEE A LIVE EASTERN INDIGO SNAKE ON THE SITE:**

- Cease clearing activities and allow the eastern indigo snake sufficient time to move away from the site without interference.
- Personnel must NOT attempt to touch or handle snake due to protected status.
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- Immediately notify supervisor or the applicant's designated agent, **and** the appropriate U.S. Fish and Wildlife Service (USFWS) office, with the location information and condition of the snake.
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**Panama City Field Office – (850) 769-0552**

**South Florida Field Office – (772) 562-3909**

### **Killing, harming, or harassing indigo snakes is strictly prohibited and punishable under State and Federal Law.**

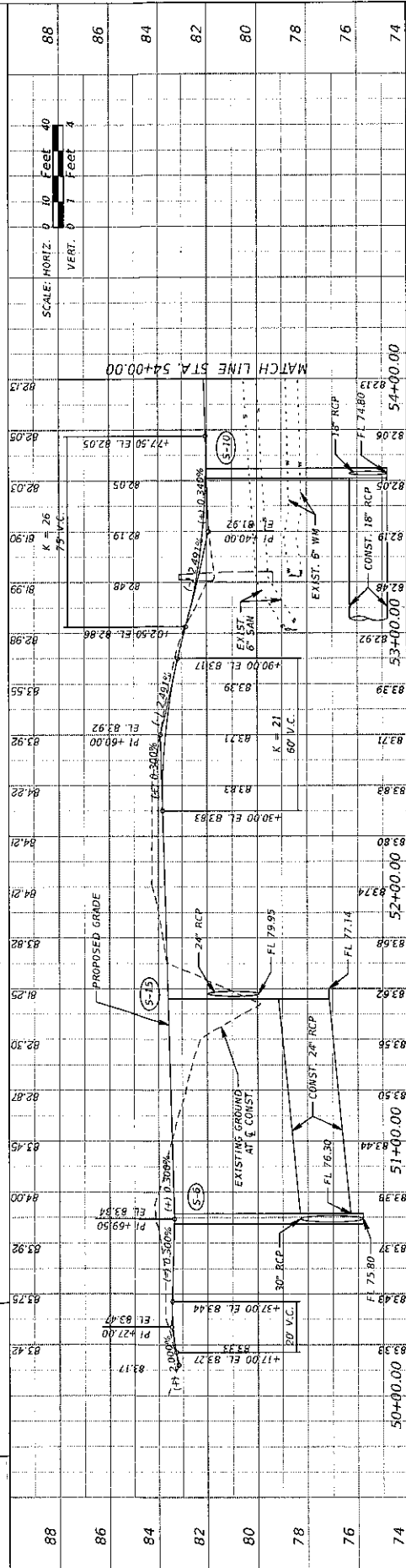
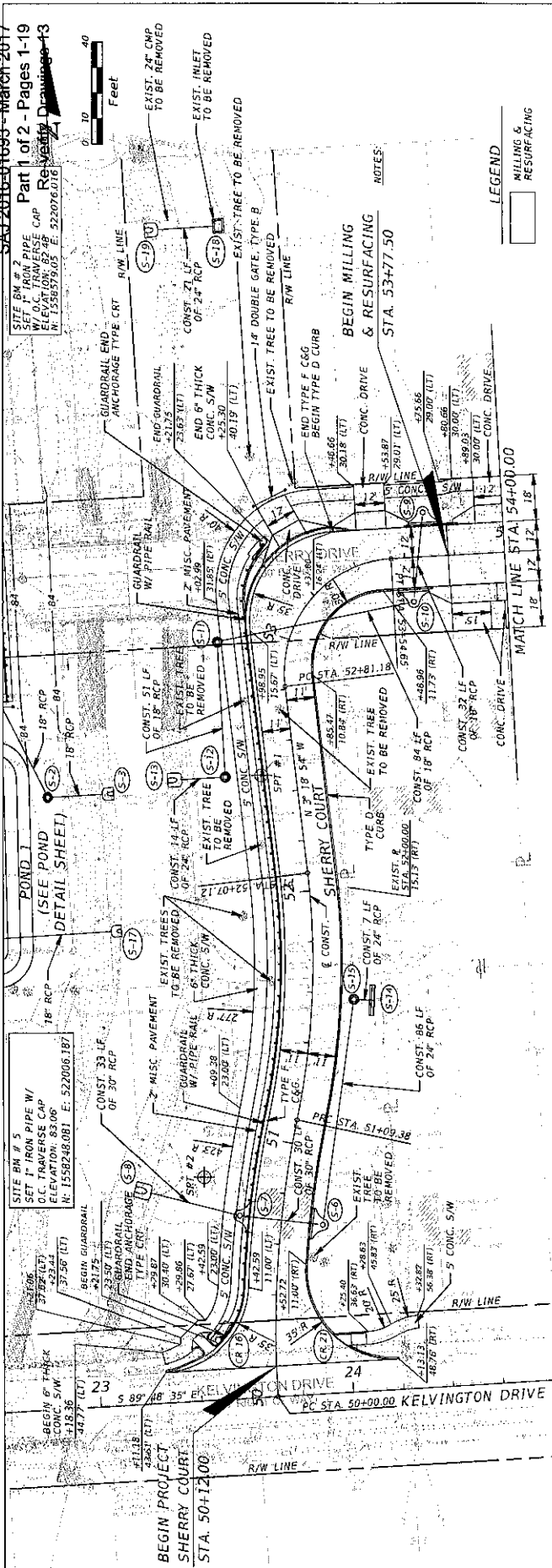
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DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION
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74	50+00.00			

**SHERRY COURT**  
**PLAN AND PROFILE**  
**STA. 50+00.00 TO STA. 54+00.00**

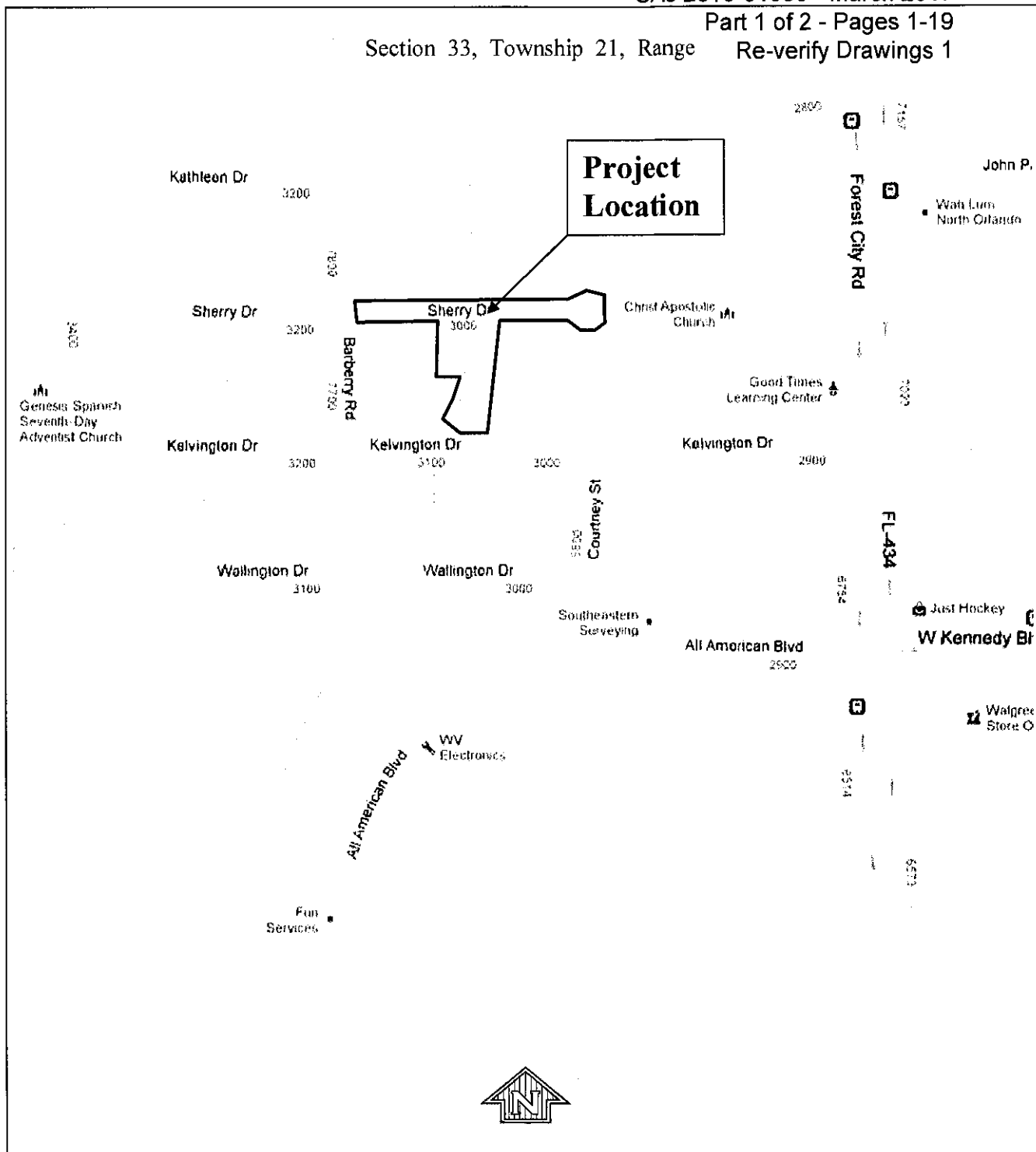
**ORANGE COUNTY PUBLIC WORKS**

GTC PROJECT NO. 2722  
 SHERRY DRIVE REPLACEMENT  
 FLO 11.10

GTC ENGINEERING CORPORATION  
 16 South Bascom Blvd., Suite #1, 3187  
 Palo Alto, CA 94304  
 Charles L. Cummings, P.E.  
 Civil Engineer (No. 47533)  
 License No. 47533

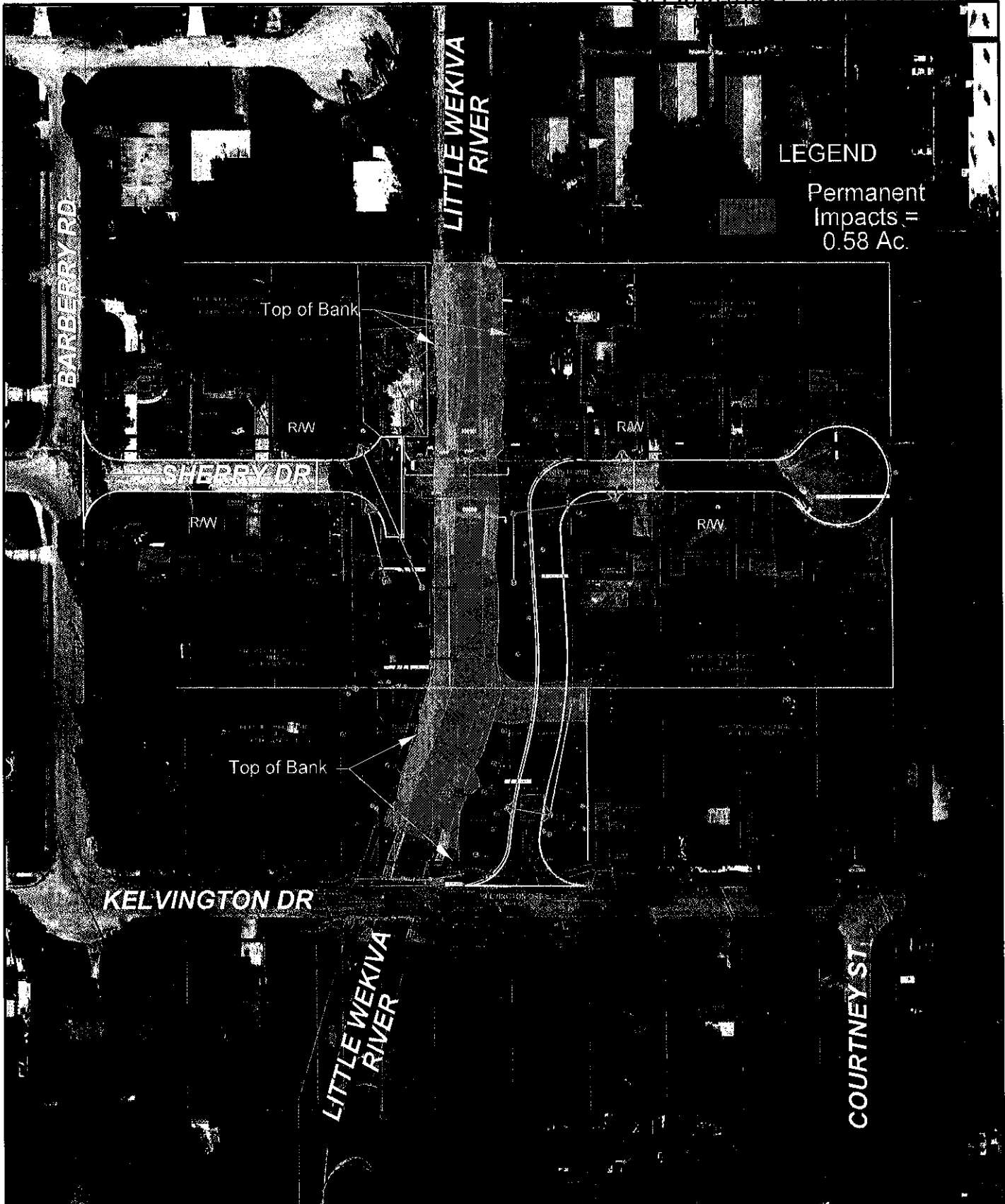
DATE: 4/2/2016 10:03:04 PM  
 FILE: H:\WORK\1710110-SHR\1710110-V000\DWG\PLR002.dgn





**GTC Engineering Corporation**  
98 South Semoran Boulevard  
Orlando, FL 32807  
407-380-0402

**Sherry Drive  
Bridge Replacement**  
**Orange County, Florida**  
**Location Map**



LEGEND

Permanent Impacts = 0.58 Ac.

Top of Bank

RW

RW

Top of Bank

RW

KELVINGTON DR

LITTLE WEKIVA RIVER

COURTNEY ST

SCALE: 1"=100'

GTC Engineering Corporation

98 South Semoran Blvd, Orlando, FL 32807 407-380-0402

Orange County

Florida

SURFACE WATER IMPACTS Sherry Drive Bridge Replacement

Certificate of Authorization Number 6758 Claude L. Cassagnol, P.E. P.E. Number 35490

BY CMY	DATE 03-09-16	JOB NUMBER FLO-11,10	SHEET 1 of 1
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THARSA JAVORS, COUNTY MAYOR

**BOARD OF COUNTY COMMISSIONERS**

- S. SCOTT BOYD DISTRICT 1
- BRYAN NELSON DISTRICT 2
- FETE LARKE DISTRICT 3
- JENNIFER THOMPSON DISTRICT 4
- TED EDWARDS DISTRICT 5
- VICTORIA F. SHULIN DISTRICT 6

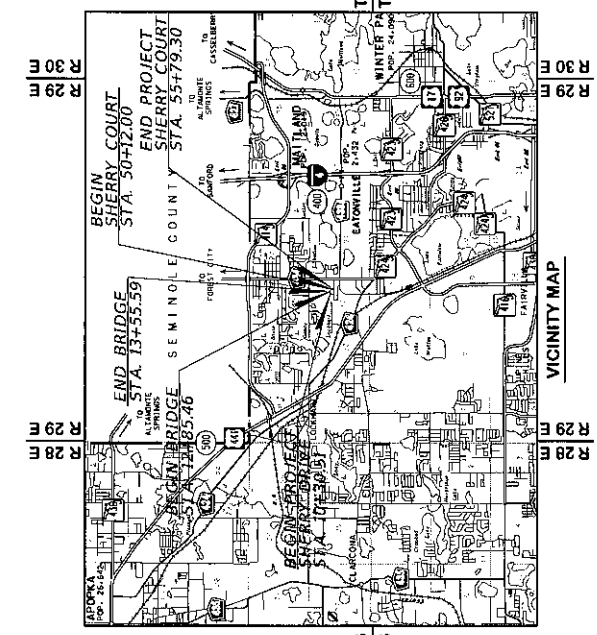
MARK V. MASSARO, P.E., PUBLIC WORKS DIRECTOR

GOVERNING STANDARDS AND SPECIFICATIONS:  
FLORIDA DEPARTMENT OF TRANSPORTATION  
DESIGN STANDARDS DATED 2006 FOR ROAD AND  
BRIDGE CONSTRUCTION DATED 2006, AS AMENDED  
BY CONTRACT DOCUMENTS.

NOTE: THE SCALE OF THESE PLANS MAY HAVE  
CHANGED DUE TO REPRODUCTION.

**CONSTRUCTION PLANS FOR  
SHERRY DRIVE BRIDGE REPLACEMENT**

**ORANGE COUNTY - DISTRICT NO. 2  
PROJECT NO: 2722**



**NOTE:**  
PLANS WERE PREPARED ACCORDING TO AVAILABLE INFORMATION TO ACCURATELY  
ADDRESS CONDITIONS AS THEY EXISTED AT THE TIME OF PLANS PREPARATION.  
NEEDS, CONDITIONS AND OWNERSHIP OF PROPERTIES MAY HAVE CHANGED SINCE  
PROJECT DESIGN. THE COUNTY REPRESENTATIVE WILL ADDRESS CHANGES AND  
SHALL WORK WITH THE COUNTY'S REPRESENTATIVE IN ADDRESSING AND MEETING  
NEEDS AND CONDITIONS THAT MAY HAVE CHANGED SINCE PLANS PREPARATION.

**CERTIFICATION TO PLANS**

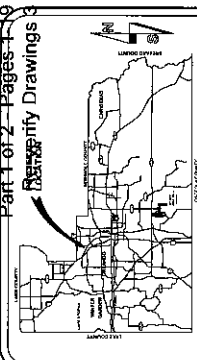
I HEREBY CERTIFY that the plans for this project and the attached specification provisions are in substantial accordance with  
the requirements of Section 336.045 of the Florida Statutes and are in substantial accordance with  
the standards established in the articles of the "Manual of Uniform Minimum Standards for Design  
Construction and Maintenance of Streets and Highways". In effect on this date as required by  
Florida Department of Transportation pursuant to Subsection 336.045(1) of the Florida Statutes.

DATE: \_\_\_\_\_ ENGINEER: CLAUDE L. CASSANOVI, P.E. REG. NO. 35490  
SITE OF: SHERRY COURT

**LENGTH OF PROJECT**

TYPE OF PROJECT	LENGTH, FT.	MILES
NEW PAVEMENT	892.00	0.017
ASPHALT PAVEMENT	0.00	0.000
CROSS LENGTH OF BRIDGE	892.00	0.169

**SOURCE OF BENCH MARK DATUM**  
THE SOURCE BENCHMARKS USED ARE BASED ON ORANGE COUNTY 88 DATUM:  
5-639-016 - RECOVERED 3" ORANGE COUNTY BRASS DISC IN C/L OF CONCRETE  
HEADWALL AT S.E. CORNER OF MAGNOLIA HOMES ROAD AND DR. LOVE ROAD.  
ELEVATION: 99.866  
L-831-009 - RECOVERED 3" BRASS DISC "CORPS OF ENGINEER U.S. ARMY"  
STAMPED "1NR-6 YEAR 1959 IN N.E. CORNER OF BRIDGE, N. SIDE OF  
KELVINGTON DR.  
ELEVATION: 83.172



SEC. 33 TWP. 21 S. RGE. 29 E

**LOCATION MAP**

**INDEX OF SHEETS**

SHEET	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES
3	PLANS AND DETAILS
4	SUMMARY OF VAL TEARS
5	DRAINAGE MAP
6-7	TYPICAL SECTIONS
8	SUMMARY OF DIMENSIVE STRUCTURES
9-11	DEMOLITION PLAN
12	PLAN AND PROFILE SHEETS
13	CANAL BANK PROTECTION PLAN & DETAILS
13A - 13D	DRAINAGE STRUCTURE SHEET
14-17	GROSS SECTIONS
18-21	GEOTECHNICAL SHEETS
22-24	POND CROSS SECTIONS
25-27	ADDITIONAL CANAL CROSS SECTIONS
28-29	STORMWATER POLLUTION PREVENTION PLAN
30-31	CONSTRUCTION SCHEDULE PLAN
41-43	MAINTENANCE PLAN
44-47	SIGNING AND PAVEMENT MARKING PLANS
5-1 TO 5-3	SC-1 SURVEY CONTROL SHEET

**UTILITIES ENCOUNTERED**

PROGRESS ENERGY	407-772-5308
BRIGHT HOUSE NETWORKS	407-532-8500
CONCAST	352-315-8528
LAKE APOPKA NATURAL GAS	407-656-2734
ORANGE COUNTY UTILITIES	407-251-0700
AT&T DISTRIBUTION	407-380-0938

**GTC Engineering Corporation**

94 South Semoran Blvd, Orlando, FL 32807  
Phone Number - 407.380.6402  
Claude L. Cassanovi, P.E.  
Certificate of Authorization  
Number 6758  
P.E. Number 34990

**REVISIONS**

NO.	DATE	BY

DESIGNED BY	CHECKED BY	DATE
CLAUDE L. CASSANOVI	CLAUDE L. CASSANOVI	04/26/16
APPROVED BY	DATE	PROJECT NO.
CLAUDE L. CASSANOVI, P.E.	04/26/16	2722

SHEET 1 OF 57

**100% SUBMITTAL  
APRIL, 2016**

Attachment 1 - Permit Drawings  
 SAJ-2016-01693 - March 2017  
 Part 1 of 2 - Pages 1-19  
 Re-venty Drawings 4

GENERAL NOTES

- (1) ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH AND CONFORM TO THE MOST STRINGENT REQUIREMENT OF THE PROJECT SPECIFICATIONS, THE YEAR 2016 EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (FDOT), AND SUPPLEMENTS THERETO, AND ORANGE COUNTY ROAD CONSTRUCTION SPECIFICATIONS.
- (2) SURVEYING INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FOR USE IN ESTABLISHING DESIGN CONTROL FOR THE PROJECT. THE ACCURACY OF THIS INFORMATION IS NOT GUARANTEED AND IS NOT TO BE CONSIDERED AS PART OF THE PLANS GOVERNING CONSTRUCTION OF THE PROJECT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INQUIRE OF THE ENGINEER IF ADDITIONAL INFORMATION IS AVAILABLE, TO MAKE ARRANGEMENTS TO REVIEW SAME PRIOR TO BIDDING, AND TO MAKE HIS OWN DETERMINATION AS TO ALL SUBSURFACE CONDITIONS.
- (3) ALL PERSONAL PROPERTY, EXCEPT MAIL BOXES, WITHIN THE RIGHT-OF-WAY NOT SHOWN ON THESE DRAWINGS SHALL BE REMOVED BY THE CONTRACTOR AS NECESSARY TO CONSTRUCT THIS PROJECT IN ACCORDANCE WITH THE PLANS. MAIL BOXES SHALL BE RELOCATED BY THE CONTRACTOR IN ACCORDANCE WITH FOOT DESIGN STANDARD 532. PAYMENT WILL BE INCLUDED IN THE PAY ITEM NO. 110-1 (CLEARING & GRUBBING).
- (4) THE DISPOSAL OF EXCESS EARTHWORK MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. APPROVALS OF DISPOSAL SITES SHALL BE OBTAINED FROM ORANGE COUNTY PRIOR TO DISPOSAL. ALL EXCESS MATERIAL IS THE PROPERTY OF THE CONTRACTOR.
- (5) ALL EXISTING TREES WITHIN THE LIMITS OF CONSTRUCTION ARE TO REMAIN UNLESS OTHERWISE SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. ANY TREE REMOVAL TO BE PERFORMED UNDER CLEARING AND GRUBBING.
- (6) SOIL ALL DISTURBED AREAS UNLESS OTHERWISE SHOWN ON THE PLANS, SOIL SHALL BE REPLACED WITH TYPE SOIL UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- (7) INSTALL TOPSOIL TREATMENT ON ALL PERMANENT GRASS AREAS. COST TO BE INCLUDED IN CONTRACT UNIT PRICE FOR 500.
- (8) PEGGED SOIL TO BE PLACED ON ALL SLOPES 3:1 OR STEEPER.
- (9) SAWCUT CONCRETE DRIVEWAYS AS REQUIRED FOR CONSTRUCTION, COST TO BE INCLUDED IN PAY ITEM 110-1-1 CLEARINGS & GRUBBING.
- (10) ALL PAVEMENT OFFSETS SHOWN ARE FROM PROPOSED CENTERLINE OF CONSTRUCTION. ALL RADII AND DIMENSIONS ARE TO PROPOSED EDGE OF PAVEMENT.
- (11) FOR STABILIZATION AT TURNOUTS AND DRIVEWAY CONNECTIONS, SEE STANDARD INDEX NO. 515 AND TYPICAL SECTIONS FOR DEPTH AND LBR.
- (12) DRIVEWAY LOCATIONS AND WIDTHS SHOWN ARE APPROXIMATE AND MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.
- (13) THE CONTRACTOR SHALL REFORM HIS WORK IN ACCORDANCE WITH REQUIREMENTS OF THE VARIOUS PERMITS INCLUDED IN THE BID SPECIFICATIONS. PAYMENT IS INCLUDED IN THE BID PRICE FOR SECTION 104 "PREVENTION, CONTROL AND ABATEMENT OF EROSION AND WATER POLLUTION (SWP) EXCLUDING ITEMS SPECIFIED ELSEWHERE. PERMITS SHALL BE USED AT LOCATIONS DESIGNATED IN THE PLANS AND/OR DESIGNATED BY THE ENGINEER.
- (14) INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES IS BASED ON AVAILABLE RECORDS AND SURVEYS BUT IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR SHALL MAKE HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO AND IS RESPONSIBLE FOR COORDINATING UTILITY RELOCATION WITH PROJECT CONSTRUCTION. PRIOR TO ORDERING DRAINAGE STRUCTURES, THE CONTRACTOR SHALL DETERMINE IF DRAINAGE/UTILITY CONFLICTS EXIST. INFORMATION ON CONFLICTS IS TO BE SUBMITTED TO THE ENGINEER AS SOON AS POSSIBLE AFTER DISCOVERY FOR REVIEW AND APPROVAL. FISHING STATE ONE CALL MUST BE NOTIFIED FOR LOCATES AT 1-800-432-4270.
- (15) UTILITIES ARE TO BE ADJUSTED BY OTHERS OR AS DIRECTED BY THE ENGINEER.
- (16) THE CONTRACTOR SHALL NOTIFY ALL GAS UTILITY COMPANIES A MINIMUM OF TWO WORKING DAYS PRIOR TO EXCAVATION AS REQUIRED BY CHAPTER 353.981 AND 356.105 OF THE FLORIDA STATUTES.
- (17) ALL DRAINAGE PIPES SHALL BE STEEL REINFORCED CONCRETE PIPE, CLASS III, UNLESS OTHERWISE NOTED.
- (18) MEASUREMENT OF DRAINAGE PIPES FOR PAYMENT SHALL BE DETERMINED FROM ACTUAL LENGTHS INSTALLED.
- (19) ALL MANHOLE COVERS SHALL INCLUDE THE ORANGE COUNTY LOGO AND BE IDENTIFIED AS ORANGE COUNTY SANITARY, "ORANGE COUNTY STORM" OR ORANGE COUNTY WATER, AS APPROPRIATE (SEE STANDARD DRAWINGS AND DETAILS SHEET).
- (20) ALL INLET/MANHOLE - PIPE JOINTS SHALL BE FILLED WITH NON-SHRINK GROUT. FILTER FABRIC MATERIAL PER SECTION 1203.02 OF THE ORANGE COUNTY ROAD CONSTRUCTION SPECIFICATIONS.
- (21) ALL CURB INLETS, DITCH BOTTOM INLETS, AND MANHOLES SHALL HAVE TRAFFIC BEARING FRAMES AND COVERS OR GRATES MEETING HS-20 LOADING REQUIREMENTS.
- (22) DESIGN CHANGES OF PIPE INVERTS NOT EXCEEDING PLUS OR MINUS ONE FOOT WILL NOT BE CONSIDERED AS A BASIS FOR ADDITIONAL COMPENSATION FOR THE PERTINENT PIPE BID ITEM OR FOR MODIFICATION OF PRECAST STRUCTURES.
- (23) ALL (P.A.W.'S) IRONS AND MONUMENTS SHOWN ON PLANS, OR FOUND, SHALL BE PRESERVED. THOSE SHOWN IN PROPOSED PAYMENT SHALL BE PROTECTED WITH A CAST IRON VALVE BOX.
- (24) ANY U.S.C. AND G.S. MONUMENTS WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED. IF IN DANGER OF DAMAGE, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, ORANGE COUNTY SURVEY SECTION AT 407-536-7940, AND BOTH SHALL NOTIFY:  
 STATE GEODETIC ADVISOR, ORANGE COUNTY SURVEYOR  
 1000 W. UNIVERSITY BLVD., SUITE 100  
 AUSTIN, TX 78701  
 PUBLIC WORKS DEPT.  
 4200 S. JOHN YOUNG PARKWAY  
 3800 COMMONWEALTH BLVD.  
 TALLAHASSEE, FL 32399-3205  
 PHONE: (904) 245-2555  
 FAX: (904) 245-2645
- (25) PUBLIC LAND CORNERS WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING DESTROYED OR DISAPPEARED, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, ORANGE COUNTY SURVEY SECTION AT 407-536-7940, AND BOTH SHALL NOTIFY:  
 STATE GEODETIC ADVISOR, ORANGE COUNTY SURVEYOR  
 1000 W. UNIVERSITY BLVD., SUITE 100  
 AUSTIN, TX 78701  
 PUBLIC WORKS DEPT.  
 4200 S. JOHN YOUNG PARKWAY  
 3800 COMMONWEALTH BLVD.  
 TALLAHASSEE, FL 32399-3205  
 PHONE: (904) 245-2555  
 FAX: (904) 245-2645
- (26) PRIOR TO BEGINNING ANY CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO ORANGE COUNTY HIGHWAY CONSTRUCTION DIVISION A SET OF FIELD NOTES VERIFYING THE BENCHMARK ELEVATIONS AND THE REFERENCE POINT TIES SHOWN ON THE TITLE SHEET, SURVEY CONTROL SHEET, AND PLAN/PROFILE SHEETS, AND/OR A SET OF FIELD NOTES FOR ALL ADDITIONAL BENCHMARK AND REFERENCE POINT TIES PROPOSED TO BE USED IN LOCATING THE PROJECT WITH THESE TYPICALS. THE TYPICALS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF FLORIDA.
- (27) WITHIN 21 CALENDAR DAYS AFTER NOTICE TO PROCEED, THE CONTRACTOR SHALL STAKE THE RIGHT-OF-WAY AT 100' INTERVALS AND AT RIGHT-OF-WAY BREAKS WITH STATIONING SHOWN ON THE STAKES. 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 BID FOR ITEM NO. 101-1 "MOBILIZATION".
- (28) EXISTING TRAFFIC SIGNS SHALL REMAIN IN PLACE OR BE RELOCATED AS NEEDED BY THE CONTRACTOR UNTIL THE NEW SIGNS ARE INSTALLED. THE EXISTING SIGNS OR NEW SIGNS HAVE BEEN INSTALLED. THE COST OF THE ORANGE COUNTY SIGN SHOP AT 1200 SOUTH JOHN YOUNG PARKWAY AND THE COST OF RELOCATION, MAINTENANCE, RENEWAL AND DELIVERY SHALL BE INCLUDED IN PAY ITEM 102-1, MAINTENANCE OF TRAFFIC.

(29) ALL EXISTING DRAINAGE PIPE AND STRUCTURES AND UTILITIES WITHIN THE LIMITS OF CONSTRUCTION ARE TO REMAIN UNLESS OTHERWISE NOTED.

(30) INLET ELEVATIONS SHOWN IN THE PLANS REFER TO THE TOP OF THE GRADE FOR DITCH BOTTOM INLETS.

(31) ALL EXCAVATIONS SHALL BE REQUIRED TO CONFORM WITH THE PROVISIONS OF PART IV OF CHAPTER 553.00, F.S., ALSO KNOWN AS THE "TRENCH SAFETY ACT", TO PROTECT EXISTING PAVEMENT, STRUCTURES, FOUNDATIONS, AND CONSTRUCTION PERSONNEL DURING CONSTRUCTION OF THE PROJECT.

(32) THE CONTRACTOR SHALL PROTECT EXISTING TREES THAT ARE TO REMAIN INCLUDING MAINTAINING MINIMUM UNDISTURBED AREAS. WHEN NECESSARY TO CUT ROOTS OVER 1-1/2" DIA., THE CUT MUST BE CLEAR, TEMPORARILY COVER EXPOSED ROOTS WITH WEF BURLAP TO PREVENT DRYING AND COVER WITH EARTH AS SOON AS POSSIBLE. INTERFERING BRANCHES MAY BE REMOVED AT THE DIRECTION OF A QUALIFIED TREE SURGEON. THE CONTRACTOR SHALL MAINTAIN A RECORD OF ALL TREE SURGEON VISITS BEYOND REPAIR WITH 3 TREES OF SIMILAR QUALITY AND SPECIES SIZED AT THE DIRECTION OF THE COUNTY. THIS WORK IS TO BE PAID FOR AND INCLUDED UNDER CLEARING AND GRUBBING.

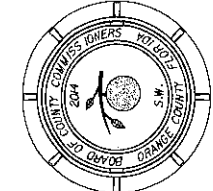
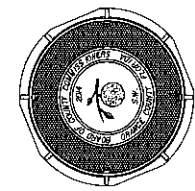
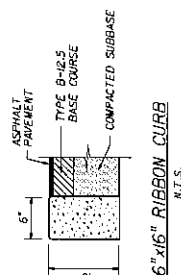
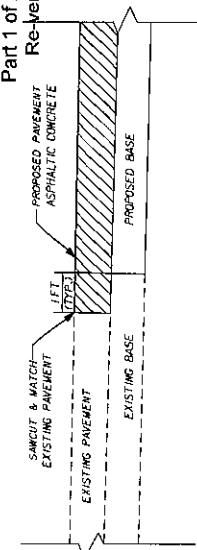
(33) EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED IN ACCORDANCE WITH THE REQUIREMENTS OF THE FLORIDA EROSION AND SEDIMENT CONTROL MANUAL, LATEST EDITION. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED AT ALL TIMES AND TO NOTIFY PROPERTY OWNERS FIVE DAYS PRIOR TO STARTING CONSTRUCTION.

DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION

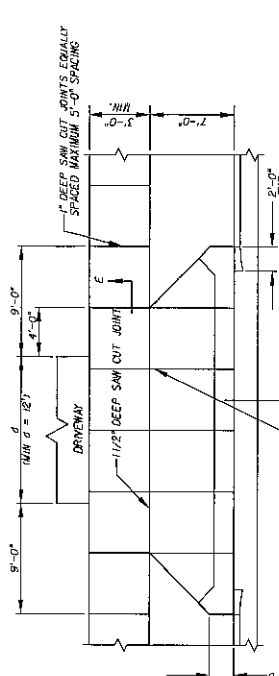
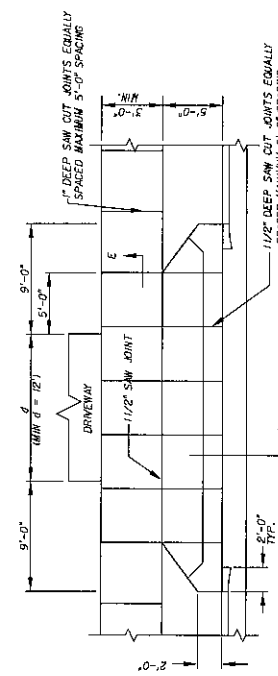
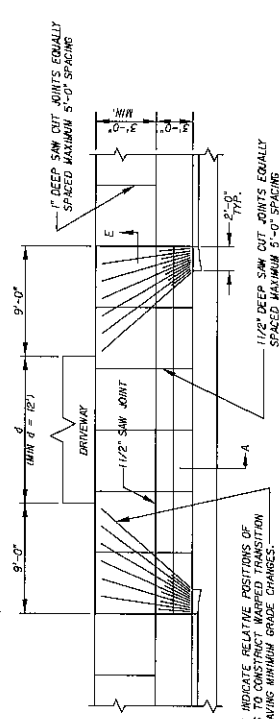
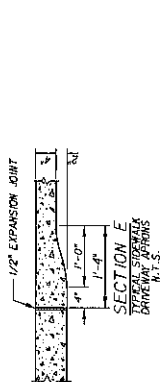
GTC Engineering Corporation 98 South Semoran Blvd, Orlando, FL 32807 Project Number: 407-01693-04 Client: L. County of Orange P.E. Number: 25484		ORANGE COUNTY PUBLIC WORKS	ORANGE COUNTY PUBLIC WORKS
OCPC PROJECT NO.	2722	SHERRY DRIVE REPLACEMENT	
FLO 1110			

SHEET NO.	2
GENERAL NOTES	

Attachment 1 - Permit Drawings  
 SAJ 2016-01693 - March 2017  
 Part 1 of 2 - Pages 1-19  
 Re-Verify Drawings 5



STANDARD MANHOLE COVER  
 N.T.S.



DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION

**GTC Engineering Corporation**  
 98 South Swensen Blvd, Orange, FL 32807  
 Phone Number - 407.862.6442  
 Certificate of Registration  
 Number: 0750  
 Chad L. Campbell, P.E.  
 P.E. Number 15496

**ORANGE COUNTY PUBLIC WORKS**  
 GTC PROJECT NO. FLO 11.10  
 OCPW PROJECT NO. 2722  
 SHEET DRIVE BRIDGE REPLACEMENT

**STANDARD DRAWINGS AND DETAILS**  
 SHEET NO. 3

SUMMARY OF PAY ITEMS

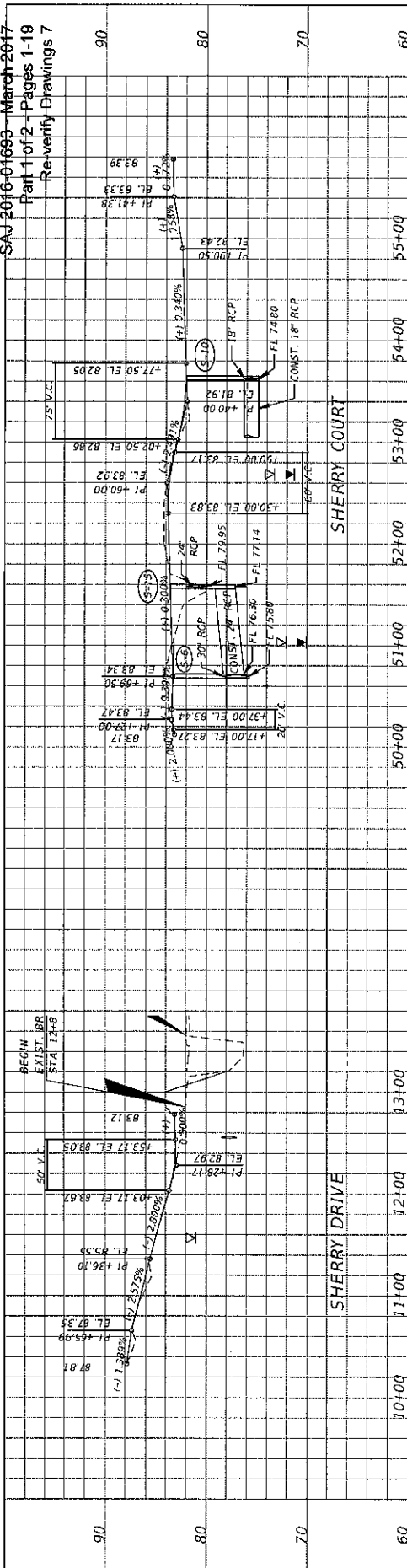
ITEM NUMBER	DESCRIPTION	UNIT	QUANTITY TOTAL	
			INITIAL	FINAL
101-1	MOBILIZATION	LS	1	
102-1	MAINTENANCE OF TRAFFIC	LS	1	
103-1	PREVENTION, CONTROL AND ABATEMENT OF EROSION AND WATER POLLUTION	LS	1	
110-1-1	CLIPPING & CHIPPING	LS	1	
120-4	SUBSOIL EXCAVATION (A-B MATERIAL)	CY	300	
120-9	EXCAVATION, EROSION CONTROL, AND GRADING	LS	1	
160-4	TYPE 'B' STABILIZATION (27 MGR. 1BR 40)	SF	1,679	
210-6	SOIL CEMENT BASE, (PBRKED) (SP) (500 FSI)	SF	741	
265-705	OPTIONAL BASE GROUP 6 (1.5" TYPE B-12.5 ONLY) (BLACK BASE)	SF	574	
327-70-6	MILLING EXISTING ASPHALT PAVEMENT (1" 1/2" A/C DEPTH)	SF	1,386	
334-1-13	SUPERPAVE ASPHALTIC CONCRETE (1" 2" (SP-12.5) INCL. TACK COAT)	SF	2,682	
339-1	MISCELLANEOUS ASPHALT PAVEMENT	TN	10.0	
400-1-2	CLASS I CONCRETE - (INCLUDES REINFORCING STEEL)	CY	2.24	
425-1-341	INLETS, CURB, TYPE P-4, <10	EA	5	
425-1-342	INLETS, CURB, TYPE P-4, >10	EA	1	
425-1-343	INLETS, DITCH BOTTOM, TYPE C, MODIFY	EA	1	
425-1-541	INLETS, DITCH BOTTOM, TYPE D, <10	EA	1	
425-1-542	MANHOLES, P-7, <10	EA	3	
425-1-543	MANHOLES, P-7, >10	EA	1	
430-175-118	PIPE CULVERT, CONCRETE, CLASS III, ROUND, 18"	LF	336	
430-175-124	PIPE CULVERT, CONCRETE, CLASS III, ROUND, 24"	LF	128	
430-175-130	PIPE CULVERT, CONCRETE, CLASS III, ROUND, 30"	LF	63	
430-175-215	PIPE CULVERT, CONCRETE, CLASS III, ELLIPTICAL, 12x18"	LF	52	
430-982-125	MITERED END SECTION, CONCRETE, 18"	EA	2	
430-982-129	MITERED END SECTION, CONCRETE, 24"	EA	2	
430-982-135	MITERED END SECTION, CONCRETE, 30"	EA	1	
430-982-623	MITERED END SECTION, ELLIPTICAL, 12x18", CD	EA	1	
520-1-8	CONCRETE CURB & GUTTER, SPECIAL, RIBBON	LF	12	
520-1-10	CONCRETE CURB & GUTTER (TYPE F)	LF	453	
520-2-4	CONCRETE CURB (TYPE D)	LF	1,093	
522-1	SIDEWALK CONCRETE, 4" THICK	SF	219	
522-2	SIDEWALK CONCRETE, 6" THICK	SF	670	
530-3-3	RIPRAP-RUBBLE, BANK AND SHORE	TN	92	
536-1-1	GUARDRAIL - ROADWAY	LF	375	
536-6	GUARDRAIL - PIPE RAIL	LF	300	
536-85-25	GUARDRAIL END ANCHORAGE ASSEMBLY - TYPE II	EA	2	
536-85-26	GUARDRAIL END ANCHORAGE ASSEMBLY - TYPE CRT	EA	2	
530-10-20	FENCING, TYPE B, B.C. STANDARD	LF	37	
554-60-223	FENCE GATE, TYPE B, DOUBLE, 12' OPENING	EA	1	
550-60-230	FENCE GATE, TYPE B, SLIDE/CARTILEVER, 20' OPENING	EA	1	
570-1-2	PERFORMANCE TURF (500')	SF	3,342	
700-20-11	SIGN, SINGLE (F&D) (LESS THAN 12 SF)	AS	5	
700-20-40	SIGN, EXISTING (RENOVE) (SINGLE POST)	AS	2	
705 10 1	OBJECT MARKER, TYPE 1	EA	3	
705 10 4	OBJECT MARKER, TYPE 4	EA	6	
711-11-123	SOLID TRAFFIC STRIPE (WHITE) (12") (THERMOPLASTIC)	LF	99	
711-11-125	SOLID TRAFFIC STRIPE (WHITE) (24") (THERMOPLASTIC)	LF	16	
800-1	AS-BUILT PLANS	LS	1	
900-2	INDENTIFICATION	LS	1	
900-3	GROUNDWATER TREATMENT AND DISPOSAL	DA	90	
900-4	CONCRETE RETENMENT BLOCK	SF	24,903	

PAY ITEM FOOTNOTES

- 102-1 INCLUDES ALL ITEMS OF MAINTENANCE OF TRAFFIC, INCLUDING, BUT NOT LIMITED TO, SIGNING, FLAGGING, ETC. REQUIRED TO MAINTAIN TRAFFIC DURING CONSTRUCTION IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2013 EDITION, AS DIRECTED TO THE 000 SERIES INDEX NUMBERS. NOTE THAT THE MAINTENANCE OF TRAFFIC PLAN SHOWN IN THE CONSTRUCTION PLANS IS FOR INFORMATION ONLY. THE FINAL PLAN TO BE SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE COUNTY, THE MAINTENANCE OF TRAFFIC PLAN DONE BY THE CONTRACTOR WILL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA.
- 104-14 INCLUDES THE COST OF ALL ITEMS REQUIRED FOR EROSION CONTROL, INCLUDING, BUT NOT LIMITED, TO SYNTHETIC BALES, TURBIDITY BARRIERS, SILT FENCES AND TEMPORARY GRASSING AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER, NOT AN FDOT PAY ITEM NUMBER.
- 110 1-1 INCLUDES, BUT IS NOT LIMITED TO, THE COST OF REMOVAL AND DISPOSAL OF CONCRETE CURBS, DRIVEWAYS, CONCRETE BRIDGE STRUCTURE, BRIDGE DECK DEMOLITION, BRIDGE PILING & ABUTMENTS, WALLS, BRICK WALLS, VARIOUS TYPES OF FENCES, CAPPING WELLS, REMOVAL AND DISPOSAL OF SEPTIC TANKS AND DRAIN FIELDS, UNDERGROUND STORAGE TANKS, PAVEMENT, BASE, AND TRIMMING OF TREES AND SHRUBS, AND CONCRETE AND REMOVAL OF EXISTING TREES AS INDICATED IN PLANS.
- 120-4 THIS ITEM AND QUANTITY ARE INCLUDED FOR CONTINGENCY IF UNSUITABLE MATERIAL IS FOUND DURING CONSTRUCTION, AS DIRECTED BY THE COUNTY. REMOVAL AND REPLACEMENT OF UNSUITABLE SOIL - THE CONTRACTOR SHALL PROVIDE ORANGE COUNTY HIGHWAY CONSTRUCTION WITH A SIGNED AND SEALED SURVEY, INCLUDING A PHOTOGRAPHIC SURVEY, TO IDENTIFY THE LOCATION OF THE UNSUITABLE SOIL AREA WHERE UNSUITABLE SOILS ARE FOUND. THE ELEVATIONS SHALL BE PROVIDED EVERY 25 FEET AND SHALL BE REPRESENTATIVE OF THE CONDITIONS. THE PURPOSE OF THE SURVEY, WITH CROSS SECTIONS, IS TO VERIFY THE QUANTITY OF THE UNSUITABLE SOILS REMOVED.
- 120-9 INCLUDES THE COST OF ALL EARTHWORK OPERATIONS TO CONSTRUCT THE PROJECT, NOT AN FDOT PAY ITEM.
- 522-1 & 522-2 INCLUDES THE COST OF CURB MARKS WITH DETECTABLE WARNING SURFACE PER FDOT INDEX 304.
- 570-1-2 INCLUDES THE COST OF SOD (MATCH EXISTING), PEGGING THE SOD, FERTILIZER AND WATER AS REQUIRED FOR ESTABLISHMENT OF PERMANENT SOODING. ALSO INCLUDES THE COST OF MOWING UNTIL FINAL PROJECT ACCEPTANCE BY THE COUNTY.
- 900-4 SHORELOCKS & OPEN CELL BODIES OF AOB NOT WITH GALVANIZED CABLE OR APPROVED EQUAL. INCLUDES THE COST OF CONNECTION TO EXISTING DRIBBLES NORTH OF KELVINGTON DRIVE AND NORTH OF SHERRY DRIVE.

DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION
<b>ORANGE COUNTY PUBLIC WORKS</b>				
GTC PROJECT NO. 2722		SHERRY DRIVE REPLACEMENT		SHEET NO. 4
FLO 1130		SUMMARY OF PAY ITEMS		
GTC Engineering Corporation 14 S.W. 5th Avenue, Suite 3100 Ocala, FL 34701 Phone Number: 352.388.8400 Fax Number: 352.388.8400 Charles L. Casagrande, P.E. P.E. Number: 35244 04/26/16 08:55:25 AM H:\Users\FLO10-5847\OneDrive\CESSHOJ.DWG				

Attachment 1 - Permit Drawings  
 SAJ 2016-01699 - March 2017  
 Part 1 of 2 - Pages 1-19  
 Re-verify Drawings 7



- EXISTING STRUCTURES**
- ① INLET PIPE  
TOP 82.26, INV. 78.22,  
15" CMP, INV. 73.64'
  - ② INLET PIPE  
TOP 87.75, INV. 78.39,  
15" CMP, INV. 76.95'
  - ③ INLET PIPE  
TOP 82.27, INV. 77.47,  
15" CMP, INV. 73.58'
  - ④ INLET PIPE  
TOP 80.88, INV. 77.48',  
15" CPP, INV. 76.37'
  - ⑤ INLET PIPE  
TOP 81.56,  
24" CMP, INV. 78.35'

**PROPOSED PIPES**

FROM	TO	SIZE	INI.	TYPE
S-1	S-2	18"	18	RCP
S-2	S-3	18"	18	RCP
S-3	S-4	15"	15	RCP
S-4	S-5	15"	15	RCP
S-5	S-6	15"	15	RCP
S-6	S-7	15"	15	RCP
S-7	S-8	18"	18	RCP
S-8	S-9	18"	18	RCP
S-9	S-10	18"	18	RCP
S-10	S-11	18"	18	RCP
S-11	S-12	18"	18	RCP
S-12	S-13	24"	24	RCP
S-13	S-14	24"	24	RCP
S-14	S-15	24"	24	RCP
S-15	S-16	24"	24	RCP
S-16	S-17	18"	18	RCP
S-17	S-18	24"	24	RCP

AERIAL INFORMATION FROM ORANGE COUNTY AERIALS DATED 2013

DATE	DESCRIPTION	REVISIONS

<b>ORANGE COUNTY PUBLIC WORKS</b>	
GTC PROJECT NO.	FLO 1110
DCRW PROJECT NO.	2722
SHERRY DRIVE BRIDGE REPLACEMENT	

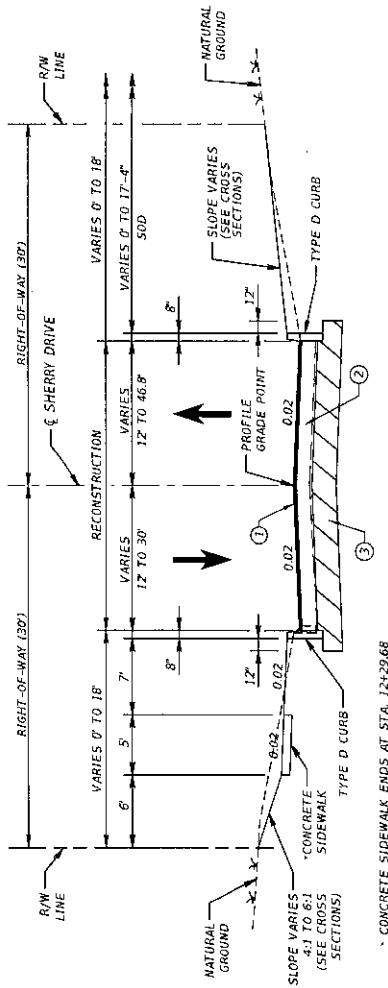
  

<b>GTC Engineering Corporation</b>	
P.O. Box 10000, Orlando, FL 32817	
Phone Number - 407-888-8800	
Crawford L. Conner, P.E.	
P.E. Number - 13176	
Certificate of Subcontractor Number - 673	

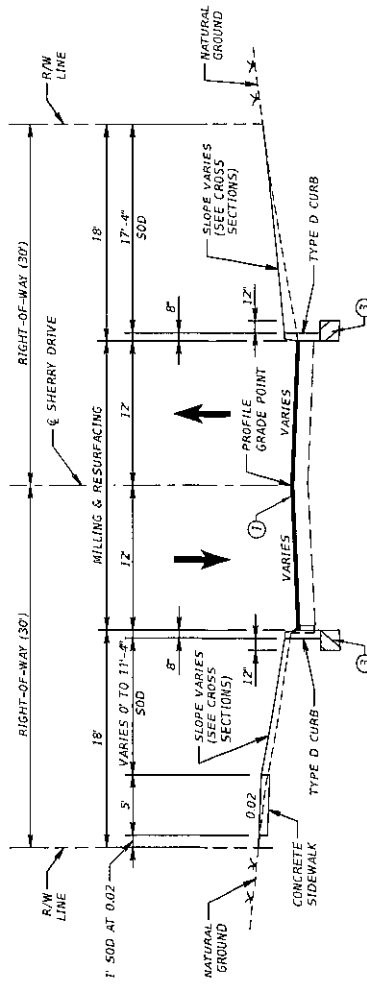
  

SHEET NO.	5
<b>DRAINAGE MAP</b>	

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 4/7/2016



TYPICAL SECTION NO. 2  
 SHERRY DRIVE  
 STA. 12+12.18 TO STA. 12+77.84



TYPICAL SECTION NO. 1  
 SHERRY DRIVE  
 STA. 10+30.51 TO STA. 12+12.18

**RECONSTRUCTION**

- ① (1.5") SUPERPAVE SP-12.5 (TRAFFIC C)
- ② (5") TYPE B-12.5 BASE COURSE (BLACK BASE)
- ③ (12") TYPE "B" STABILIZATION (MINIMUM LBR 40)

**MILLING**

MILL EXISTING ASPHALT PAVEMENT (1.5" AVG. DEPTH)

**RESURFACING**

- ① (1.5") SUPERPAVE SP-12.5 (TRAFFIC C)

DESIGN SPEED 25 MPH

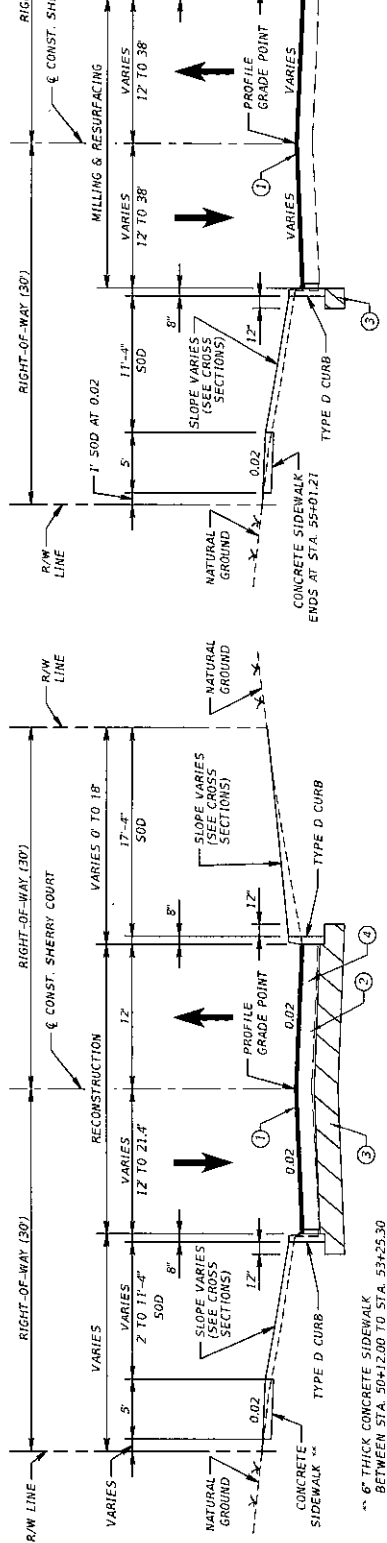
DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION

<b>GTC Engineering Corporation</b> 94 South Semoran Blvd., Oklawaha, FL 32067 Phone Number: (407) 868-6042 Certificate of Authorization Number: 10-38		<b>ORANGE COUNTY PUBLIC WORKS</b> SHERRY DRIVE REPLACEMENT PROJECT NO. 2722	<b>TYPICAL SECTIONS</b>	SHEET NO. 6
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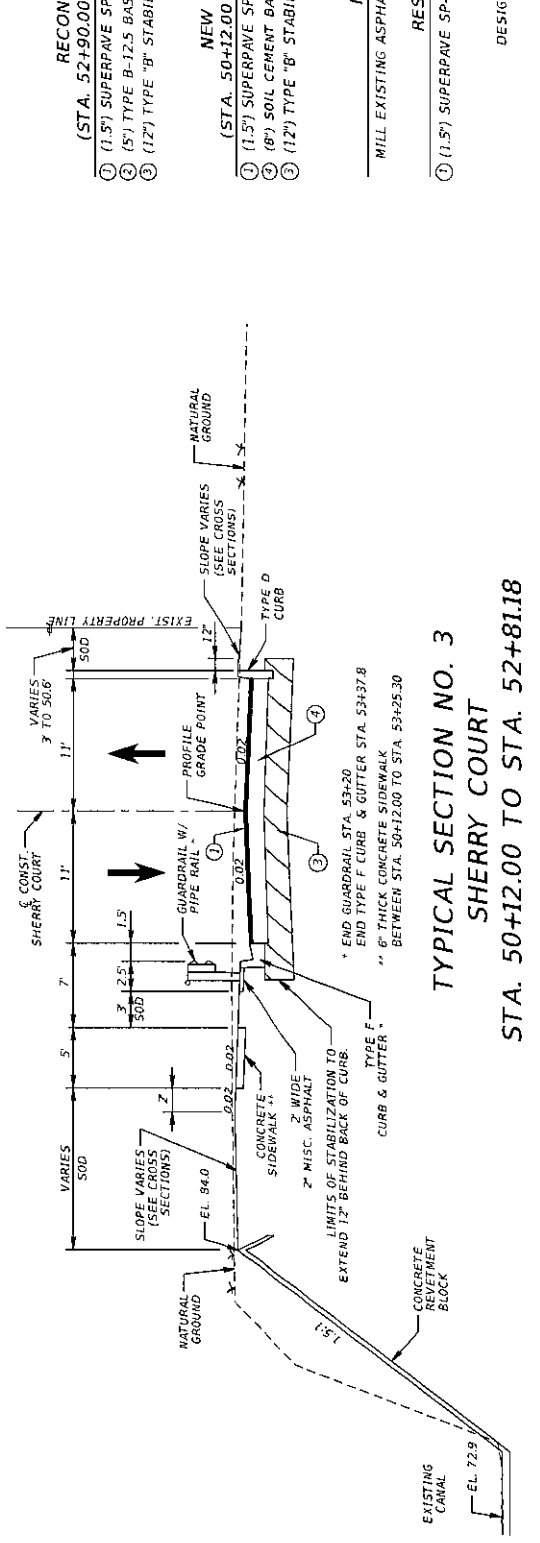
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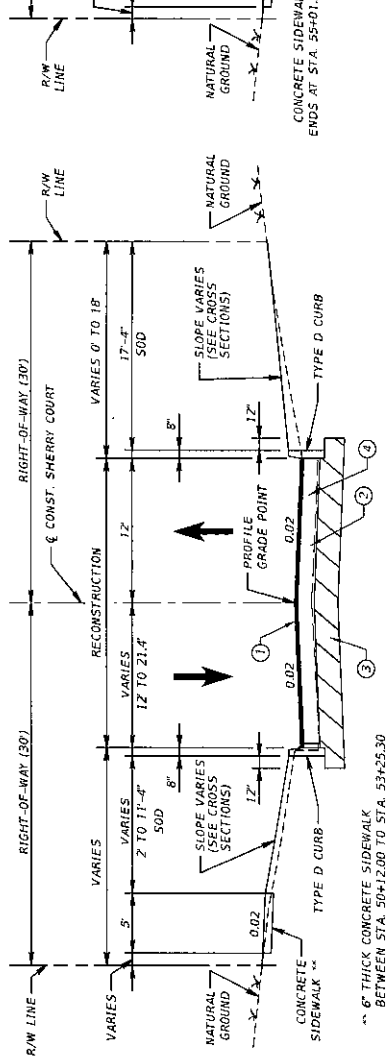
**TYPICAL SECTION NO. 4**  
**SHERRY COURT**  
 STA. 52+81.18 TO STA. 53+77.50

\*\* 6" THICK CONCRETE SIDEWALK BETWEEN STA. 50+12.00 TO STA. 53+25.30



**TYPICAL SECTION NO. 3**  
**SHERRY COURT**  
 STA. 50+12.00 TO STA. 52+81.18

\* END GUARDRAIL STA. 53+20  
 \*\* 6" THICK CONCRETE SIDEWALK BETWEEN STA. 50+12.00 TO STA. 53+25.30



**TYPICAL SECTION NO. 5**  
**SHERRY COURT**  
 STA. 53+77.50 TO STA. 55+79.30

- RECONSTRUCTION**  
 (STA. 52+90.00 TO STA. 53+77.50)
- ① (1.5") SUPERPAVE SP-12.5 (TRAFFIC C)
  - ② (5") TYPE B-12.5 BASE COURSE (BLACK BASE)
  - ③ (12") TYPE "B" STABILIZATION (MINIMUM LBR 40)
- NEW ROADWAY**  
 (STA. 50+12.00 TO STA. 52+90.50)
- ① (1.5") SUPERPAVE SP-12.5 (TRAFFIC C)
  - ② (8") SOIL CEMENT BASE COURSE (300 PSI) PRIMED
  - ③ (12") TYPE "B" STABILIZATION (MINIMUM LBR 40)

- MILLING**  
 MILL EXISTING ASPHALT PAVEMENT (1.5" AVG. DEPTH)
- RESURFACING**  
 ① (1.5") SUPERPAVE SP-12.5 (TRAFFIC C)
- DESIGN SPEED 25 MPH

DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION

<b>ORANGE COUNTY PUBLIC WORKS</b>		GTC PROJECT NO.	SHERRY DRIVE REPLACEMENT
		FLO 11.10	
		OCRW PROJECT NO.	2722

GTC Engineering Corporation <small>38 South University Blvd., Orange, FL 32807    Phone: (407) 281-9441    Fax: (407) 281-9442    Website: www.gtc-engineering.com</small>	
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	SHEET NO.	7
	<b>TYPICAL SECTIONS</b>	

**SUMMARY OF CURB AND GUTTER**  
 Part of the  
 Re-verify Drawings-10

LOCATION STATION	SIDE	TYPE F LENGTH (FT)		REMARKS	FIELD BOOK REFERENCE
		P	F		
10+81.35 TO 11+57.06	LT	76			
10+61.51 TO 11+51.08	RT	90			
12+65.67 TO 12+79.34	RT	14			
12+31.40 TO 12+61.60	LT	37			
11+63.06 TO 12+31.40	LT	48			
11+77.08 TO 12+31.40	RT	37			
12+40.04 TO 12+65.67	RT	46			
10+31.68 TO 10+61.51	RT	47			
10+30.68 TO 10+55.42	LT	42			
54+94.74 TO 55+08.04	RT	17			
55+08.04 TO 55+45.88	RT	43			
55+01.39 TO 55+08.04	LT	9			
53+48.93 TO 53+70.60	RT	20			
54+17.99 TO 54+65.51	RT	48			
55+38.39 TO 55+68.10	LT	87			
55+08.04 TO 55+12.23	LT	7			
54+22.64 TO 54+87.64	LT	15			
54+06.05 TO 54+46.84	LT	39			
53+60.37 TO 53+82.03	LT	22			
54+87.94 TO 54+96.93	LT	9			
52+07.12 TO 52+85.49	RT	77			
51+09.38 TO 52+07.12	RT	101			
50+52.72 TO 51+09.38	RT	55			
50+13.32 TO 50+52.72	RT	59			
52+85.49 TO 53+48.93	RT	49			
TOTAL			1093		

**SUMMARY OF DRIVEWAYS**

LOCATION STATION	SIDE	WIDTH TYPE (6")	AREA (SQ)		FIELD BOOK REFERENCE
			P	F	
10+68.35	LT	12 CONC	33		
11+60.08	RT	12 CONC	33		
11+70.06	LT	12 CONC	33		
12+27.19	RT	12 CONC	33		
53+28.42	LT	12 CONC	26		
53+50.30	LT	12 CONC	32		
53+85.53	RT	15.5 CONC	38		
54+04.99	RT	12 CONC	30		
54+59.64	LT	12 CONC	33		
55+24.09	LT	14.6 CONC	38		
55+64.10	RT	12 CONC	24		
TOTAL:			413		

**SUMMARY OF EARTHWORK**

DESCRIPTION	P		F	
	L	W	L	W
REGULAR EXCAVATION				
SHERRY DRIVE	131			
SHERRY COURT	424			
POND 1	464			
CANAL	1204			
TOTAL	2203			
EMBANKMENT				
SHERRY DRIVE	44			
SHERRY COURT	253			
POND 1	0			
CANAL	188			
TOTAL	485			

**SUMMARY OF SIDEWALK (4")**

LOCATION STA TO STA	SIDE	P		F		FIELD BOOK REFERENCE
		L	W	L	W	
10+37.13 TO 10+63.35	LT	VARIES	VARIES	13.3		Curb Ramp
10+74.35 TO 11+68.06	LT	89.7	5.0	49.8		
11+76.06 TO 12+60.64	LT	VARIES	VARIES	47.9		Curb Ramp
23+69.75 TO 24+27.22	LT	VARIES	VARIES	18.1		
53+31.62 TO 53+46.66	LT	VARIES	VARIES	14.6		
53+53.87 TO 53+89.03	LT	35.2	5.0	19.5		
54+01.03 TO 54+53.64	LT	52.6	5.0	29.2		
54+63.64 TO 55+04.64	LT	VARIES	VARIES	26.6		Curb Ramp
TOTAL:				219		

**SUMMARY OF SIDEWALK (6")**

LOCATION STA TO STA	SIDE	P		F		FIELD BOOK REFERENCE
		L	W	L	W	
23+24.32 TO 23+44.21	LT	VARIES	VARIES	17.1		Curb Ramp
50+28.91 TO 53+25.21	LT	VARIES	VARIES	189.9		S/W Along Canal
TOTAL:				207.0		

**SUMMARY OF MISCELLANEOUS ASPHALT**

LOCATION STA. TO STA	SIDE	THICK (IN)		REMARKS
		P	F	
12+79.95 TO 12+79.95	LT/RT	2.00	17.2	
50+21.75 TO 53+21.75	LT	2.00	176.5	
TOTAL			93.7	10

**SUMMARY OF GUARDRAIL**

LOCATION STATION	SIDE	GUARDRAIL (LF)		REMARKS	FIELD BOOK REFERENCE
		ROADWAY	PIPE RAIL		
FROM 12+79.95 TO 12+79.95	LT & RT	75.0			
FROM 50+21.75 TO 53+21.75	LT	300.0			
TOTAL		375.0	300.0		

**SUMMARY OF CURB AND GUTTER TYPE F**

LOCATION STATION	SIDE	TYPE F LENGTH (FT)		REMARKS	FIELD BOOK REFERENCE
		P	F		
53+37.44 TO 53+42.16	LT	7			
50+14.00 TO 50+42.59	LT	40			
50+42.59 TO 51+09.38	LT	69			
51+09.38 TO 52+07.12	LT	94			
52+07.12 TO 52+98.53	LT	98			
52+98.53 TO 53+37.44	LT	39			
50+11.46 TO 50+14.03	LT	10			
12+77.84 TO 12+77.84	LT/RT	77			
TOTAL			453		

**SUMMARY OF QUANTITIES**

OCPIW PROJECT NO.	2722
SHEET NO.	8

**ORANGE COUNTY PUBLIC WORKS**

GTC Engineering Corporation  
 9450 S. Orange Blvd., Suite 1110  
 Phone Number: 407-888-8881  
 Certificate of Registration  
 Number: 1758

Client: Orange County  
 P.E. Number: 1758

DATE: 4/2/2016 10:55:40 PM  
 FILE: H:\WORK\17\10110-587\Drawings\GUARDRAIL.DGN

**ORANGE COUNTY PUBLIC WORKS**

GTC Engineering Corporation  
 9450 S. Orange Blvd., Suite 1110  
 Phone Number: 407-888-8881  
 Certificate of Registration  
 Number: 1758

Client: Orange County  
 P.E. Number: 1758

DATE: 4/2/2016 10:55:40 PM

Attachment 1 - Permit Drawings  
 SAJ 2016-01693 - March 2017

Part 1 of 2 - Pages 1-19  
 Re-verify Drawings 11

REMARKS

STR. NO.	INDEX NO.	STATION	SIDE	DESCRIPTION	BARRELS	SIZE (INCHES)	LENGTH (LF)	PCP STORM SEWER			CURB/INLETS			D.B.I.		MH	MITERED BWO SECTION			CLASS I CONCRETE	REMARKS					
								18"	24"	30"	12" x 18"	18"	<10"	>10"	P-4		<10"	>10"	C			D	P-7	1.4	1.2	1.2
P	S-1	210	12+46.04	LT	INLET, PIPE	1	18	115	18"	24"	30"	12" x 18"	<10"	>10"	C	D	<10"	>10"	1.4	1.2	1.2					
P	S-2	200, 201	52+48.95	LT	MANHOLE, PIPE	1	18	19																INCLUDES CURB INLET TRASH BASKET		
P	S-3	272	52+47.43	LT	MES	1	18																			
F	S-4	210	12+51.68	RT	INLET, PIPE	1	12x18	52				52	1												INCLUDES CURB INLET TRASH BASKET	
F	S-5	272	12+55.73	RT	MES	1	12x18																		INCLUDES CURB INLET TRASH BASKET	
F	S-6	210	50+69.46	RT	INLET, PIPE	1	30	30					1												INCLUDES CURB INLET TRASH BASKET	
F	S-7	210	50+69.54	LT	INLET, PIPE	1	30	33					1												INCLUDES CURB INLET TRASH BASKET	
F	S-8	272	50+79.55	LT	MES	1	30																		INCLUDES CURB INLET TRASH BASKET	
F	S-9	210	53+68.37	LT	INLET, PIPE	1	18	32					1												INCLUDES CURB INLET TRASH BASKET	
F	S-10	210	50+72.60	RT	INLET, PIPE	1	18	77					1												INCLUDES CURB INLET TRASH BASKET	
P	S-11	200, 201	52+94.09	LT	MANHOLE, PIPE	1	18	51																	INCLUDES CURB INLET TRASH BASKET	
P	S-12	200, 201	52+48.95	LT	MANHOLE, PIPE	1	24	14																		
P	S-13	272	52+49.98	LT	MES	1	24																			
P	S-14	250	51+57.95	RT	ENDWALL, PIPE	1	24	7																		
P	S-15	200, 201	51+57.95	RT	MANHOLE, PIPE	1	24	86																		
P	S-16	232	1+30.92	RT	DBI, PIPE	1	18	42																		
P	S-17	272	1+23.58	RT	MES	1	18																			
P	S-18	201, 202	2+03.88	RT	INLET, PIPE	1	24	21																		
P	S-19	272	2+03.88	RT	MES	1	24																			
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								PLAN QUANTITY		396	128	63	62	5	1	1	1	3	1	1	1	1	2	2	1	2.24
<b>TOTALS</b>								FINAL QUANTITY																		

SEE POND DETAIL SHEET

**SUMMARY OF  
 DRAINAGE STRUCTURES**

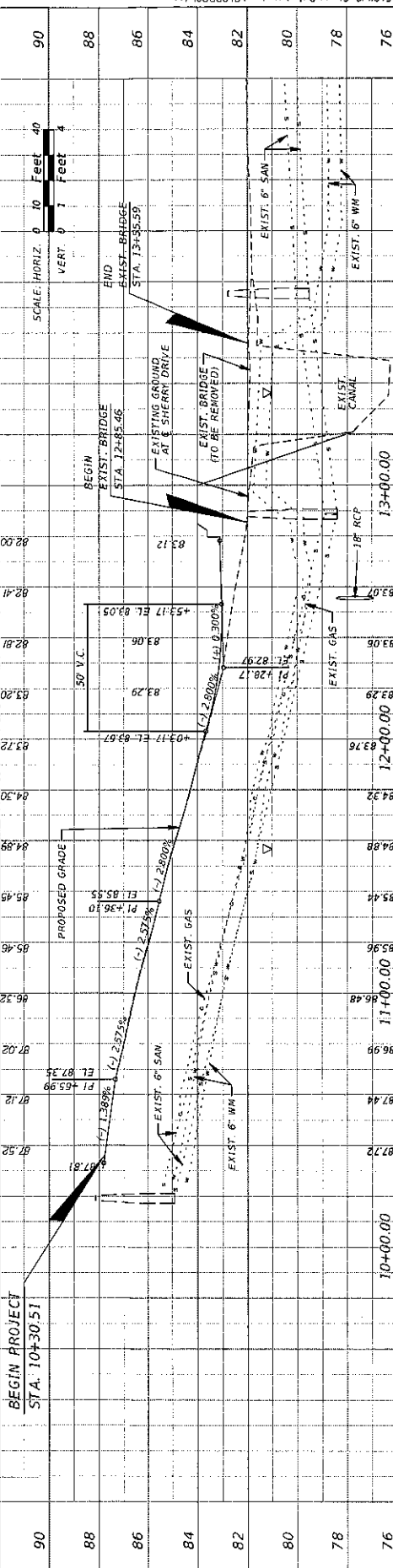
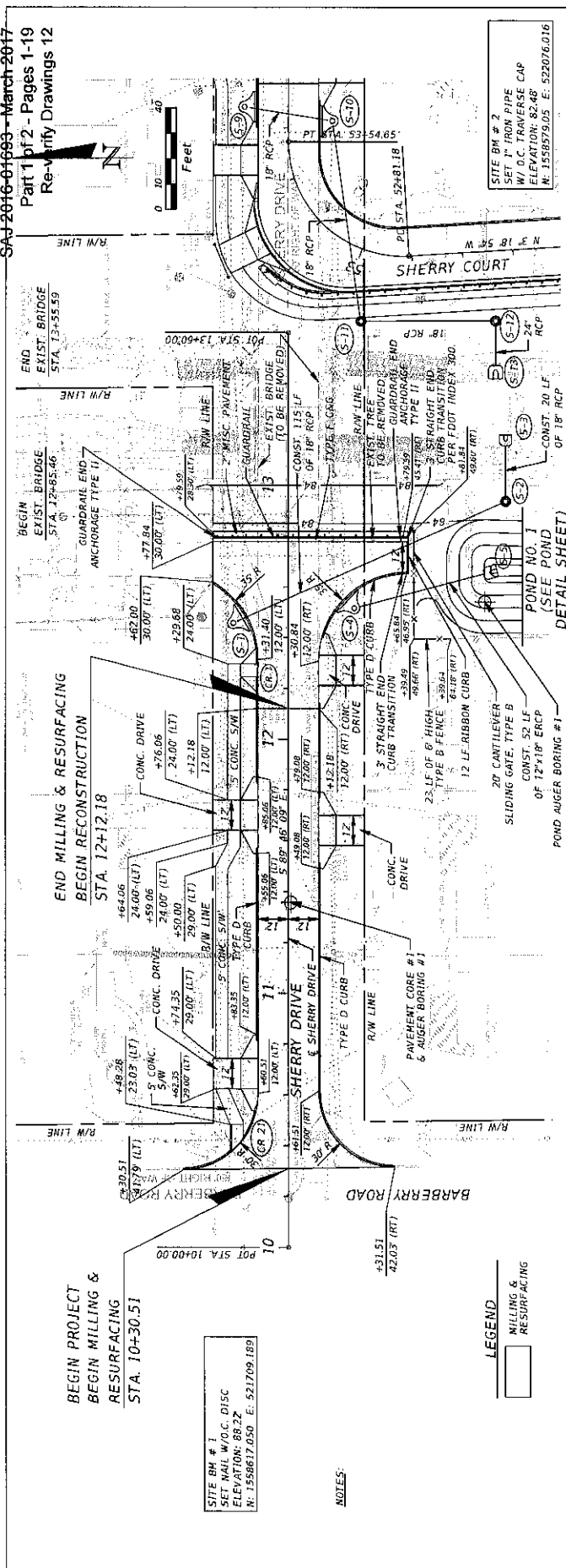
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**ORANGE COUNTY PUBLIC WORKS**  
 OCSW PROJECT NO. **2722**  
 SHERB, DRIVE  
 AFFACEMENT

**GTC Engineering Corporation**  
14 South University Blvd, Gainesville, FL 32607  
 Phone: 352-369-9644  
 Fax: 352-369-9645  
 E-mail: info@gtceng.com  
 GTC PROJECT NO. **FLO 11.10**

DATE	REVISIONS	DESCRIPTION

Attachment 1 - Permit Drawings  
 SA-2016-01693 - March 2017  
 Part 1 of 2 - Pages 1-19  
 Re-utility Drawings 12



DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION
	BEGIN PROJECT STA. 10+30.51			
	BEGIN MILLING & RESURFACING STA. 12+12.18			
	BEGIN BRIDGE REPLACEMENT STA. 13+55.59			
	END BRIDGE REPLACEMENT STA. 13+60.00			

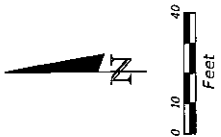
  

PROJECT NO.	2722
PROJECT NAME	SHERRY DRIVE BRIDGE REPLACEMENT
DATE	1/2/2016
SCALE	HORIZ. 1" = 40' VERT. 1" = 4'
PROJECT LOCATION	SHERRY DRIVE, ORANGE COUNTY, FL
CLIENT	ORANGE COUNTY PUBLIC WORKS
DESIGNER	GTC Engineering Corporation
DATE	1/2/2016
PROJECT NO.	2722
PROJECT NAME	SHERRY DRIVE BRIDGE REPLACEMENT
DATE	1/2/2016
SCALE	HORIZ. 1" = 40' VERT. 1" = 4'
PROJECT LOCATION	SHERRY DRIVE, ORANGE COUNTY, FL
CLIENT	ORANGE COUNTY PUBLIC WORKS
DESIGNER	GTC Engineering Corporation
DATE	1/2/2016

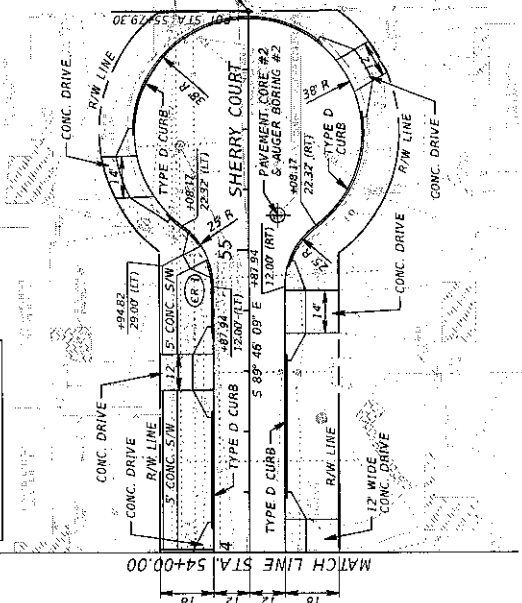
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SITE BM # 3  
 I.O.C. DISC  
 ELEVATION: 83.48'  
 N: 1559612.244 E: 522359.863

SITE BM # 2  
 SET 1" IRON PIPE  
 W/ O.C. TRANSVERSE CAP  
 ELEVATION: 82.48'  
 N: 1558579.05 E: 522076.016



END PROJECT  
 SHERRY COURT  
 STA. 55+79.30



LEGEND  
 [Symbol] MILLING & RESURFACING

NOTES:

DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION
82.24			82.24	
82.26			82.26	
82.33			82.33	
82.38			82.38	
82.59			82.59	
82.95			82.95	
83.30			83.30	
83.36			83.36	
83.39			83.39	
84			84	
86			86	
88			88	
54+00.00			55+00.00	
82.19			82.19	
82.29			82.29	
82.33			82.33	
82.38			82.38	
82.59			82.59	
82.95			82.95	
83.30			83.30	
83.36			83.36	
83.39			83.39	
84			84	
86			86	
88			88	

SCALE: HORIZ. 1" = 40 Feet  
 VERT. 1" = 4 Feet

ORANGE COUNTY PUBLIC WORKS  
 SHERRY DRIVE  
 REPLACEMENT

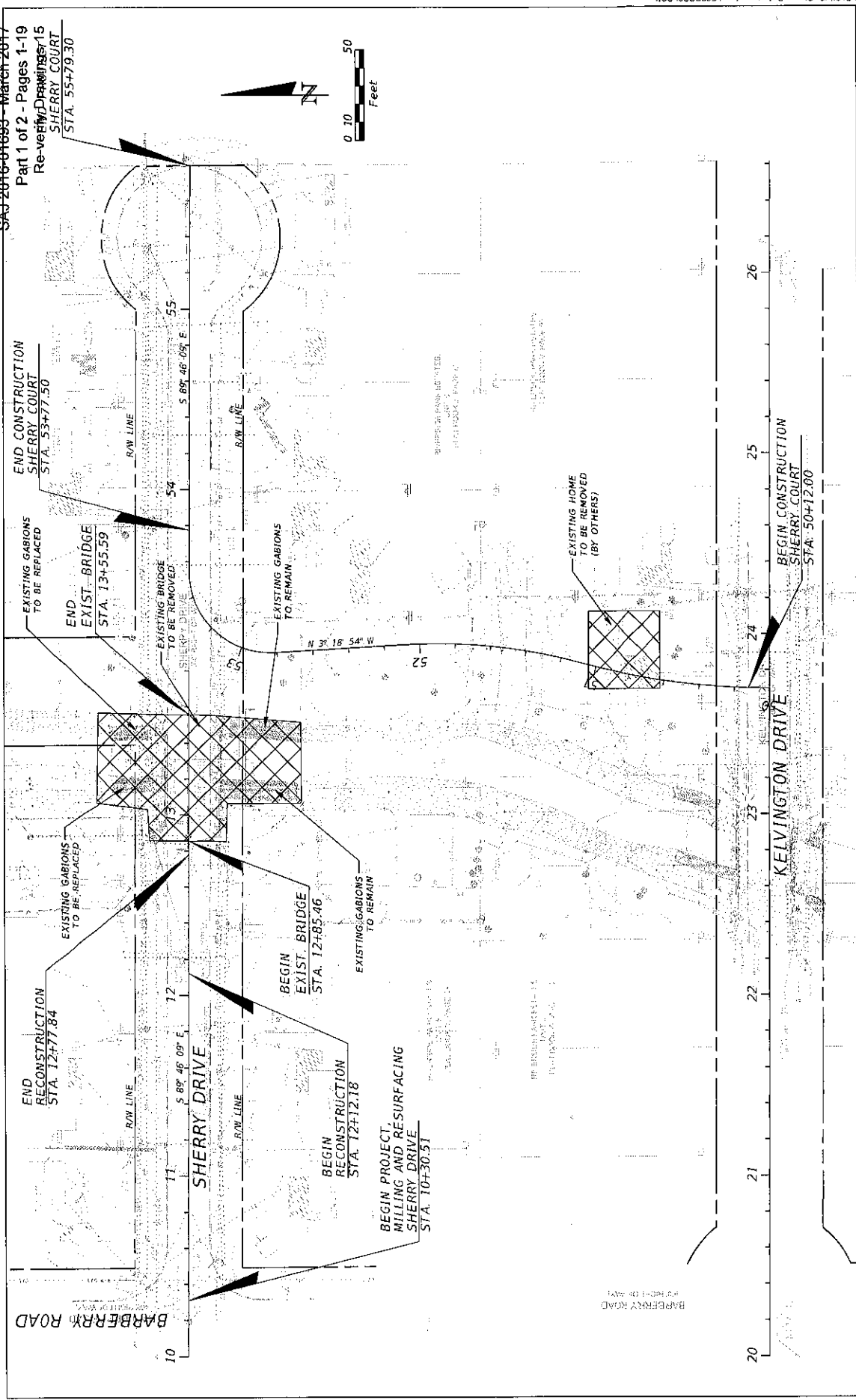
GTC PROJECT NO. FLO 1110  
 OCPW PROJECT NO. 27.22

GTC Engineering Corporation  
 91 South Bonanza Blvd., Suite 200, San Jose, CA 95128  
 Phone: (408) 471-8800  
 Fax: (408) 471-8801  
 www.gtc-engineering.com

Sherry Drive  
 Replacement  
 STA. 54+00.00 TO STA. 55+79.30

SHEET NO. 12

Attachment 1 - Permit Drawings  
 SAJ-2016-04693 - March 2017  
 Part 1 of 2 - Pages 1-19  
 Re-verify Drawings 15  
 SHERRY COURT  
 STA. 55+79.30



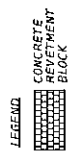
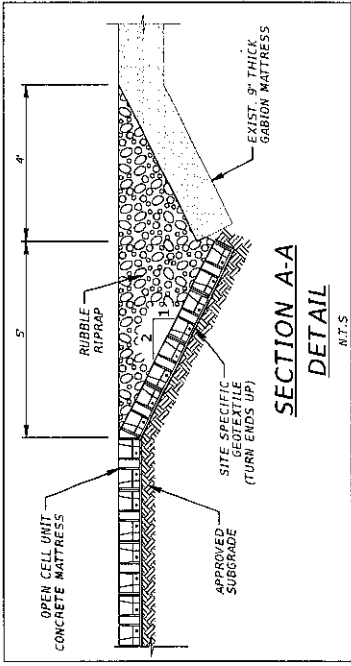
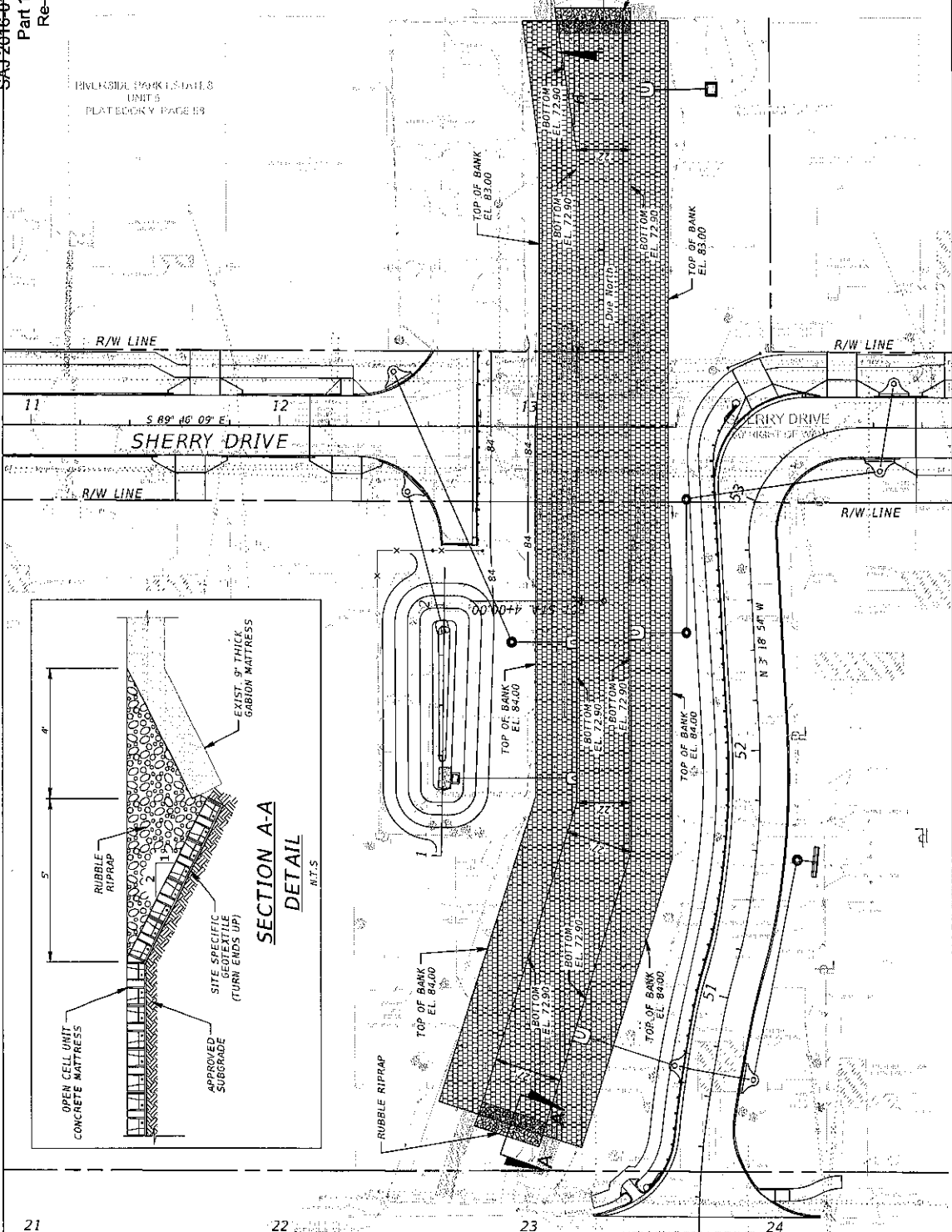
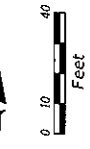
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<b>GTC Engineering Corporation</b> 98 South Swensen Blvd., Deltona, FL 32747 Phone: 407-261-0441 FAX: 407-261-0442 Certificate of Authorization Number 0118		<b>ORANGE COUNTY PUBLIC WORKS</b>
GTC PROJECT NO.	SHERRY DRIVE REPLACEMENT	OCCPW PROJECT NO.
FLO 1110	2722	

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 DEMOLITION PLAN

Attachment 1 - Permit Drawings  
 SAJ 2016-01693 - March 2017  
 Part 1 of 2 - Pages 1-19  
 Re-verify Drawings 16

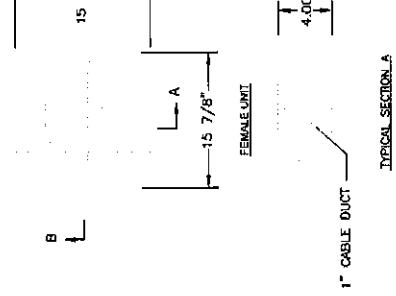
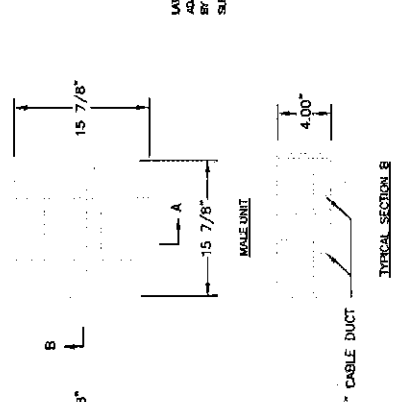
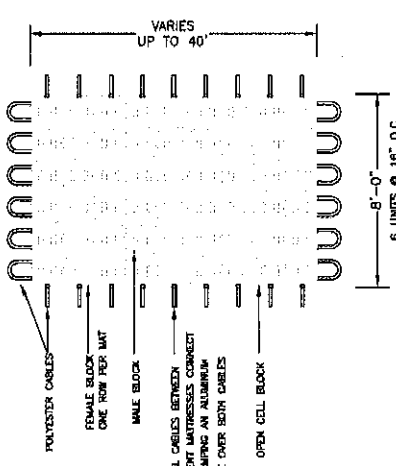
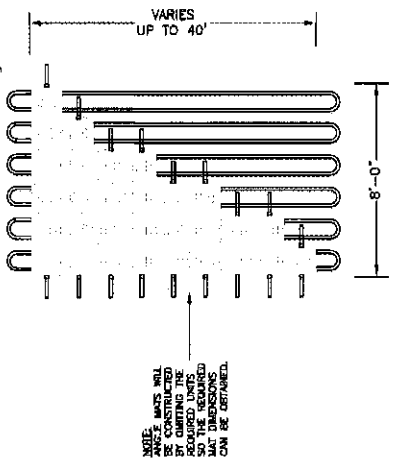


DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION

<b>GTC Engineering Corporation</b> <small>11100 S. Orange Blvd., Suite 100, Orange, CA 92668        Phone: (714) 962-8888        Fax: (714) 962-5100        Complete Engineering Solutions</small>		<b>ORANGE COUNTY PUBLIC WORKS</b>		SHEET NO. <b>13A</b>
Project No. <b>FLO 1110</b>		Project No. <b>2722</b>		DATE: <b>4/4/2016</b>
Client: <b>City of Orange</b>		Project Name: <b>Sherry Drive Replacement</b>		Drawn by: <b>W. J. ...</b>
Checked by: <b>L. ...</b>		Project No. <b>2722</b>		Scale: <b>AS SHOWN</b>
Approved by: <b>[Signature]</b>		Project No. <b>2722</b>		Sheet No. <b>13A</b>

FILE: H:\Projects\10110-5\Drawings\BANK-PROTECTION.dgn DATE: 4/4/2016 10:03:11 AM



1) SHOREBLOCK® BD-400-OC BLOCK  
NOT TO SCALE

2) SHOREBLOCK® BD-400-OC MATRESS  
NOT TO SCALE

3) TYP. ANGLE MAT  
NOT TO SCALE

4) MAT TO MAT CONNECTION  
NOT TO SCALE

**NOTE:**  
 FEMALE BLOCKS ARE USED ON THE OUTSIDE OF THE MATS TO ALLOW CRAMPING.

**TECHNICAL SPECIFICATIONS**  
 1) SHOREBLOCK® UNITS ARE MANUFACTURED IN ACCORDANCE WITH ASTM 90 AND C140 AND THE FOLLOWING CRITERIA:  
 A) CONCRETE UNIT WEIGHT 130-160 LBS/CY  
 B) MINIMUM COMPRESSIVE STRENGTH 11-4,000 PSI  
 C) MAXIMUM ABSORPTION 5%  
 D) DIMENSIONAL TOLERANCE ±.18"

2) POLYESTER CABLING.

**ASSEMBLY SPECIFICATIONS**  
 1) SHOREBLOCK® UNITS ARE SHOP ASSEMBLED IN A CABLED MATRESS AS SHOWN ABOVE.

2) SHOREBLOCK® MATS ARE PLACED BY THE CONTRACTOR IN THE FIELD ON PREPARED SLOPES PER THE CONTRACT DRAWINGS.

**DISCLAIMER:**  
 THE INFORMATION CONTAINED HEREIN HAS BEEN COMPILED BY SHOREBLOCK LLC AND TO THE BEST OF OUR KNOWLEDGE ACCURATELY REPRESENTS THE SHOREBLOCK'S PRODUCT USE IN THE APPLICATIONS WHICH ARE ILLUSTRATED. FINAL DETERMINATION OF THE SUITABILITY FOR THE USE CONTAINED HEREIN AND ITS MANNER OF USE ARE THE SOLE RESPONSIBILITY OF THE USER. STRUCTURAL DESIGN AND ANALYSIS SHALL BE PERFORMED BY A QUALIFIED PROFESSIONAL ENGINEER.

THIS DRAWING IS BEING SUBMITTED FOR YOUR SPECIFIC PROJECT ONLY. ANY REUSE OR ADAPTATION OF THIS DRAWING FOR ANY OTHER PROJECT OR PURPOSE WITHOUT THE CONSENT OF ACT ENVIRONMENTAL IS STRICTLY PROHIBITED. IN WITNESS WHEREOF, WE HAVE SIGNED AND SEALED THIS DRAWING AS AN ENVIRONMENTAL AID AND ADDRESS THAT IT COMPLIES WITH THE REQUIREMENTS OF THE ACT.

REVISIONS	DATE	DESCRIPTION

PROJECT NAME:	STANDARD UNIT DETAIL
PREPARED BY:	MCCOY RAFFERTY & ASSOCIATES, S.L.L.C.

PREPARED FOR:	ACT ENVIRONMENTAL
DATE:	03.22.12
PROJECT NO.:	2722
SCALE:	NOT TO SCALE

SHOREBLOCK® BD-400-OC REVEMENT UNIT
DATE: 03.22.12
PROJECT NO.: 2722
SCALE: NOT TO SCALE

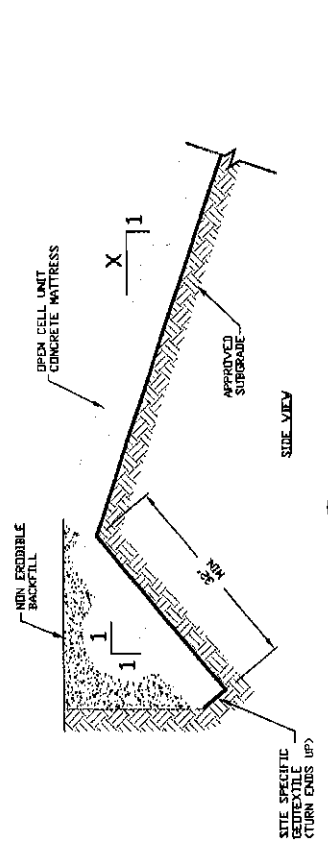
DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION

**GTC Engineering Corporation**  
 98 South Somerset Blvd., Orlando, FL 32807  
 Phone Number: 407.200.0462  
 Charles L. Cavonius, P.E.  
 Certificate of Authorization Number 0756  
 P.E. Number 25596

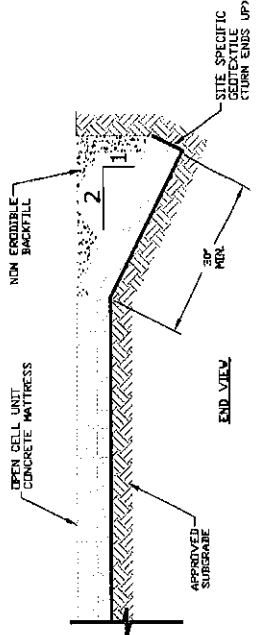
**ORANGE COUNTY PUBLIC WORKS**  
 GTC PROJECT NO: FLO 1110  
 SHERY DRIVE BRIDGE REPAIRMENT  
 CCWV PROJECT NO: 2722

**CONCRETE REVEMENT BLOCK DETAILS**





6 TOP OF DETAIL  
 NOT TO SCALE



8 LONGITUDINAL FLANK  
 NOT TO SCALE

**DISCLAIMER:**  
 THE INFORMATION CONTAINED HEREIN HAS BEEN COMPILED BY SHORETECH LLC AND TO THE BEST OF OUR KNOWLEDGE, ACCURATELY REPRESENTS THE SHORETECH PRODUCT USE IN THE APPLICATIONS WHICH ARE ILLUSTRATED. FINAL DETERMINATION OF THE SUITABILITY FOR THE USE CONTINGATED OWNER OF USE ARE THE SOLE RESPONSIBILITY OF THE USER. STRUCTURAL DESIGN AND ANALYSIS SHALL BE PERFORMED BY A QUALIFIED ENGINEER.  
 THIS DRAWING IS BEING SUBMITTED FOR THIS SPECIFIC PROJECT ONLY. ANY REUSE OR MODIFICATION OF THIS DRAWING WITHOUT THE CONSENT OF ACT ENVIRONMENTAL THAT IT SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART, NOR DISCLOSED TO OTHERS WITHOUT THE CONSENT OF ACT ENVIRONMENTAL.

REVISIONS	DATE	DESCRIPTION

PROJECT NAME: STANDARD UNIT DETAIL  
 PREPARED BY: MERRY MAPPING & DESIGN, LLC  
 PROJECT NO: 2722  
 SHEET NO: 13C

PREPARED FOR: ACT ENVIRONMENTAL  
 2831 Cabell Road  
 Richmond, VA 23234  
 www.actenvironmental.com

SHORETECH® BD-400-OC REVERSMENT UNIT  
 DATE: 02-22-12  
 DRAWING NAME: TYPICAL DETAILS  
 CHECKED BY: JIN  
 SCALE: NOT TO SCALE

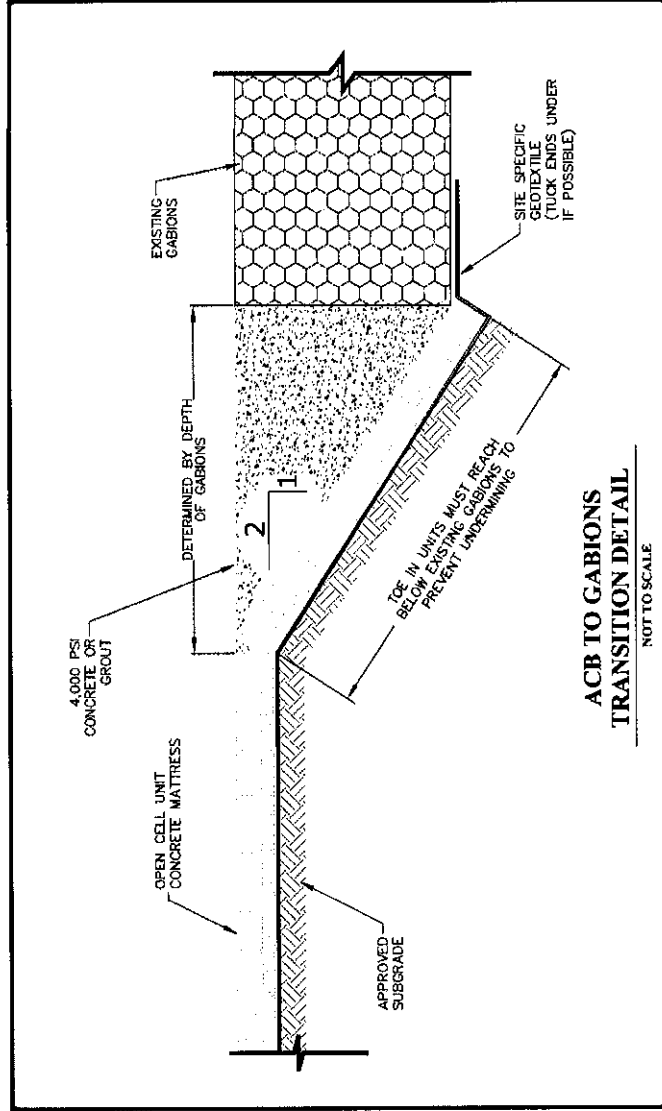


DATE	DESCRIPTION	DATE	DESCRIPTION

**GTC Engineering Corporation**  
 98 South Seminole Blvd., Orlando, FL 32807  
 Phone Number - 407-380-6662  
 Certificate of Professional Engineer  
 Number 6724  
 Charles L. Casagrande, P.E.  
 P.E. Number 5399

**ORANGE COUNTY PUBLIC WORKS**  
 SITE PROJECT NO: 2722  
 DCPW PROJECT NO: 2722  
 SHERY DRIVE BRIDGE REPAIR/REPLACE

**CONCRETE REVERSMENT BLOCK DETAILS**  
 SHEET NO: 13C  
 DATE: 4/2/2016 10:53:48 PM  
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REPAIRED BY: **ACE ENVIRONMENTAL**  
 2811 Cedar Road  
 Blacksburg, VA 24064  
 Phone (803) 271-2265  
 www.aceenvironmental.com

DATE: 2/16/16  
 DRAWING NAME: ACF DETAILS  
 CHECKED BY: RANDY T.  
 SCALE: N.T.S.  
 DRAWING NUMBER: ACF TO GABIONS

TITLE: ACF TO GABIONS Transition Detail

DATE: 2/16/16  
 DRAWN BY: MDD  
 CHECKED BY: RANDY T.  
 SCALE: N.T.S.  
 DRAWING NAME: ACF TO GABIONS

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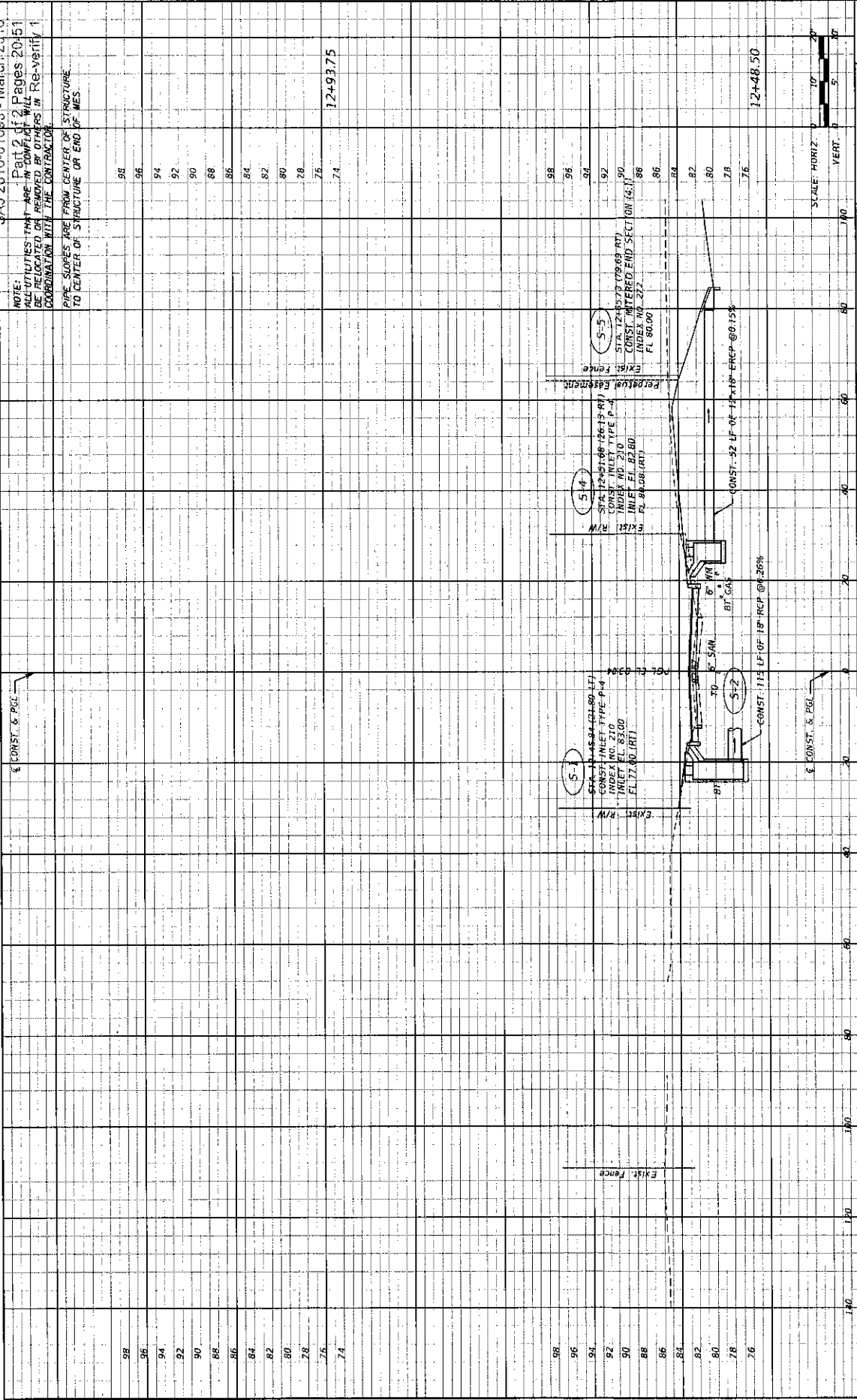
GTC Engineering Corporation  
 94 Shawnee Blvd. Suite #1, 21807  
 Phone Number: 401.388.0683  
 Charles I. Cummings, P.E.  
 License Number: 35709

DATE	DESCRIPTION	DATE	DESCRIPTION

ORANGE COUNTY PUBLIC WORKS		CONCRETE RETEMENT BLOCK DETAILS	
GTC PROJECT NO. FLO 11.10	OCPW PROJECT NO. 27.22	SHEEP DRIVE BRIDGE REPLACEMENT	SHEET NO. 13D

Attachment 1 - Permit Drawings

SA 12-16-04500 - March 2016

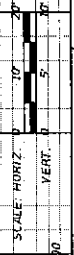


NOTE: ALL DIMENSIONS SHALL BE RECHECKED OR RECORDED BY OTHERS IN REVISION 1 COORDINATION WITH THE CONTRACTOR.

PIPE SLOPES ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE OR END OF MES.

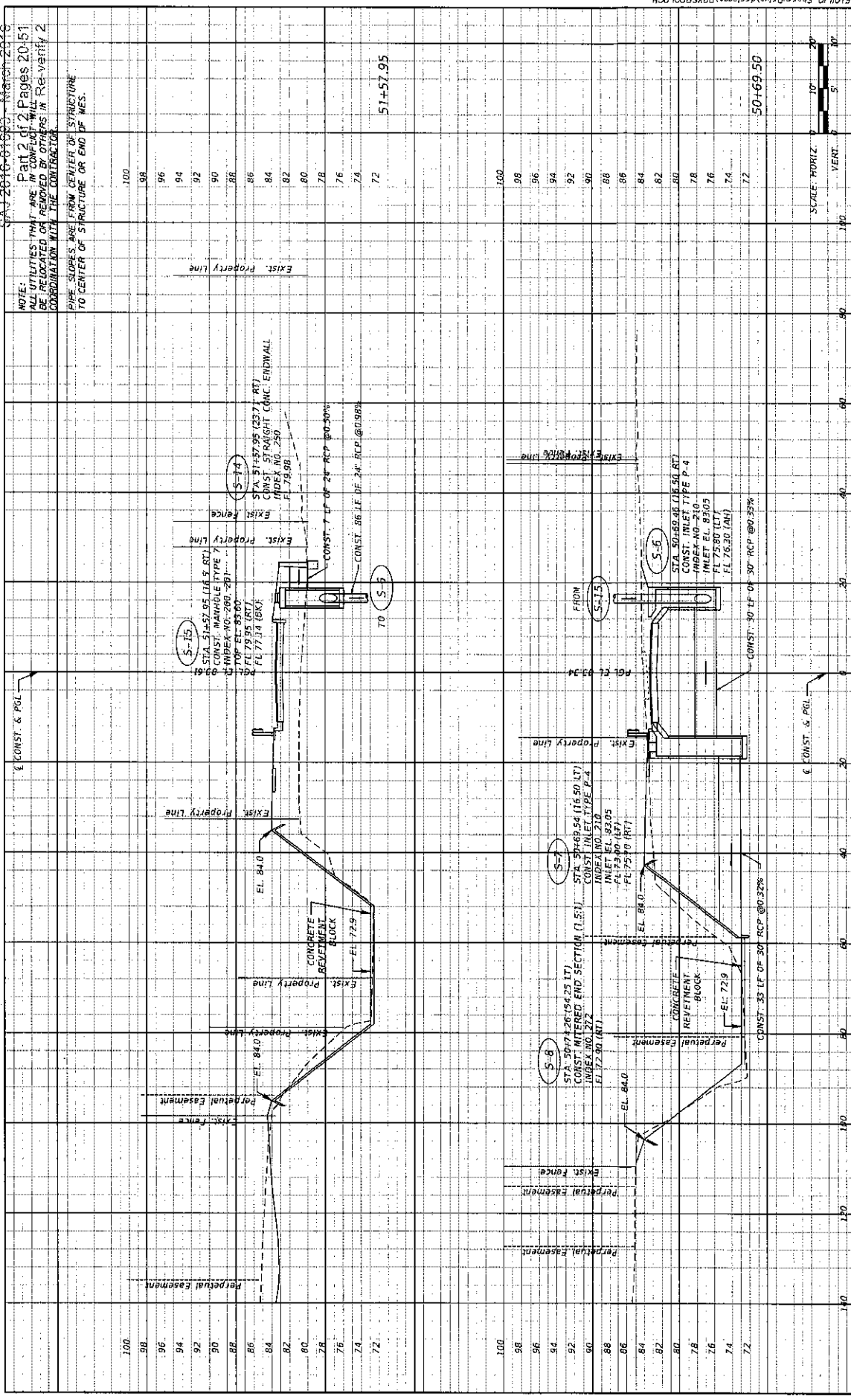
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78	
76	12+48.50



FILE: H:\2016\10110-SHERRY DRIVE BRIDGE REPLACEMENT\DRS\DRG.DGN DATE: 4/2/2016 10:54:14 PM

DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION
<b>GTC Engineering Corporation</b> 98 South Semoran Blvd, Orlando, FL 32817 Phone Number: 407.788.0487 Certificate of Authorization Number 6758 Claude L. Casagrand, P.E. P.E. Number 3349		<b>ORANGE COUNTY PUBLIC WORKS</b> SHERRY DRIVE BRIDGE REPLACEMENT FLO 11.10 OCRM PROJECT NO. 2722		
<b>SHERRY DRIVE BRIDGE REPLACEMENT</b> <b>DRAINAGE STRUCTURE SHEET</b>		SHEET NO. 14		



NOTES:  
 ALL UTILITIES THAT ARE IN CONFLICT WILL BE RELOCATED OR REMOVED BY OTHERS IN RE-VERIFY 2 COORDINATION WITH THE CONTRACTOR.  
 PIPES SLOPES ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE OR END OF MES.

DATE	DESCRIPTION	DATE	REVISIONS

GTC Engineering Corporation 14 South State Street, Orlando, FL 32807 Phone Number: 407.280.8400 Certificate of Registration Number 6153	ORANGE COUNTY PUBLIC WORKS GTC PROJECT NO: FLO 1110	SHERRY DRIVE BRIDGE REFURBISHMENT 2722	OCPW PROJECT NO: 2722
<b>SHERRY COURT                  DRAINAGE STRUCTURE SHEET</b>		SHEET NO. 15	

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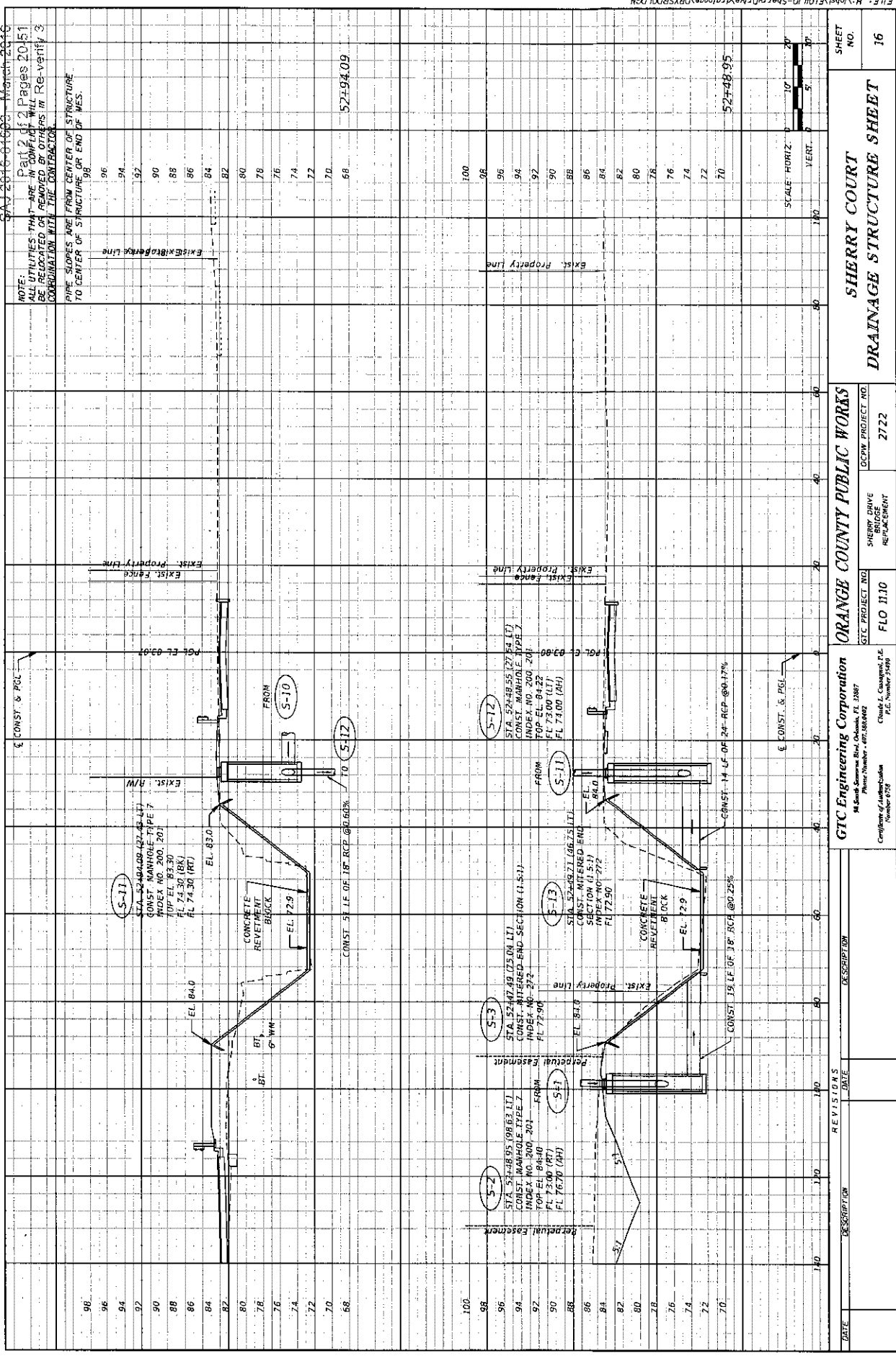
Attachment 1 - Permit Drawings

SAJ 2016-01600 - March 2016

Part 2 of 2 Pages 20-51

NOTE: ALL UTILITIES THAT ARE IN CONFLICT WILL BE RELOCATED OR REMOVED BY OTHERS IN RE-VERIFY 3 COORDINATION WITH THE CONTRACTOR.

PIPE SLOPES ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE OR END OF PIPES.



DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION

**GTC Engineering Corporation**  
 14 South Swannock Blvd., Oklawaha, FL 32887  
 Phone Number - 407-380-9902  
 Certificate of Authorization  
 Number 0758

**ORANGE COUNTY PUBLIC WORKS**  
 GTC PROJECT NO: FLO 1110  
 SHERRY COURT DRIVE BRIDGE  
 RE-VERIFY SHEET

DCPW PROJECT NO: 2722

**SHERRY COURT DRAINAGE STRUCTURE SHEET**  
 SHEET NO. 16

DATE: 4/2/2016 10:04:42 PM  
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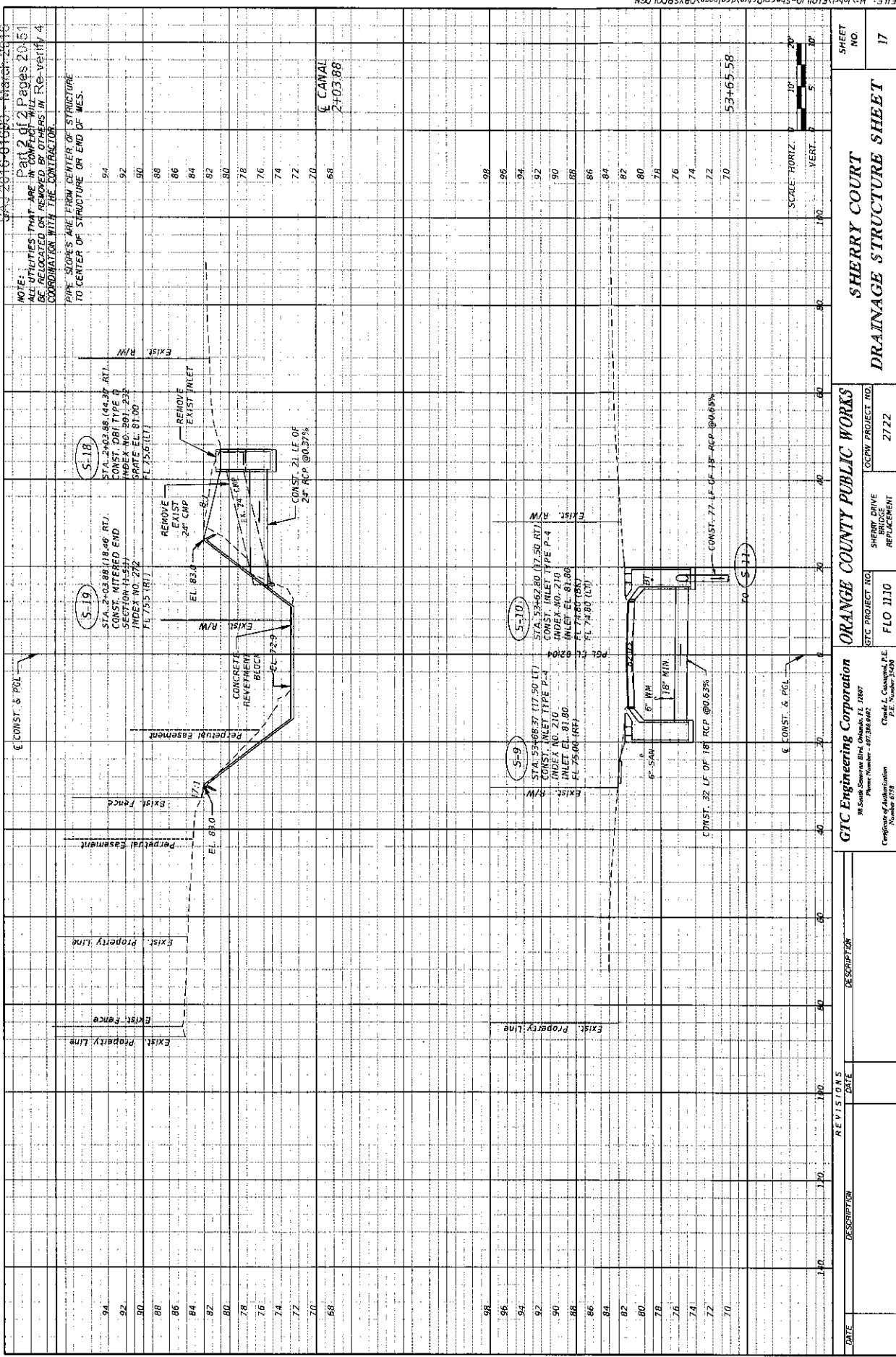
Attachment 1 - Permit Drawings

City 2016-01000 - March 2016

Part 2 of 2 Pages 20 of 4

NOTE: ALL UTILITIES THAT ARE IN CONFLICT WILL BE RELOCATED OR REMOVED BY OTHERS IN RE-VEGETATION COORDINATION WITH THE CONTRACTOR.

PIPE SLOPES ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE OR END OF MES.



FILE: H:\0601\FLO\_10-Sherr Court\Drawings\DRSRDD1.DGN DATE: 4/2/2016 10:04:42 PM

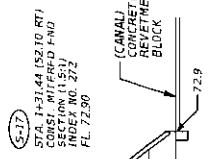
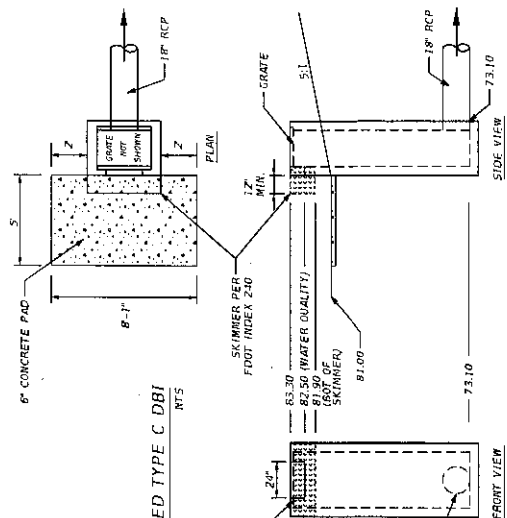
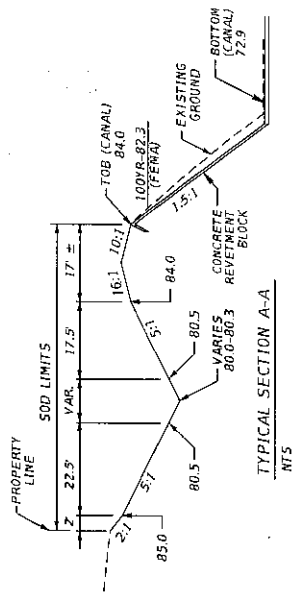
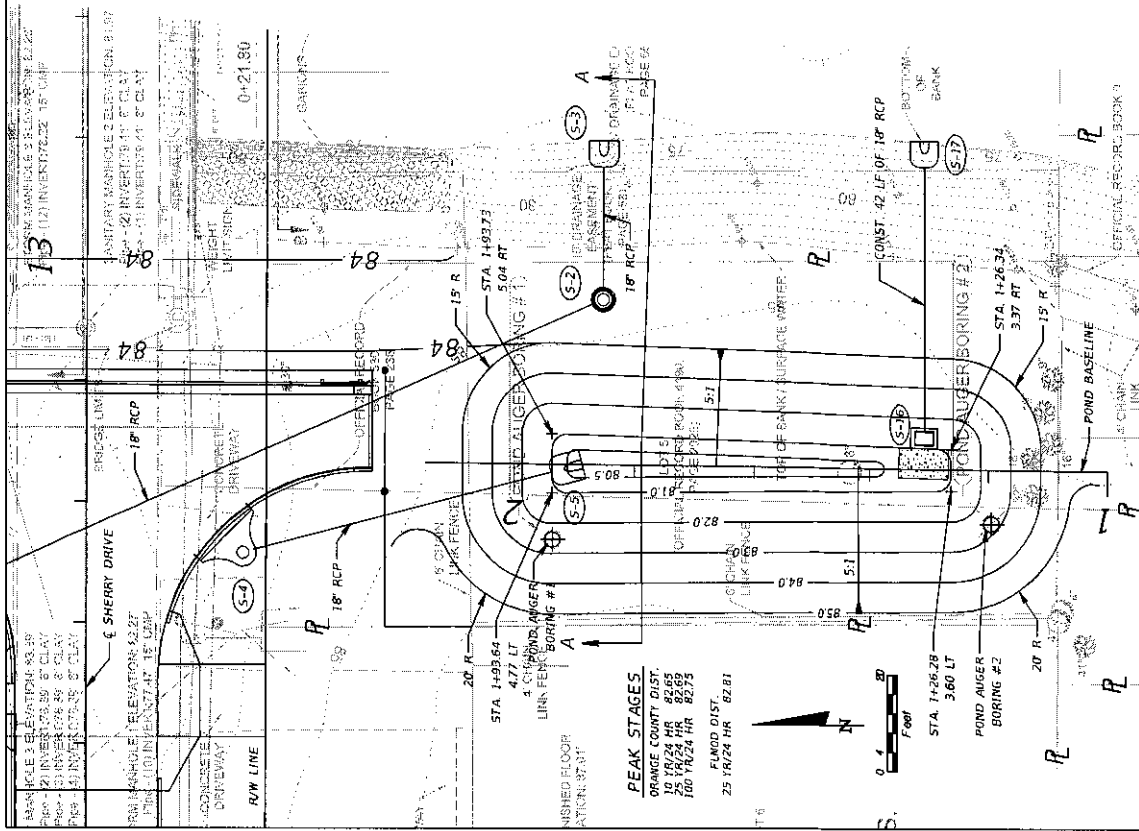
DATE	DESCRIPTION	REVISIONS	DATE

ORANGE COUNTY PUBLIC WORKS	SHERR COURT DRIVE REPLACEMENT	OCPW PROJECT NO 2722	PROJECT NO FLO 1110
GTC Engineering Corporation	98 South Osborne Blvd., Ocala, FL 32807 Phone: (352) 304-5442 Cheryl L. Cummings, P.E. FL Engineer #5458	4/2/2016 6:04:42 PM H:\0601\FLO_10-Sherr Court\Drawings\DRSRDD1.DGN	

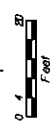


SHEET NO. 17

DRAINAGE STRUCTURE SHEET



PEAK STAGES  
 ORANGE COUNTY DIST.  
 12 1R/24 HR 82.65  
 25 1R/24 HR 82.69  
 100 1R/24 HR 82.75  
 FLANGED DIST.  
 25 1R/24 HR 82.81



DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION

<b>GTC Engineering Corporation</b> <small>19 South Broadway Blvd., Suite 200, Orange, CA 92667                  Phone: (714) 962-0700                  Fax: (714) 962-0701                  Website: www.gtc-engineering.com</small>		ORANGE COUNTY PUBLIC WORKS GTC PROJECT NO. FLO 11.10 SHERRY DRIVE REPLACEMENT OCPW PROJECT NO. 2722	SHEET NO. 18
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QUADRANGLE: ORLANDO WEST, FLA  
 SECTION: 33  
 TOWNSHIP: 21 SOUTH  
 RANGE: 29 EAST  
 SURVEY BEGINS: 10+00, SHERRY DRIVE  
 SURVEY ENDS: 16+39, SHERRY DRIVE  
 DATE REPORTED: December 2012


**NADIC ENGINEERING SERVICES, INC**  
**ROADWAY SOIL SURVEY**  
**REPORT OF TESTS**

NES PROJECT NO.: R12016  
 PROJECT DESCRIPTION: SHERRY DRIVE  
 SUBMITTED BY: NES

STRATUM NO.	ORGANIC CONTENT		MOISTURE CONTENT		SIEVE ANALYSIS RESULTS						ATTERBERG LIMITS (A-1)				CORROSION TEST RESULTS				SUBSTRUCTURE ENVIRONMENTAL CLASSIFICATION				
	No. of Tests	% Organic	No. of Tests	% Moisture Content	No. of Tests	% Passing 10 Mesh	% Passing 40 Mesh	% Passing 60 Mesh	% Passing 100 Mesh	% Passing 200 Mesh	No. of Tests	LIQUID LIMIT	PLASTICITY INDEX	ASHITO GROUP	DESCRIPTION	No. of Tests	pH	RESISTIVITY OHM-CM		CHLORIDES PPM	NYEABE PPM	CONCRETE	STEEL
1	2	0	2	24	2	96-98	92-94	89-96	86-96	8	1	25	11	A-3	BROWN TO GRAY FINE SAND WITH LIGHT CLAY TRACHELIMURCK	1	-	-	-	-	-	-	-
2	2	0	1	20	2	99	96-96	95-96	94-98	15-21	1	25	11	A-6-8	GRAY TO BROWN CLAYEY SAND	1	-	-	-	-	-	-	-
3	2	0	2	24-22	2	100	99	96	94-96	31-46	1	33	18	A-7-6	BROWN TO GRAY SANDY CLAY	1	-	-	-	-	-	-	-

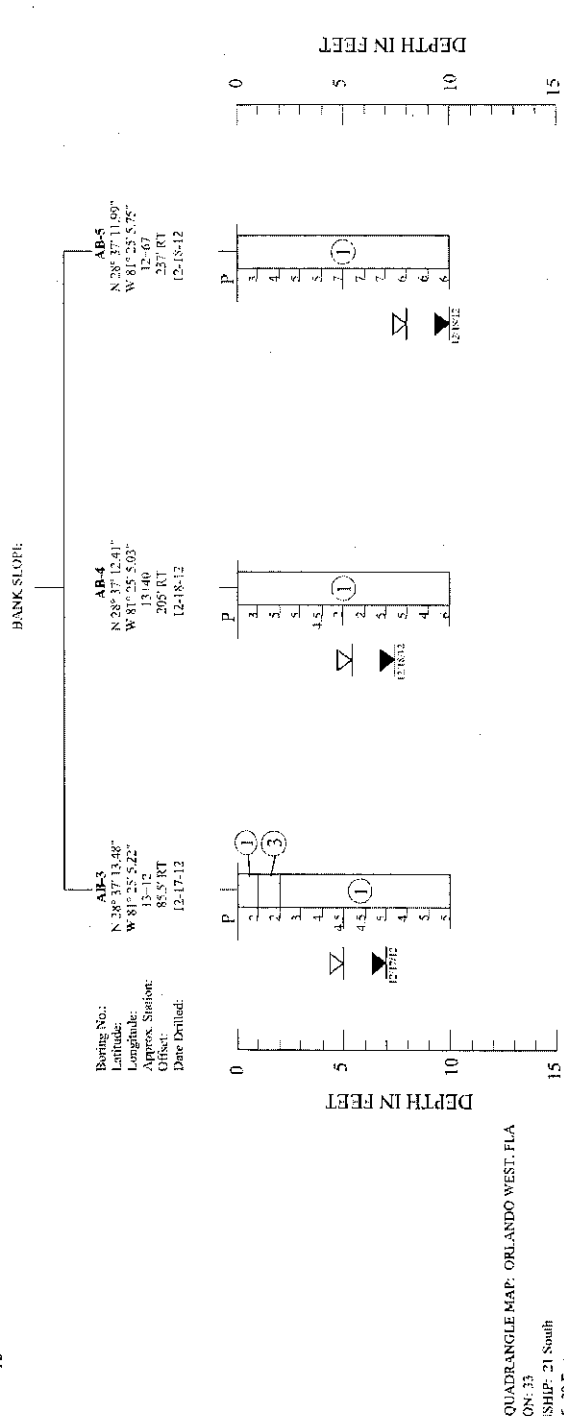
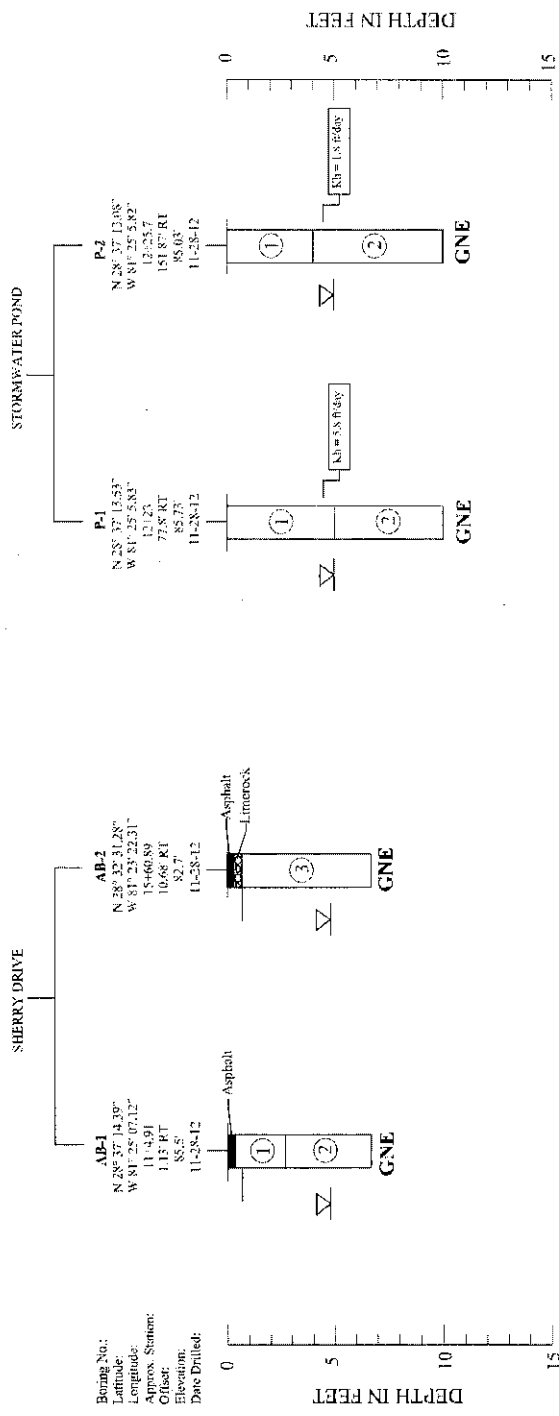
NOTES

- STRATA BOUNDARIES ARE APPROXIMATE AND REPRESENT SOIL STRATA AT EACH TEST HOLE LOCATION ONLY. ANY STRATUM CONNECTING LINES SHOWN ARE FOR ESTIMATING EARTHWORK ONLY AND DO NOT INDICATE ACTUAL STRATUM LIMITS. SURFACE VARIATIONS BETWEEN BORDERS SHOULD BE ANTICIPATED AS INDICATED IN FOOT SECTION 2-1. FOR FURTHER DETAILS SEE FOOT STANDARD SPECIFICATIONS SECTION 120-2.
- SOIL PARAMETER NOT TESTED DENOTED AS "-" ABOVE.
- INDICATES WATER TABLE ENCOUNTERED AT THE TIME OF SURVEY.
- INDICATES ESTIMATED SEASONAL HIGH WATER LEVEL.
- INDICATES GROUNDWATER NOT ENCOUNTERED IN TOP 5 FEET.
- REMOVAL OF PLASTIC MATERIAL OCCURRING WITHIN THE ROADWAY SHALL BE ACCOMPLISHED IN ACCORDANCE WITH INDEX NO. 500 UNLESS OTHERWISE STATED IN THE PLANS. THE MATERIAL UTILIZED IN EMBANKMENT CONSTRUCTION SHALL BE IN ACCORDANCE WITH FOOT STANDARD INDEX NO. 505.
- STRATUM 1 SHALL BE TREATED AS SELECT (S) MATERIALS PER INDEX NO. 505.
- STRATUM 2 SHALL BE TREATED AS PLASTIC (P) MATERIALS PER INDEX NO. 500 & 505.
- STRATUM 3 SHALL BE TREATED AS HIGH PLASTIC (H) MATERIALS PER INDEX NO. 500 & 505.

DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION
 City of Orange Department of Engineering Consulting Engineers		GODWIN N. KNADT, P.E., P.E. P.E. NO. 50637 NES 601 N. Hart Boulevard ORLANDO, FLORIDA 32818		
ROAD No. SHERRY DRIVE COUNTY ORANGE PROJECT ID Y11-901B		ORANGE COUNTY PUBLIC WORKS		
USER: JG DATE: 12/28/12		ROADWAY SOIL SURVEY		
SHEET NO. 19		FILE: 2:\Roadway\16000\01095\Sherry Drawn\16000		



- ① Brown to gray fine SAND to fine SAND with silt/clay, trace limonite (A-2)
- ② Gray to brown clayey SAND, (A-2-6)
- ③ Brown to gray sandy CLAY, (A-7-6)
- GNE Groundwater not encountered in the top 10 feet
- ▽ Groundwater level encountered on date shown
- Estimated seasonal high groundwater level
- (A-3) A.A.S.U.T.: Soil classification group symbol as determined by visual examination.
- Kh Horizontal Infiltration Rate, feet/day



Correlation Between Hand Core Penetration Readings & Compaction	
FINE SAND	CLAY
Dial Reading (x10 <sup>-3</sup> inches)	Dial Reading Consistency
< 6	Very Loose 9 to 1
6 to 11	Loose 1 to 2
11 to 20	Medium 2 to 4
20 to 30	Dense 4 to 6
> 30	Very Dense 6 to 11
---	Hard > 11

USGS QUADRANGLE MAP: ORLANDO WEST, FLA  
SECTION: 33  
TOWNSHIP: 21 South  
RANGE: 29 East

DATE	BY	DESCRIPTION	REVISIONS	DATE	BY

SHEET TITLE:		ORANGE COUNTY PUBLIC WORKS
PROJECT NAME:		SHERRY DRIVE
COUNTY:	ORANGE	PROJECT NO.:
PROJECT NO.:		Y11-901B

SHEET NO.:		20
PROJECT NO.:		NES Project No. RJ2016

**ORANGE COUNTY**  
FLORIDA

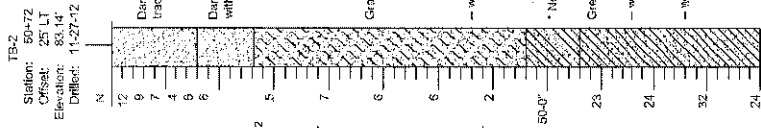
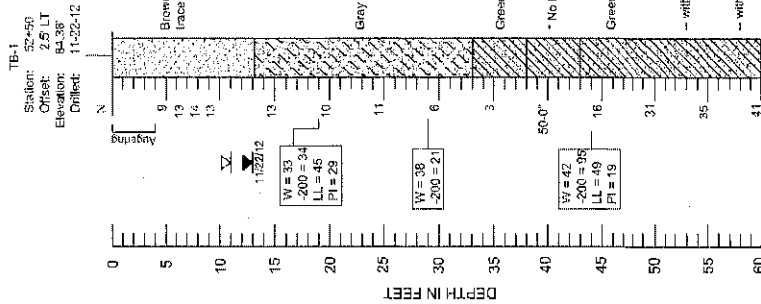
**NES**  
NATIONAL ENGINEERING SERVICES, INC.  
601 N. HART PROVE ROAD  
PULMONO, FL 32083  
CERTIFICATE OF AUTHORIZATION NO. 8214

NAME	DATE
DAI	12-29-12
CSN	12-29-12
NA	NA
NA	NA
75%	75%

DATE	DESCRIPTION

Drawn by: [Blank]  
Checked: [Blank]  
Designed: [Blank]  
Reviewed: [Blank]  
Approved: [Blank]

Blank Stabilization



LEGEND

- SAND
- CLAYEY SAND
- SILT
- CLAY
- CLAYEY CLAY
- SAND

(SP) Unified soil classification group symbol  
N Standard penetration test blow count (1979) (ASTM D 1586) using 140 lb weight  
11722/12 Groundwater level on date shown  
Estimated seasonal high groundwater level

Natural moisture content (%) (FTS 1-T 208)  
Percent passing no. 200 U.S. standard sieve (FTS 1-T 208)  
Liquid Limit (%) (FTS 1-T 208)  
Plasticity Index (%) (FTS 1-T 208)

NOTES

- Plan view is preliminary for showing boring locations only and may not be indicative of final plans.
- Subsurface variations between borings should be anticipated as indicated in Section 2.4 of the Standard Specifications.
- Based on a review of St. Johns River Water Management District's Polkborough map of the upper Floridan Aquifer for the Project Area, the maximum potential Aquifer Head Elevation in the Florida Aquifer is estimated to be approximately +40 to +45 feet MVD.

RELATIVE DENSITY

Very loose	Less than 1
Loose	1-10
Medium Dense	10-30
Dense	30-50
Very Dense	Greater than 50

CONSISTENCY

Very soft	Less than 2
Soft	2-4
Hard	4-8
Stiff	8-15
Very stiff	15-30
Hard	Greater than 30

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE

SUPERSTRUCTURE

PROJECT TITLE: REPORT OF SPT BORINGS (Roadway and Bank Stabilization)

PROJECT NO: Y11-901B

ROAD NO: SHERRY DR.

CITY: ORANGE

COUNTY: ORANGE COUNTY PUBLIC WORKS

DATE: 11-27-12

DRAWN BY: [Signature]

CHECKED BY: [Signature]

DESIGNED BY: [Signature]

APPROVED BY: [Signature]

DATE: 11-27-12

BY: [Signature]

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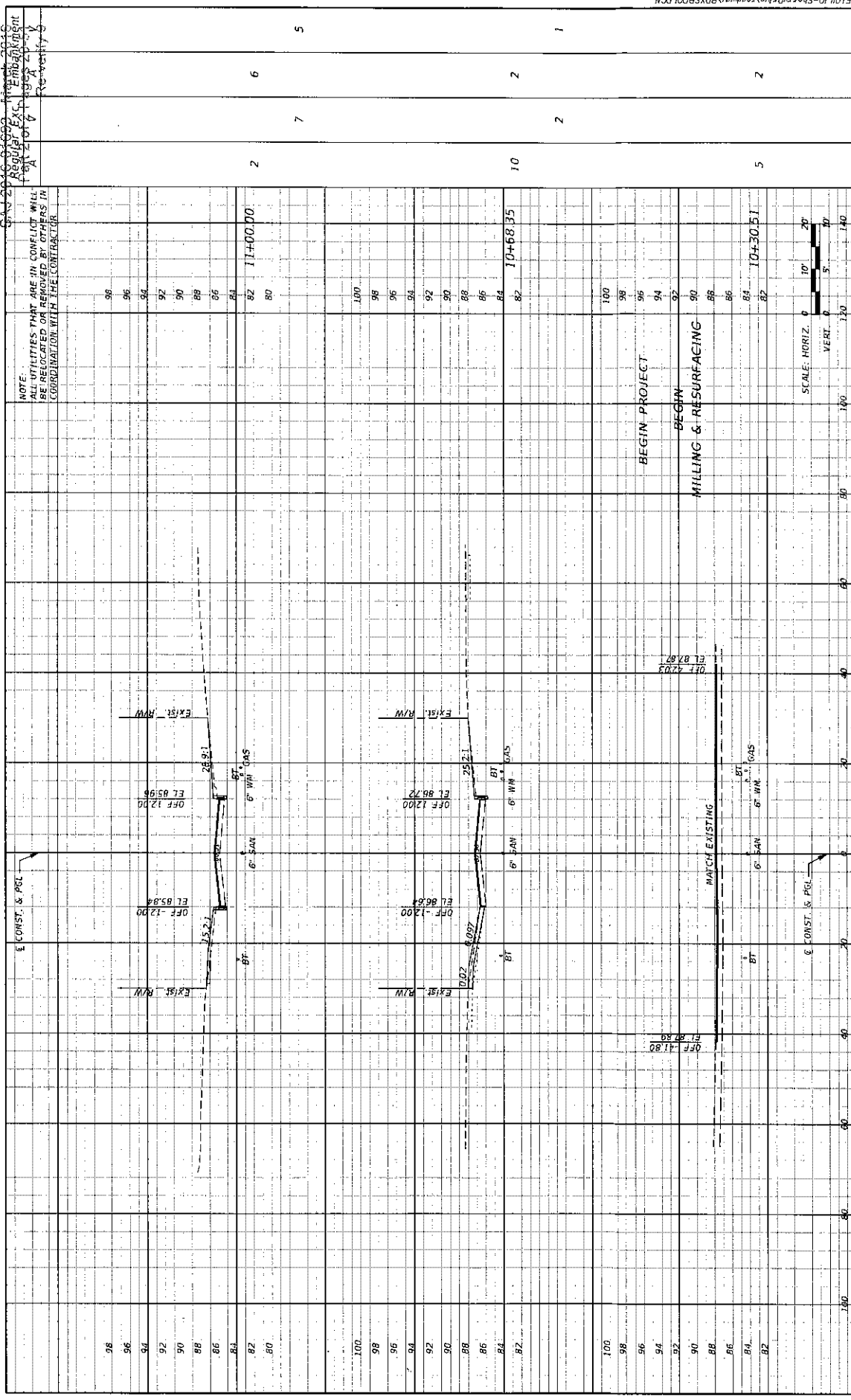
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USGS QUADRANGLE MAP: ORLANDO WEST, FLA  
SECTION: 33  
TOWNSHIP: 21 South  
RANGE: 29 East

Attachment 1 - Permit Drawings



NOTE: ALL UTILITIES THAT ARE IN CONFLICT WILL BE RELOCATED OR REMOVED BY OTHERS IN COORDINATION WITH THE CONTRACTOR

SCALE: HORIZ. 0 10' 20'  
VERT. 0 5' 10'

DATE: 4/2/2016 10:04:48 PM  
FILE: H:\061\FLOW\JO-SHER\TYD\TYD\FLOW\RD\X5\RD01.DGN

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**ORANGE COUNTY PUBLIC WORKS**

SIC PROJECT NO. FLO 1110

DCPW PROJECT NO. 2722

SHERITT DRIVE BRIDGE REPLACEMENT

**SHERRY DRIVE CROSS SECTIONS**

SHEET NO. 22

**GTC Engineering Corporation**

98 South Semoran Blvd., Orlando, FL 32837

Phone Number - 407-298-0402

Complete of Authorization Number 6758

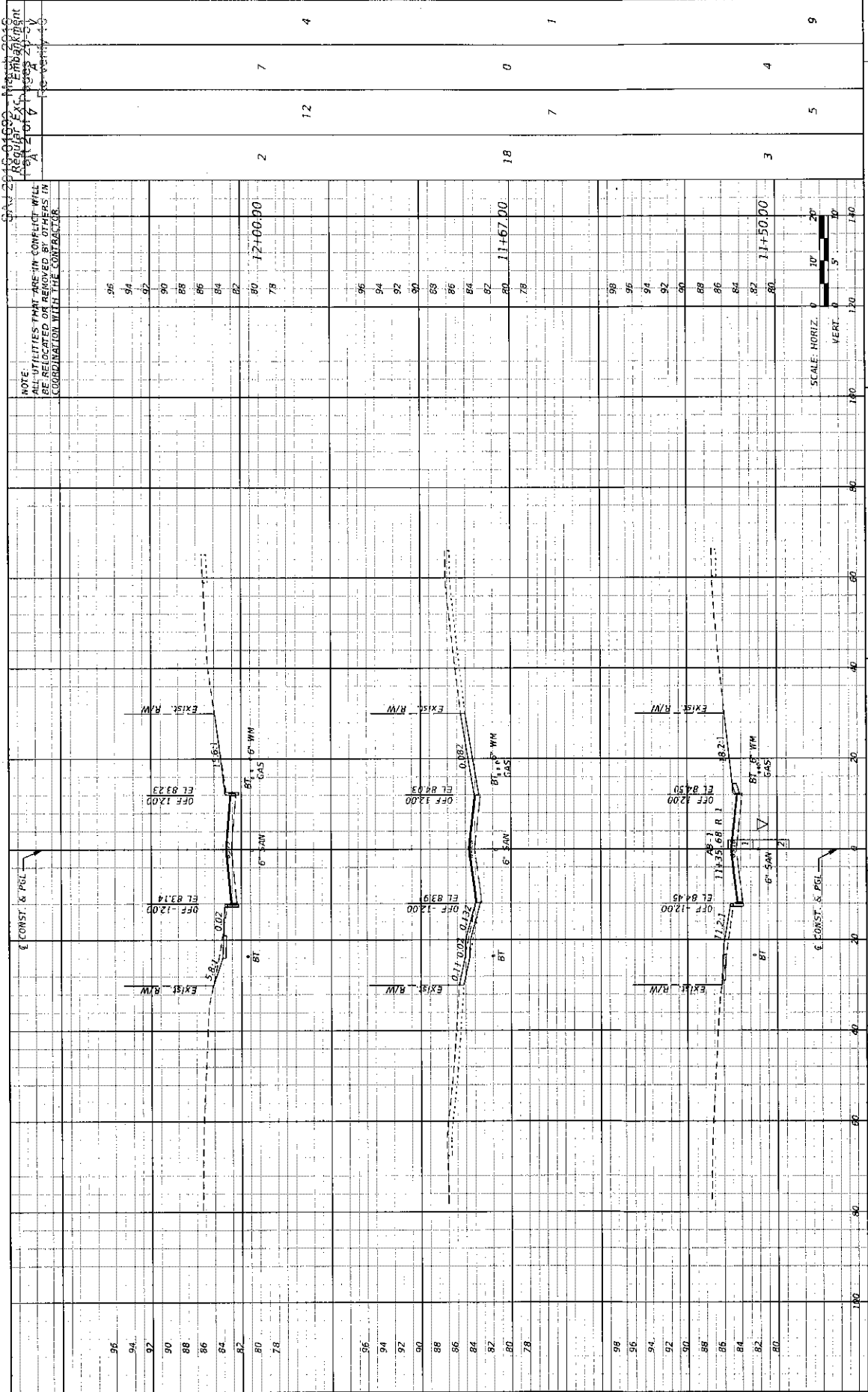
Crawford L. Carangelo, P.E.

P.E. Number 31499

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Attachment 1 - Permit Drawings



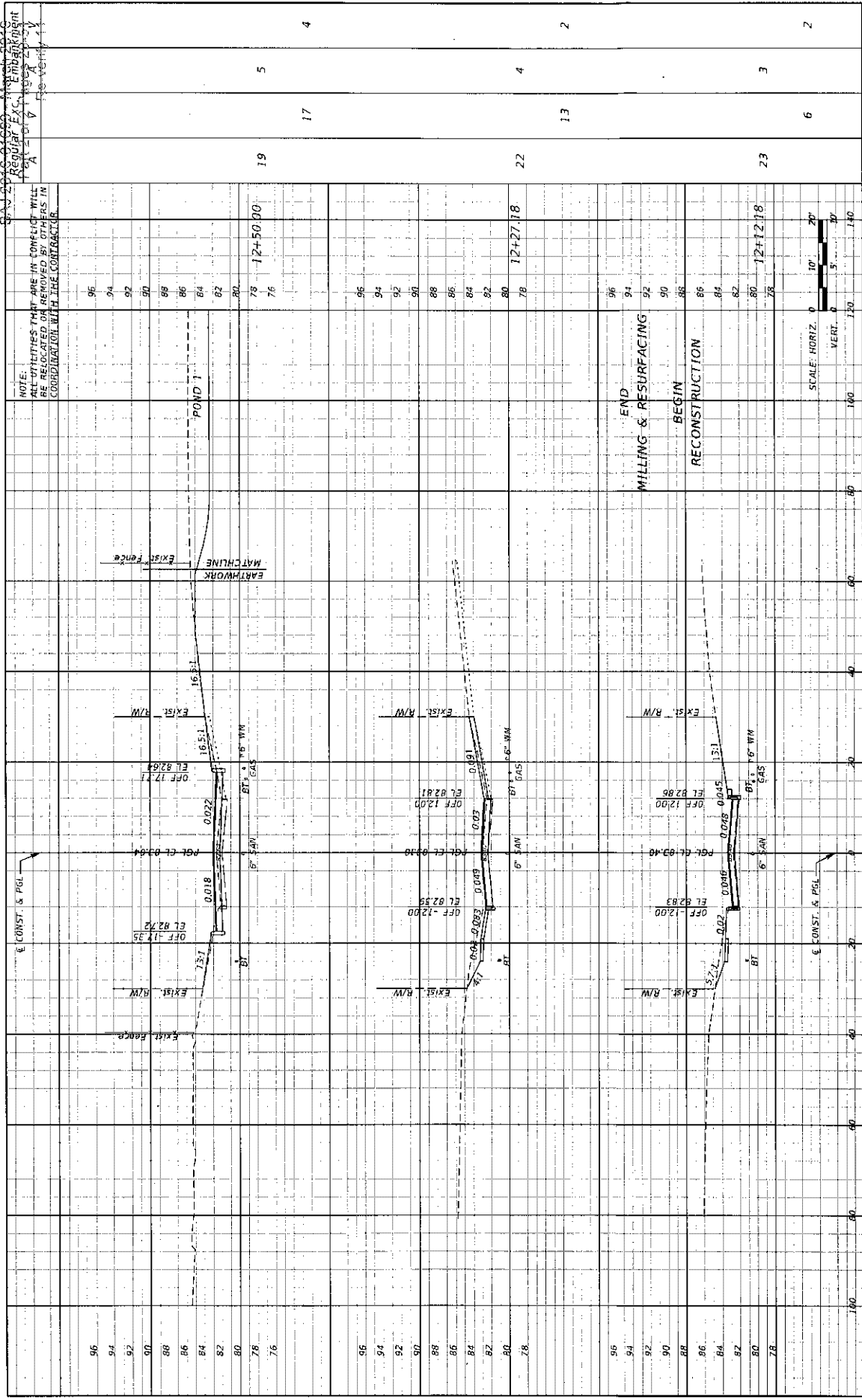
NOTE: ALL UTILITIES THAT ARE IN CONFLICT WILL BE RELOCATED OR REMOVED BY OTHERS IN COORDINATION WITH THE CONTRACTOR

SCALE: HORIZ. 1" = 10' VERT. 1" = 5'

DATE	DESCRIPTION	REVISIONS	DATE

<b>GTC Engineering Corporation</b> 38 South Sunrise Blvd., Orlando, FL 32837 Phone Number - 407.263.8807 Charles L. Casagrande, P.E. Certificate of Authorization Number 6792			<b>ORANGE COUNTY PUBLIC WORKS</b> GCPW PROJECT NO. 2722 SHERRY DRIVE REPLACEMENT FLO 1110
4/27/2016 10:54:48 PM H:\Users\N.FLOH\10-5487\FLO\1110\Drawings\PKS\SD01.DGN DATE: 4/27/2016 10:54:48 PM H:\Users\N.FLOH\10-5487\FLO\1110\Drawings\PKS\SD01.DGN			SHEET NO. 23

Attachment 1 - Permit Drawings



NOTE: ALL UTILITIES THAT ARE IN CONFLICT WILL BE RELOCATED OR REMOVED BY OTHERS IN COORDINATION WITH THE CONTRACTOR.

REGULAR EXISTING PAVEMENT  
 PAVED TO EXISTING GRADE  
 SEVERITY 1

SCALE: HORIZ. 1" = 10'  
 VERT. 1" = 5'

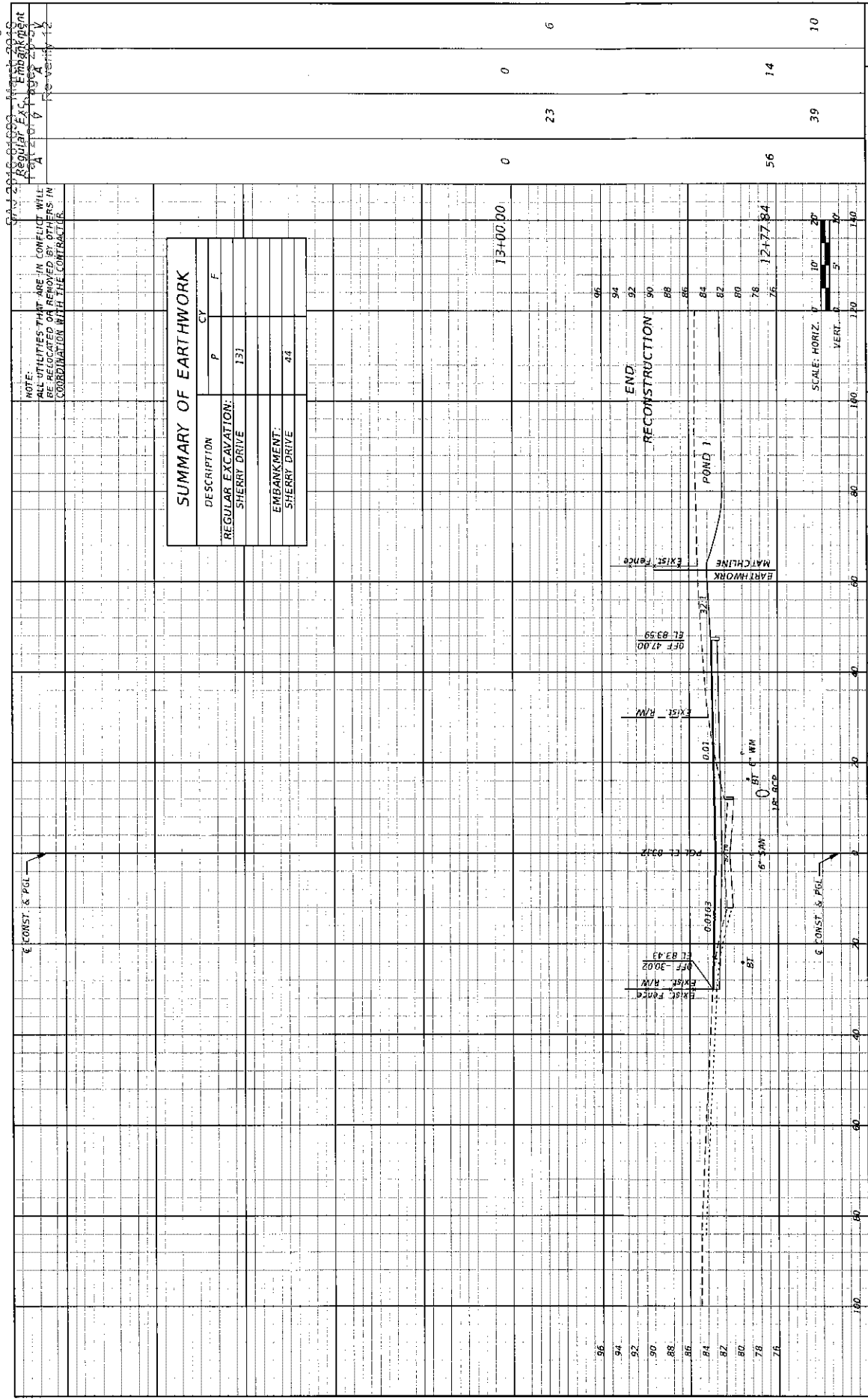
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DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION

<b>ORANGE COUNTY PUBLIC WORKS</b> SHERRY DRIVE REPLACEMENT		GTC PROJECT NO. FLO 1110	OCHW PROJECT NO. 2722	SHEET NO. 24
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GTC Engineering Corporation  
 93 South Orange Blvd., #100  
 Orange, CA 92667  
 Phone: 714.940.4400  
 Fax: 714.940.4401  
 Email: info@gtceng.com  
 Website: www.gtceng.com

Attachment 1 - Permit Drawings



NOTE: UTILITIES THAT ARE IN CONFLICT WILL BE RELOCATED OR REMOVED BY OTHERS IN COORDINATION WITH THE CONTRACTOR.

SUMMARY OF EARTHWORK	
DESCRIPTION	CY
REGULAR EXCAVATION: SHERRY DRIVE	131
EMBANKMENT: SHERRY DRIVE	44

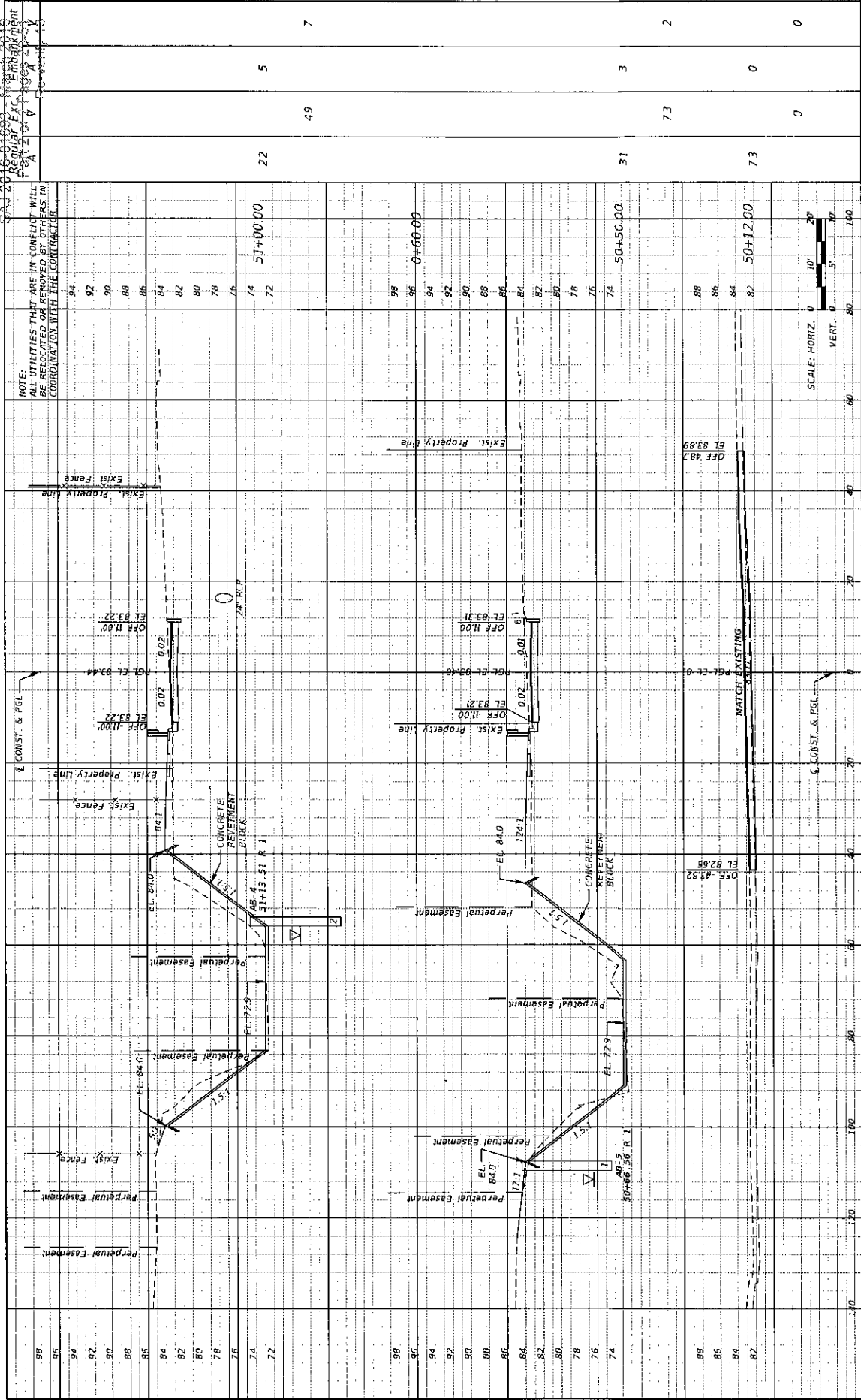
DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION

<b>ORANGE COUNTY PUBLIC WORKS</b> SHERRY DRIVE BRIDGE REPLACEMENT FLO 1110 2722		SHEET NO. <b>25</b>
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**GTC Engineering Corporation**  
 98 South Semoran Blvd., Orlando, FL 32807  
 Phone Number - 407-388-6405  
 Claude L. Cummings, P.E.  
 Certificate of Authorization  
 Number 6758  
 P.E. Number 37489

4/2/2016  
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Attachment 1 - Permit Drawings



NOTE: ALL UTILITIES THAT ARE IN CONFLICT WILL BE RELOCATED OR REMOVED BY OTHERS IN COORDINATION WITH THE CONTRACTOR.

GRASS 20' WIDE STRIP TO BE MAINTAINED FOR 4' FROM PROPERTY LINE

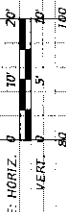
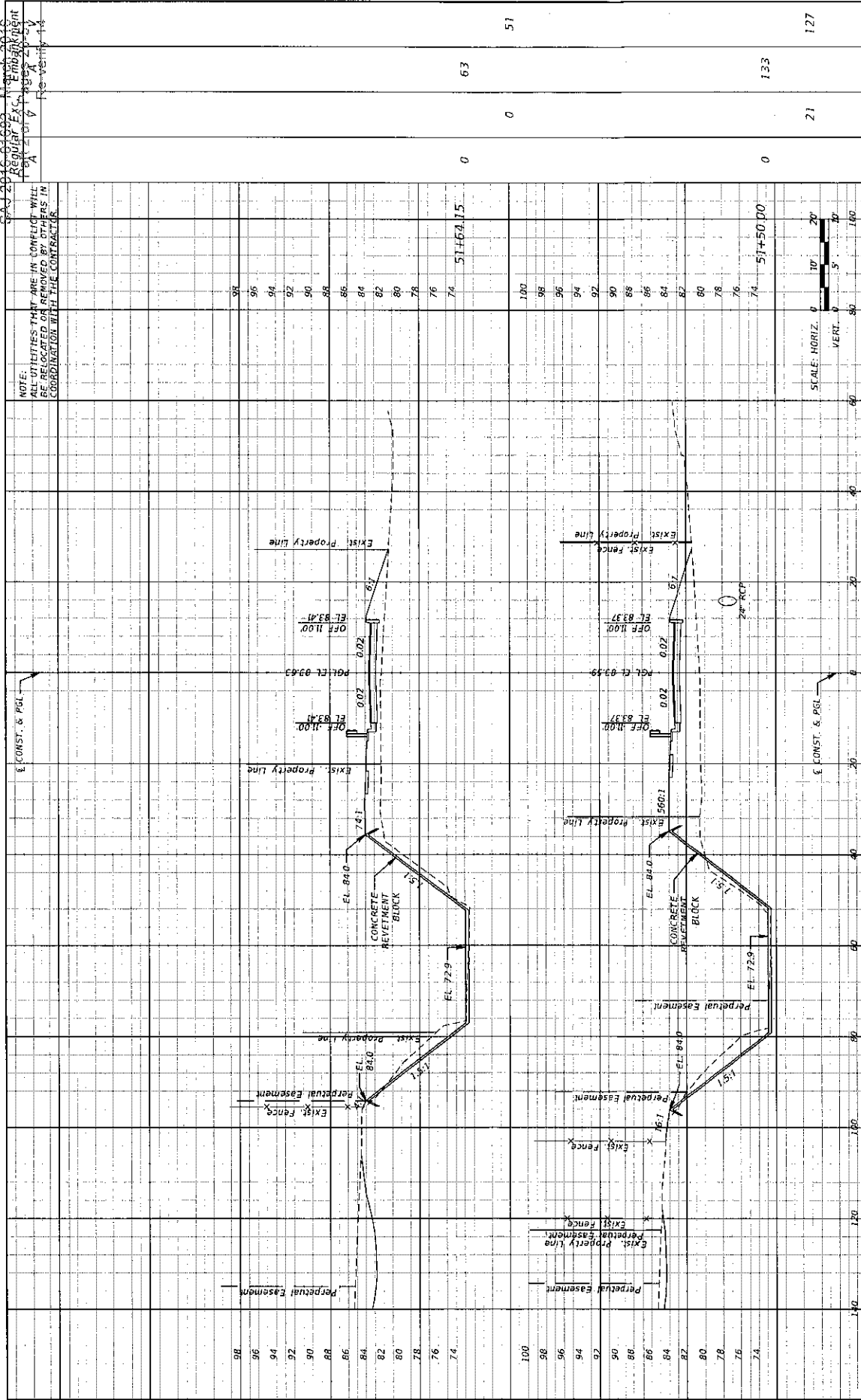
SCALE: HORIZ. 1" = 10'  
5' = 10''  
100' = 100''

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<p><b>GTC Engineering Corporation</b>  <small>19 South University Blvd., Orlando, FL 32807                  Phone: (407) 251-8972                  Fax: (407) 251-8972</small></p>		<p><b>ORANGE COUNTY PUBLIC WORKS</b>  <small>OCRW PROJECT NO. 2722</small></p>		<p><b>SHERRY COURTS CROSS SECTIONS</b></p>	
<p>Project No. FLO 1110</p>		<p>Scale: HORIZ. 1" = 10'                  VERT. 1" = 5'</p>		<p>DATE: 4/2/2016 10:04:50 PM                  FILE: H:\0831\LOI\JO-5187\DWG\XDCS\SH02.DGN</p>	
<p>DESCRIPTION</p>		<p>DATE</p>		<p>SHEET NO. 26</p>	

Attachment 1 - Permit Drawings



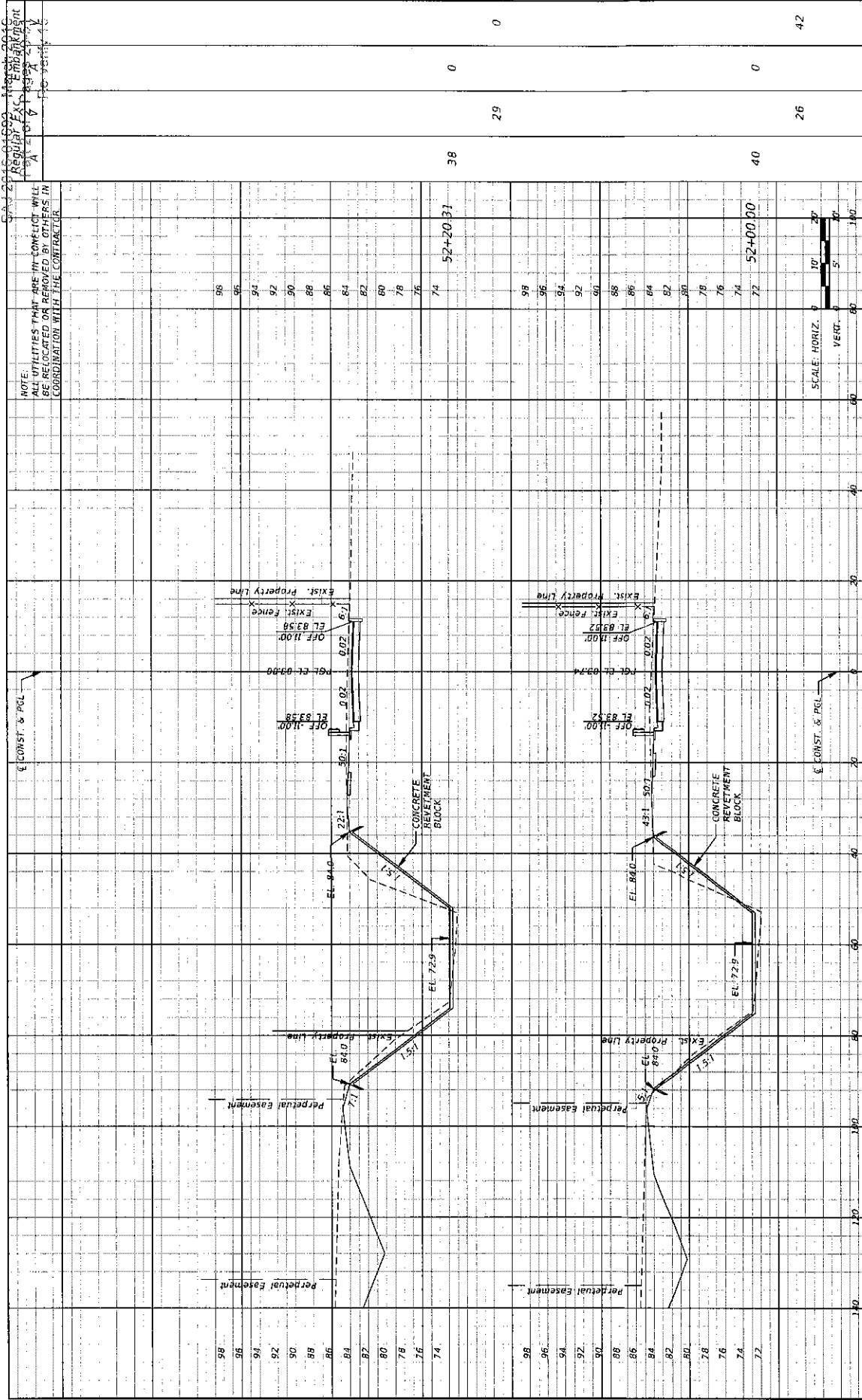
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<b>GTC Engineering Corporation</b> 98 South Swensen Blvd., Deltona, FL 32709 Phone Number - 407.286.0100 Chadwick L. Cummings, P.E. License Number 45708		<b>ORANGE COUNTY PUBLIC WORKS</b> DCWP PROJECT NO. 2722 SHERRET DRIVE BRIDGE REPLACEMENT FLO 11.10	<b>SHERRY COURT</b> <b>CROSS SECTIONS</b>	SHEET NO. 27
--	--	---	--	--------------



Attachment 1 - Permit Drawings



NOTE: ALL UTILITIES THAT ARE IN CONFLICT WILL BE RELOCATED OR REMOVED BY OTHERS IN COORDINATION WITH THE CONTRACTOR.

SA-2245-01-000 - March 2016  
 Regular Exs. Embankment  
 Project No. 100451

STATION	ELEVATION
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STATION	ELEVATION
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Scale: HORIZ. 1" = 20'  
 VERT. 1" = 5'

DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION

**GTC Engineering Corporation**  
 89 South Swannawire Blvd., Orlando, FL 32807  
 Phone Number - 407-380-8442  
 Certificate of Professional Engineer  
 Number 0708

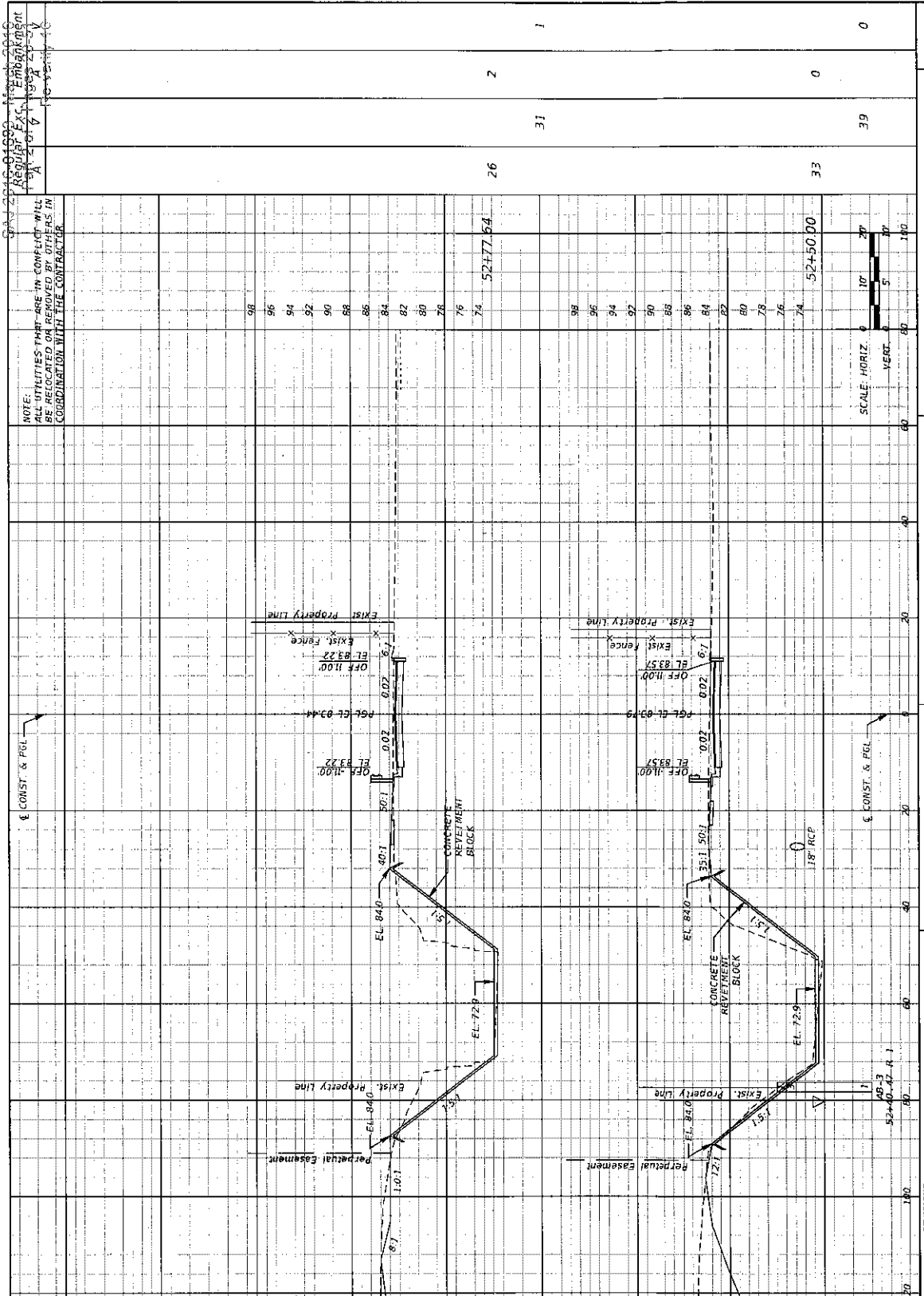
**ORANGE COUNTY PUBLIC WORKS**

PROJECT NO: FLO 1110  
 OCPW PROJECT NO: 2722  
 SHERRY DRIVE BRIDGE REPLACEMENT

SHEET NO. 28

**SHERRY COURT CROSS SECTIONS**

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DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION

**NOTE:**  
 ALL UTILITIES THAT ARE IN CONFLICT WILL  
 BE RELOCATED OR REMOVED BY OTHERS IN  
 COORDINATION WITH THE CONTRACTOR.

SCALE: HORIZ. 1" = 20'  
 VERT. 1" = 5'

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74 52+50.00

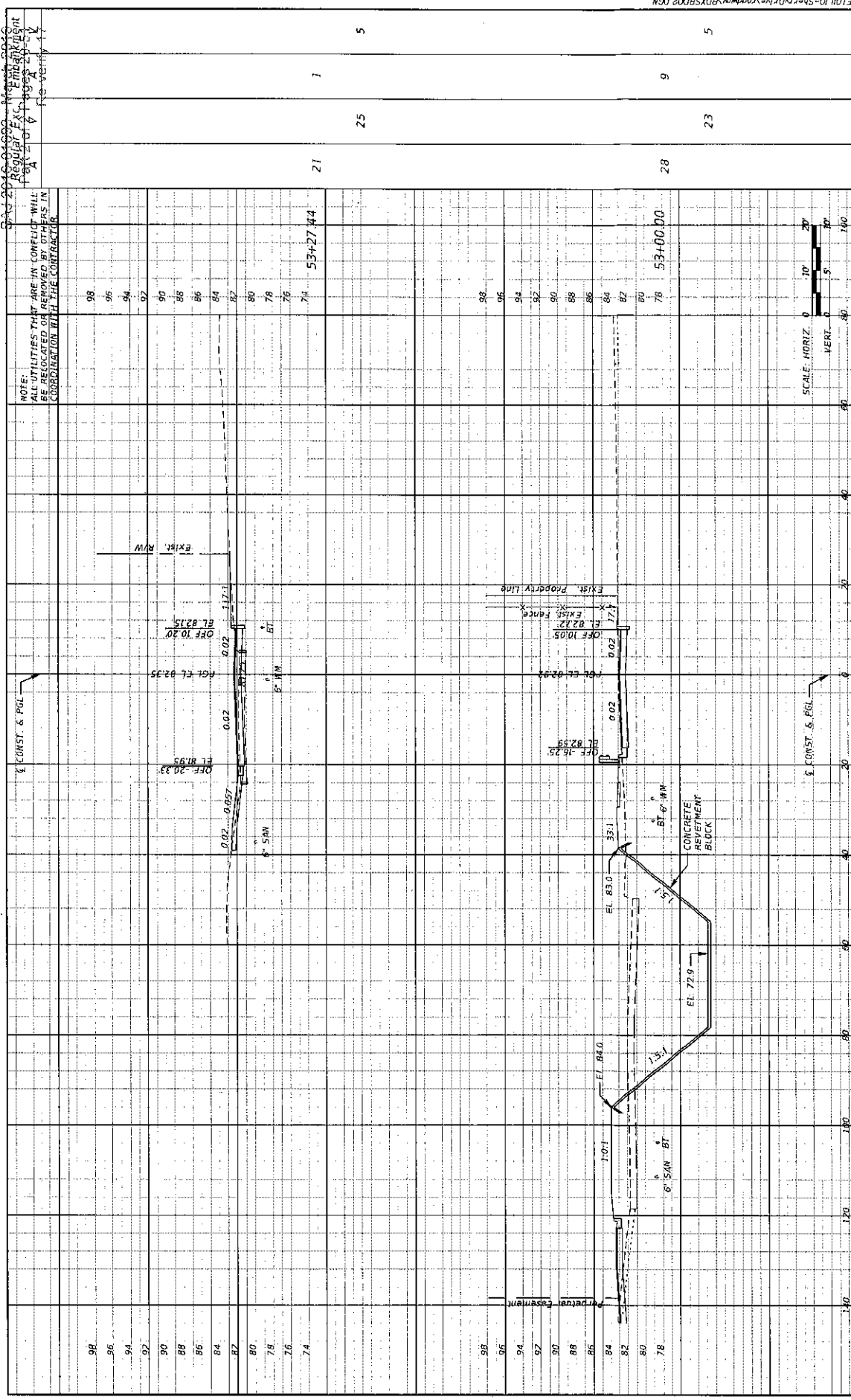
**GTC Engineering Corporation**  
 98 South Loop West Blvd., Suite 100  
 Austin, Texas 78704  
 Phone: (512) 442-8800  
 Fax: (512) 442-8801  
 www.gtceng.com

**ORANGE COUNTY PUBLIC WORKS**  
 SHERRE DRIVE  
 REPLACEMENT  
 FLO 1110

GTC PROJECT NO. 2722  
 SHERRE DRIVE  
 REPLACEMENT  
 FLO 1110

SHEET NO. 29

Attachment 1 - Permit Drawings



DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION

**GTC Engineering Corporation**  
 96 South Broward Blvd., Orlando, FL 32807  
 Phone Number - 407-788-8872  
 Charles L. Campbell, P.E.  
 Certificate of Authorization  
 Number 078

**ORANGE COUNTY PUBLIC WORKS**

GTC PROJECT NO. **FLO 1110**  
 LOCAL PROJECT NO. **2772**  
 PROJECT NAME: **SHERRY DRIVE BRIDGE REPLACEMENT**

**SHERRY COURT CROSS SECTIONS**

SHEET NO. **30**

**NOTE: UTILITIES THAT ARE IN CONFLICT WILL BE RELOCATED OR REMOVED BY OTHERS IN COORDINATION WITH THE CONTRACTOR.**

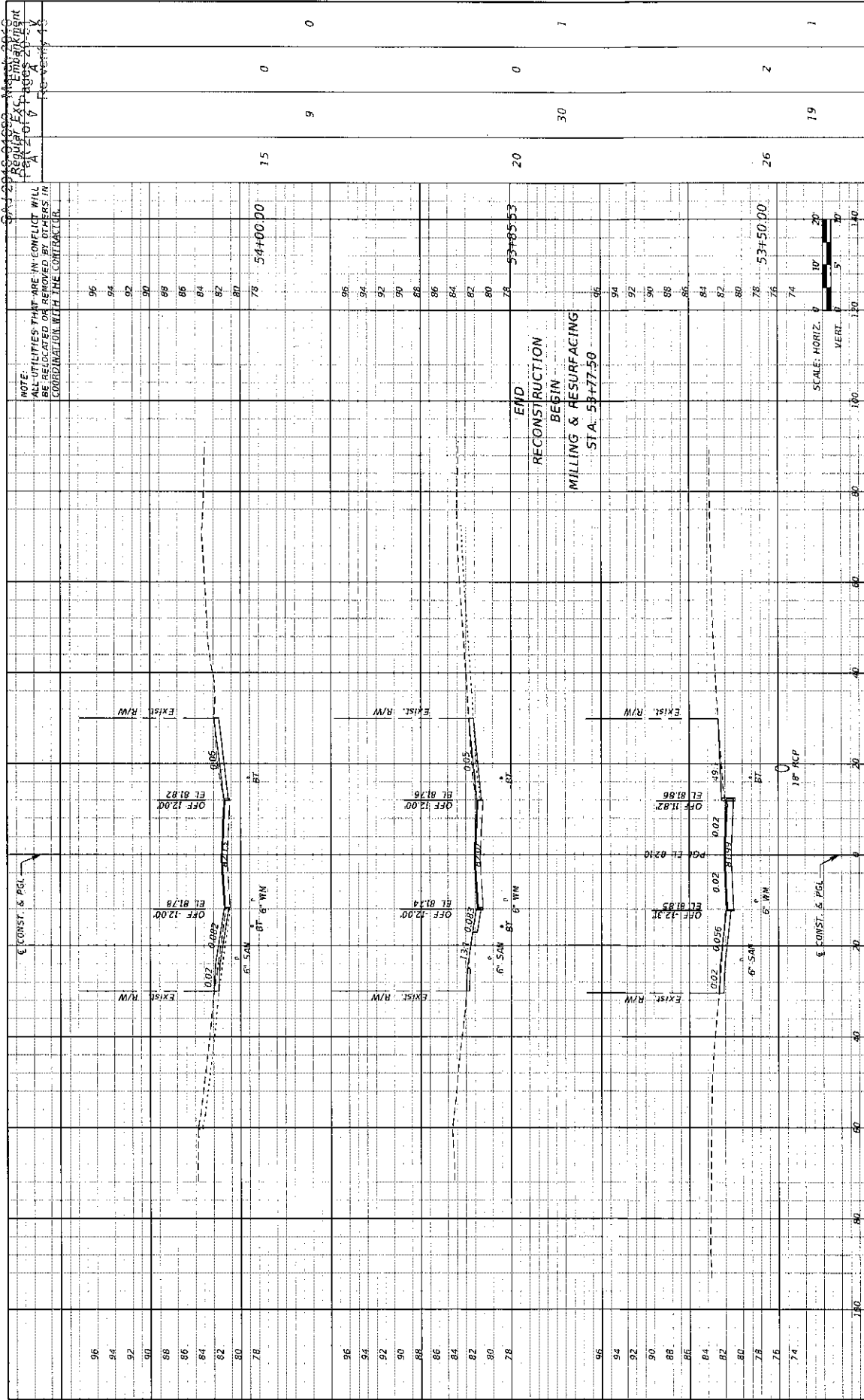
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Attachment 1 - Permit Drawings



DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION

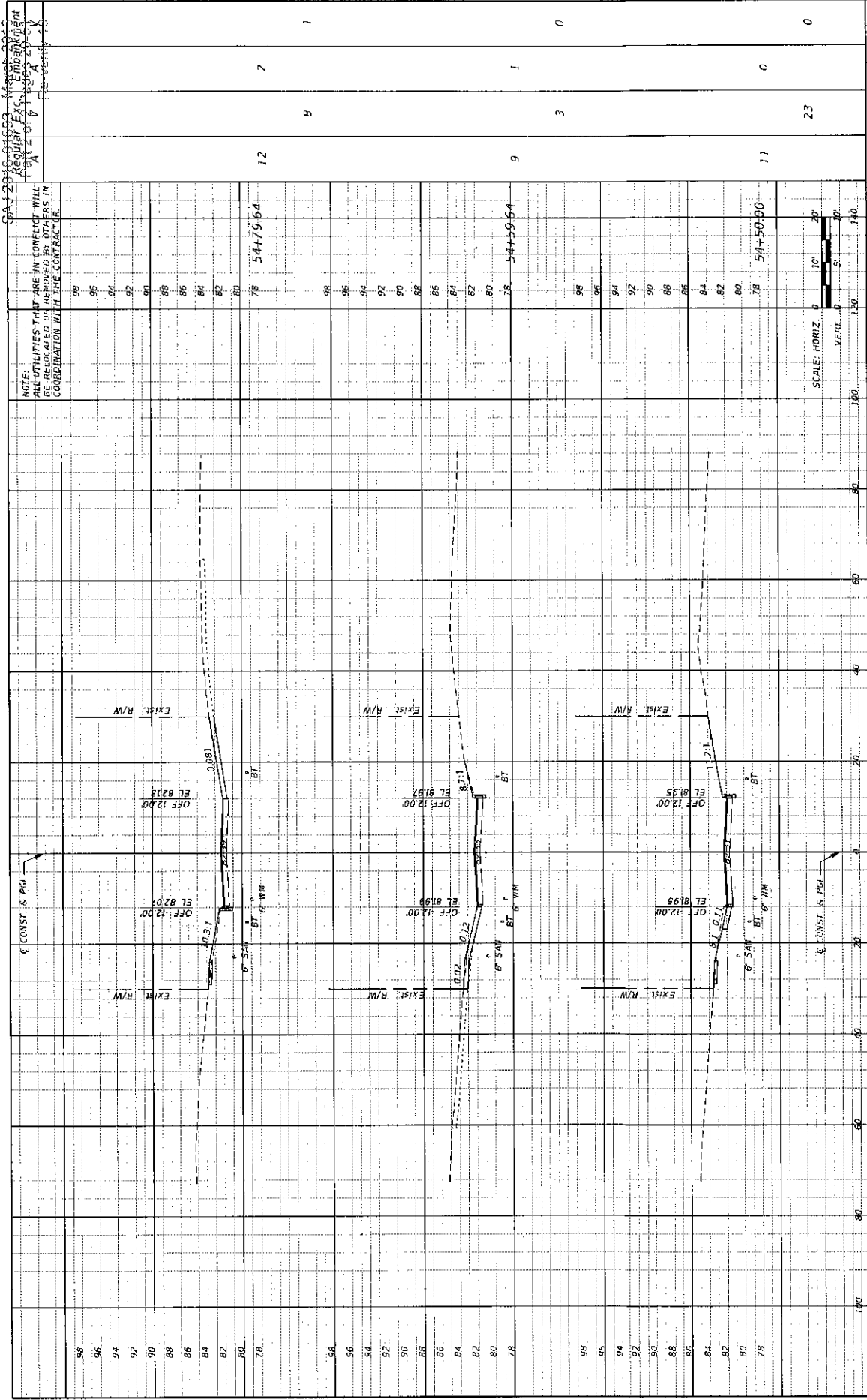
  

<b>ORANGE COUNTY PUBLIC WORKS</b> SUT PROJECT NO. FLO 1110 SHERRY DRIVE BRIDGE REPLACEMENT		DCPW PROJECT NO. 2722
<b>GTC Engineering Corporation</b> 95 South Semoran Blvd., Orlando, FL 32837 Phone Number - 407.281.0492 Florida L. Certificate, P.E. Certificate of Authorization Number 6708		SHEET NO. 31

SHERRY COURTS  
CROSS SECTIONS

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Attachment 1 - Permit Drawings



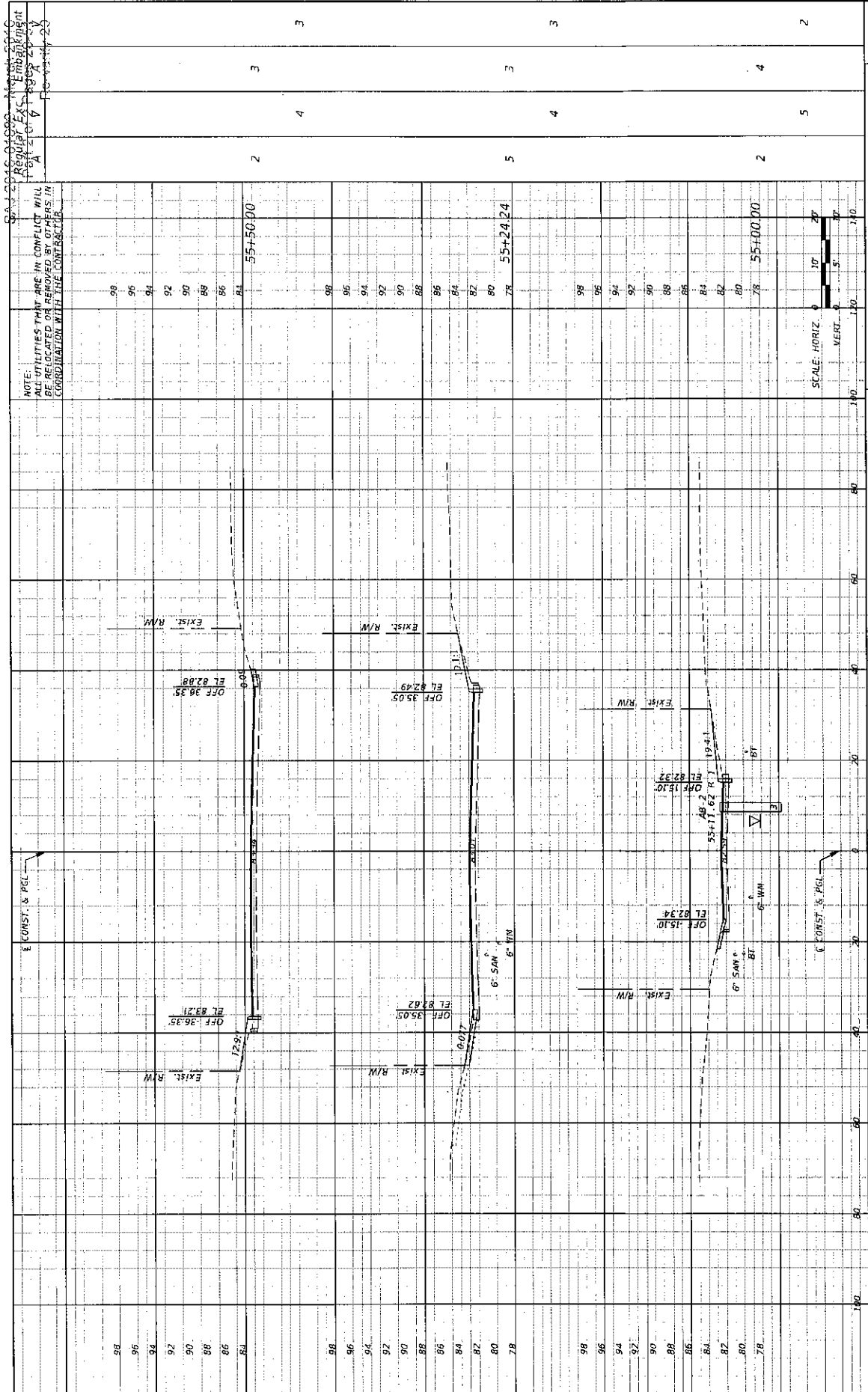
NOTE: ALL UTILITIES THAT ARE IN CONFLICT WILL BE RELOCATED OR REMOVED BY OTHERS IN COORDINATION WITH THE CONTRACTOR.

GA-2015-01693 - Major Roadway Regular Exempt from 23-CV 11-00007

DATE	DESCRIPTION	REVISIONS	DATE

ORANGE COUNTY PUBLIC WORKS		SHERRY COURT BRIDGE REPLACEMENT		SHEET NO. 32	
GTC PROJECT NO. FLO 11.10		DCPW PROJECT NO. 2722		ENCLOSURE	
<b>GTC Engineering Corporation</b> 98 South Semoran Blvd., Orlando, FL 32807 Phone Number - 407.383.8492 Certificate of Authorization Number 6238 Charles L. Caviness, P.E. P.E. Number 35439				DATE: 4/2/2016 10:04:52 PM FILE: H:\2015\FL\LOI\10-Sherry\Drawings\FDXXRD02.DGN	

Attachment 1 - Permit Drawings

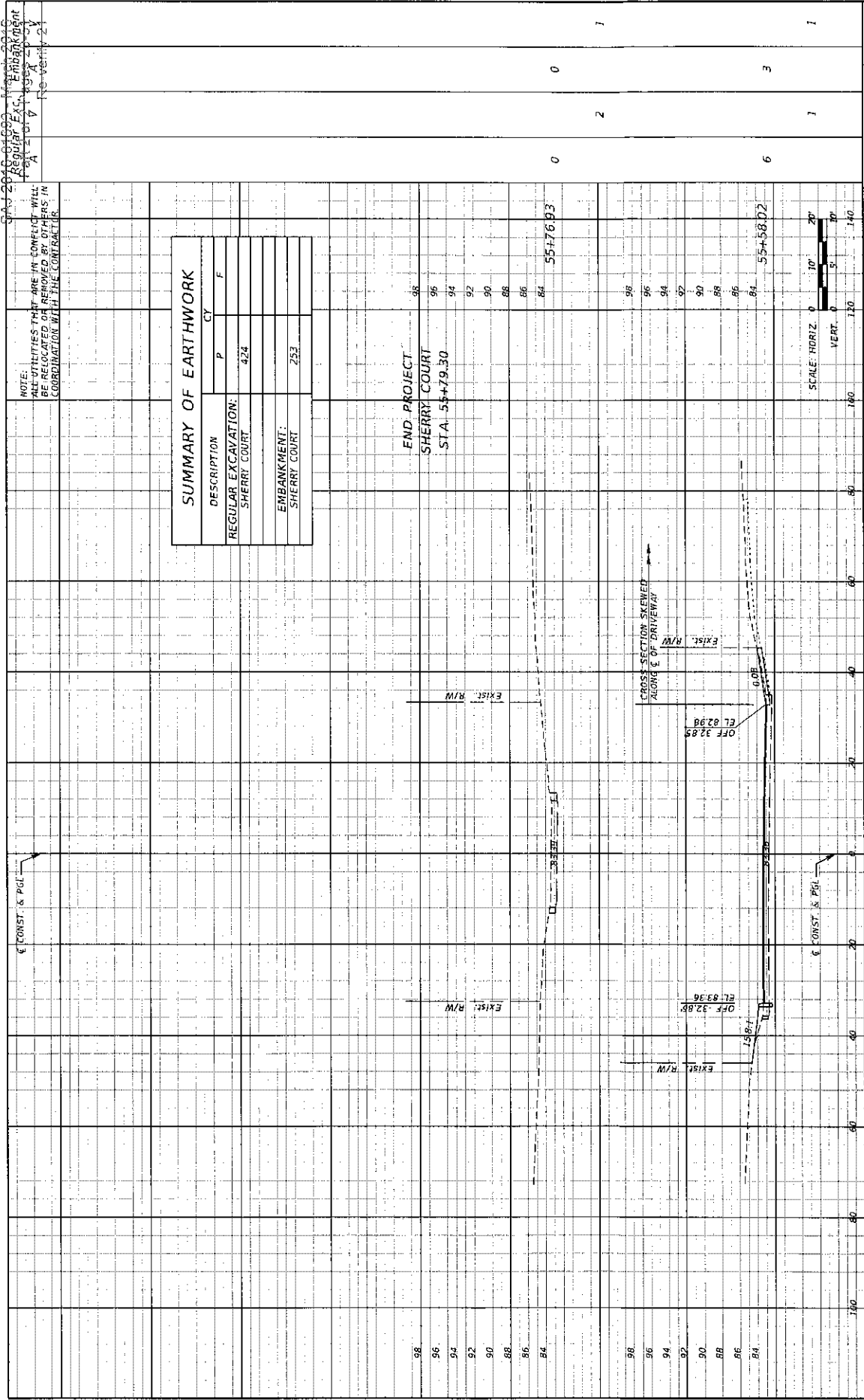


DATE	DESCRIPTION	REVISIONS	DATE

<b>GTC Engineering Corporation</b> 38 South Sunrise Blvd., Orlando, FL 32817 Phone Number - 407.263.6402 Charles L. Casagrand, P.E. P.E. Number 3436 Certificate of Registration Number 6738		ORANGE COUNTY PUBLIC WORKS GTC PROJECT NO. FLO 1110 SHERIFF DRIVE IMPROVEMENT REPERIMENT	DCPM PROJECT NO. 2722
<b>SHERRY COURT CROSS SECTIONS</b>		SHEET NO. 33	4/2/2016 10:04:53 PM H:\Job\FLO1110-Sheriff Drive\Roadway\RDXSRO02.DGN

Attachment 1 - Permit Drawings



NOTE: ALL UTILITIES THAT ARE IN CONFLICT WILL BE RELOCATED OR REMOVED BY OTHERS IN COORDINATION WITH THE CONTRACTOR.

SUMMARY OF EARTHWORK		
DESCRIPTION	P	F
REGULAR EXCAVATION: SHERRY COURT	424	
EMBANKMENT: SHERRY COURT		253

END PROJECT  
SHERRY COURT  
STA. 55+79.30

DATE	REVISIONS	DESCRIPTION	DATE	DESCRIPTION	SHEET NO.
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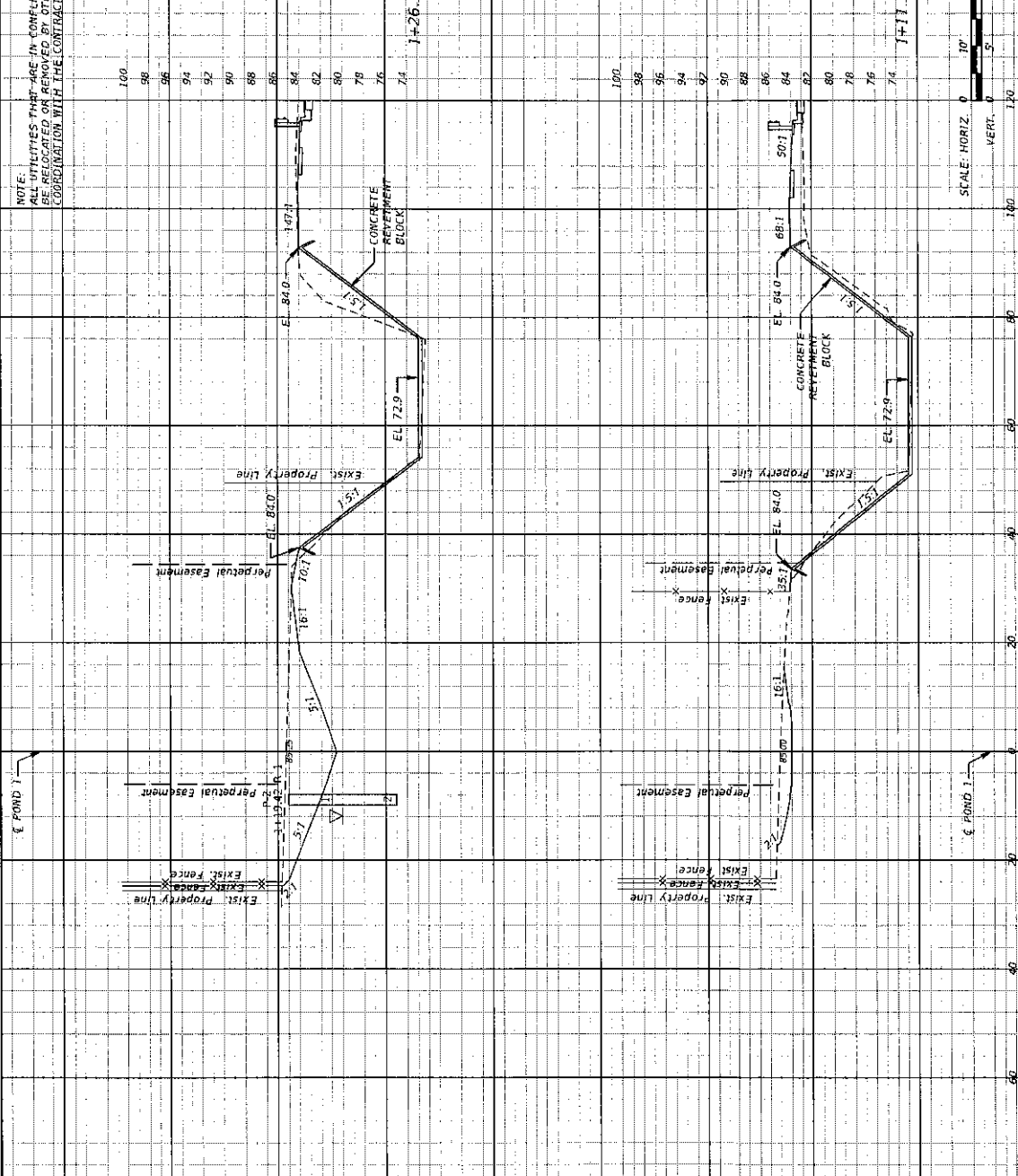
ORANGE COUNTY PUBLIC WORKS	
GTC PROJECT NO.	FLO 1110
SHERBURN DRIVE BRIDGE REPLACEMENT	
OCCRP PROJECT NO.	2722

GTC Engineering Corporation  
 98 N. Orange Ave., Suite 100  
 Orange, FL 32667  
 Phone: (407) 388-8888  
 Fax: (407) 388-8888  
 P.E. No. 10000-10000

DATE: 4/2/2016 10:04:53 PM  
 FILE: H:\084\FLO1110-SherburnDriveVoadway\RD\SERD02.DGN

Attachment 1 - Permit Drawings

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NOTE: ALL UTILITIES THAT ARE IN CONFLICT WITH THE PROPOSED WORK SHALL BE RELOCATED OR REMOVED BY OTHERS IN COORDINATION WITH THE CONTRACTOR.

DATE	REVISIONS	DESCRIPTION	DATE	DESCRIPTION
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**POND 1 CROSS SECTIONS**

**ORANGE COUNTY PUBLIC WORKS**

GTC PROJECT NO.	FLO 1110
OCRW PROJECT NO.	2722
SHERR DRIVE BRIDGE REPLACEMENT	

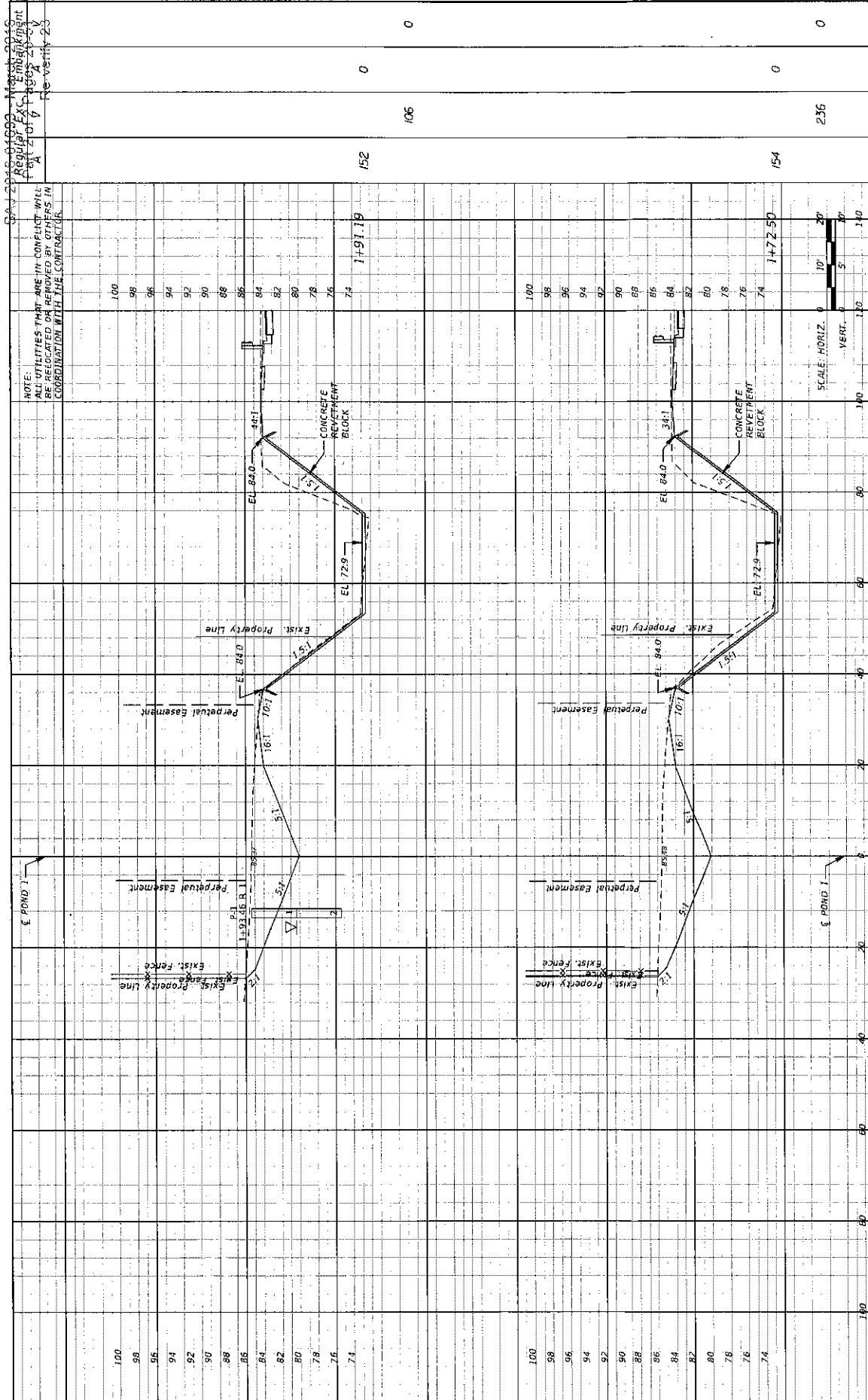
GTC Engineering Corporation  
 98 South Semoran Blvd, Orlando, FL 32807  
 Phone Number - 407.388.8888  
 Certificate of Authorization Number 6753  
 Claude L. Colangelo, P.E.  
 P.E. Number 75499

SHEET NO. 35

FILE: H:\ORANGE\PROJECTS\FLO1110-SHERR DRIVE BRIDGE\DWG\POWSD001.DWG  
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Attachment 1 - Permit Drawings



NOTE: ALL UTILITIES THAT ARE IN CONFLICT WILL BE RELOCATED OR REMOVED BY OTHERS IN COORDINATION WITH THE CONTRACTOR

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SHEET NO. 36

### POND 1 CROSS SECTIONS

ORANGE COUNTY PUBLIC WORKS  
SHERY DRIVE BRIDGE REPLACEMENT  
OCPW PROJECT NO. 2722

GTC PROJECT NO. FLO 1110

GTC Engineering Corporation  
918 South Semoran Blvd, Ocala, FL 32967  
Phone Number: 352-238-6407  
C/tnale L. Casagrandi, P.E.  
P.E. Number 35909  
Certificate of Authorization  
Number 6258

REVISIONS	DATE	DESCRIPTION

DATE	DESCRIPTION

DATE: 4/2/2016 10:04:55 AM  
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Attachment 1 - Permit Drawings

DATE: 4/2/2016 10:04:55 PM  
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NOTE: UTILITIES THAT ARE IN CONFLICT WILL BE RELOCATED OR REMOVED BY OTHERS IN COORDINATION WITH THE CONTRACTOR.

REGULAR EXCAVATION: POND 1  
 EMBANKMENT: POND 1

DESCRIPTION	P	CY	F
REGULAR EXCAVATION: POND 1	444		
EMBANKMENT: POND 1	0		

PERMIT NO. 16-0000000-0000  
 REGULAR EXCAVATION: POND 1  
 EMBANKMENT: POND 1



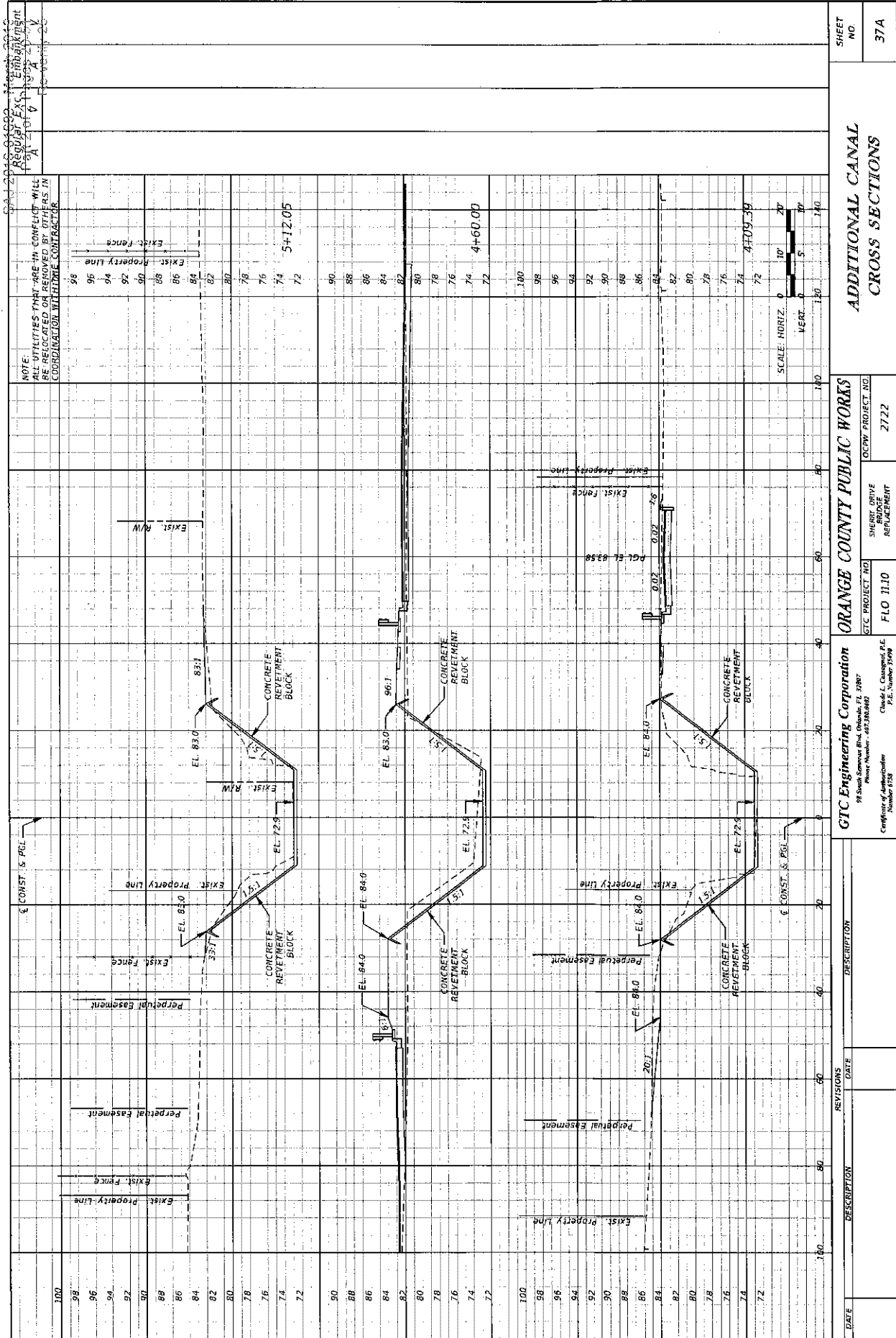
DATE	DESCRIPTION	REVISIONS	DATE

ORANGE COUNTY PUBLIC WORKS  
 SHERB DRIVE BRIDGE REPLACEMENT  
 FLO 11.10  
 2722

GTC Engineering Corporation  
 98 South Orange Blvd., Orange, FL 32667  
 Phone Number: 407.888.8882  
 P.E. Number 5199  
 2/2/2016

SHEET NO. 37

Attachment 1 - Permit Drawings



NOTE: UTILITIES THAT ARE IN CONFLICT WILL BE RELOCATED OR REMOVED BY OTHERS IN COORDINATION WITH THE CONTRACTOR.

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Regular EAs - Embankment  
A-10-06 1-23-16 V

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FILE: H:\30181\FLO\_10-SHRD\FIVE TOWNS\FDAYSRD03-K17DRKXS.DGN

SHEET NO. 37A

ADDITIONAL CANAL  
CROSS SECTIONS

ORANGE COUNTY PUBLIC WORKS  
DCPW PROJECT NO. 2722  
SHERIDAN DRIVE BRIDGE REPLACEMENT

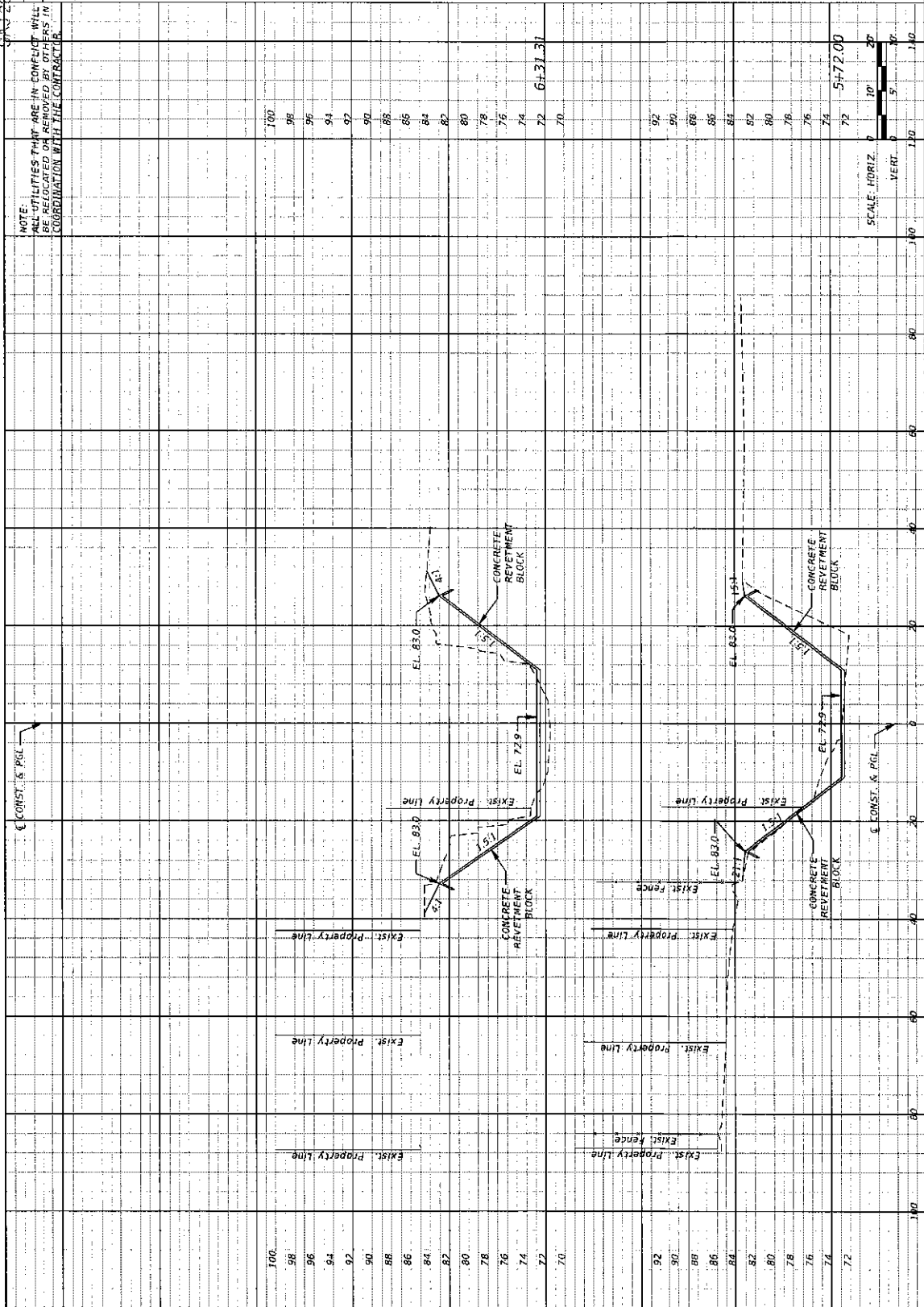
GTC PROJECT NO. FLO 11.10  
GTC Engineering Corporation  
98 South Semoran Blvd, Orlando, FL 32807  
Project Number - 407280482  
Chris L. Casagrand, P.E.  
Certificate of Authorization Number 659  
P.E. Number 35596

DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION

SCALE: HORIZ. 1" = 10' VERT. 1" = 5'

Attachment 1 - Permit Drawings

ALL UTILITIES THAT ARE IN CONFLICT WILL BE RELOCATED OR REMOVED BY OTHERS IN COORDINATION WITH THE CONTRACTOR.



DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION

GTC PROJECT NO.	2722
FLO #110	SHERRY DRIVE REPLACEMENT
<b>ORANGE COUNTY PUBLIC WORKS</b>	
<b>ADDITIONAL CANAL CROSS SECTIONS</b>	
SHEET NO.	37B

GTC Engineering Corporation  
 1425 West Orange Blvd., Orange, FL 32887  
 Phone Number: 407.598.8642  
 Certificate of Registration  
 Number: 0-152

4/1/2016  
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**I. SITE DESCRIPTION:**

- (1) NATURE OF CONSTRUCTION ACTIVITY  
 THE PURPOSE OF THE PROJECT IS TO REMOVE THE EXISTING BRIDGE ON SHERRY DRIVE AND CONSTRUCT A ROADWAY BRIDGE WITHIN THE PROJECT AREA. THE PROJECT AREA IS APPROXIMATELY 0.20 MILES IN LENGTH. THE DRAINAGE IMPROVEMENTS INCLUDE THE CONSTRUCTION OF A DRY DETENTION POND ON THE WEST SIDE OF THE LITTLE WEKIVA RIVER.
- (2) SEQUENCE OF MAJOR SOIL DISTURBING ACTIVITIES:  
 THE CONTRACTOR SHALL BE REQUIRED TO PREPARE A SITE SPECIFIC EROSION CONTROL PLAN ALONG WITH A DETAILED CONSTRUCTION SCHEDULE TO INDICATE DATES OF MAJOR GRADING ACTIVITIES AND DETERMINE SEQUENCES OF TEMPORARY AND PERMANENT SOIL DISTURBING ACTIVITIES ON ALL PORTIONS OF THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO MODIFY THE PLAN OR MATERIALS TO ADAPT TO SEASONAL VARIATIONS, CONSTRUCTION ACTIVITY VARIATIONS, OR AS DIRECTED BY THE ENGINEER. APPLICABLE EROSION CONTROL DEVICES AND IMPLEMENTATION PROCEDURES ARE SUPPLIED IN THE FLORIDA EROSION CONTROL MANUAL. THE CONTRACTOR SHALL BE REQUIRED TO OBTAIN DEPLOYMENT SCHEDULES FOR THE IMPLEMENTATION OF ALL ADDITIONAL EROSION CONTROL DEVICES FROM THE CONTRACTOR.
- (3) GENERAL NOTES:  
 (a) ALL EROSION CONTROL DEVICES FOR EACH PHASE OF WORK ARE TO BE INSTALLED PRIOR TO BEGINNING WORK ON THAT PHASE.  
 (b) INSTALL SILT FENCE WHERE LISTED IN THE CONTRACTORS APPROVED EROSION CONTROL PLAN FOR PERIMETER CONTROLS BEFORE THE LAND IS DISTURBED.  
 (c) PROVIDE ROCK BAGS AT INLET OPENINGS.  
 (d) COVER OR STABILIZE DISTURBED AREAS AS SOON AS POSSIBLE.  
 (e) DO NOT DISTURB AN AREA UNTIL IT IS NECESSARY FOR CONSTRUCTION TO PROCEED.  
 (f) TIME CONSTRUCTION ACTIVITIES TO LIMIT IMPACT FROM SEASONAL CLIMATE CHANGES OR WEATHER EVENTS.  
 (g) REMOVE PERIMETER CONTROLS UNTIL AFTER ALL UPSTREAM AREAS ARE FULLY STABILIZED AND PERMANENT GRASSING IS ESTABLISHED.
- (4) PROJECT AREAS  
 THE ESTIMATED TOTAL PROJECT AREA IS 2.10 ACRES. THE ESTIMATED AREA DISTURBED FOR CONSTRUCTION ACTIVITIES IS 2.10 ACRES (ROADWAY AND POND).
- (5) RUN-OFF COEFFICIENTS BEFORE (CWB), DURING (CWD) AND AFTER (CWA) CONSTRUCTION:  
 RUN-OFF COEFFICIENT FOR:  
 GRASSSED SHOULDERS ADJACENT TO ROADWAY: C=0.35  
 IMPERVIOUS ROADWAYS AND PAVED SHOULDERS: C=0.90  
 DISTURBED AREAS, EXPOSED SOIL, ETC., DURING CONSTRUCTION: C=0.40  
 WEIGHTED RUN-OFF COEFFICIENT: DURING: CWD = 0.57 AFTER: CWA = 0.62  
 BEFORE: CWB = 0.53
- (6) DESCRIPTION OF SOIL OR QUALITY OF DISCHARGE  
 THE SOIL WITHIN THE WADSWORTH ROADWAY PROJECT LIMITS IS BASINGER FINE SAND WHICH IS A TYPE D SOIL WITH A DEPTH TO THE SEASONAL HIGH WATER TABLE OF +2.0 TO -1.0 FEET.  
 A ROADWAY SOIL SURVEY IS CONTAINED IN THE CONSTRUCTION PLANS.

- (7) ESTIMATED DRAINAGE AREA AND AVERAGE SLOPE OF DRAINAGE AREA FOR EACH OUTFALL CAN BE LOCATED ON THE DRAINAGE MAPS.
- (8) RECEIVING WATERS:  
 THE ON-SITE AQUIFER FOR THE PROJECT SITE DISCHARGES TO THE LITTLE WEKIVA RIVER. THE CONTRACTOR SHALL TAKE ALL REASONABLE MEASURES TO PREVENT UNAUTHORIZED MATERIALS FROM ENTERING THE RIVER, AND SETTLEABLE SOLIDS.
- (9) THE RECEIVING WATER IS NOT A 303(d) LISTED WATER FOR TOTAL SUSPENDED SOLIDS (TSS), TURBIDITY, AND SETTLEABLE SOLIDS.
- (10) OUTFALL LOCATION: LAT 28°37'14" LONG 81°25'05".
- (11) NO WETLAND IMPACTS ASSOCIATED WITH THIS PROJECT.
- (12) DESCRIPTION OF STORMWATER MANAGEMENT: (EXISTING/PROPOSED)  
 (a) PRESENTLY, DRAINAGE FLOWS FROM SHERRY DRIVE ARE CAPTURED BY AN EXISTING STORM SEWER VIA OVERLAND FLOW TO THE LITTLE WEKIVA RIVER. FOR PROPOSED CONDITIONS, ON-SITE FLOW PATTERNS IN GENERAL WILL REMAIN THE SAME AND WILL DISCHARGE VIA PROPOSED STORM SEWER TO THE RIVER. THE SOUTH SIDE OF SHERRY DRIVE ON THE WEST SIDE OF THE RIVER WILL DISCHARGE TO A PROPOSED DETENTION POND WHICH DISCHARGES VIA A CONTROL STRUCTURE TO THE LITTLE WEKIVA RIVER. THE EXISTING DRAINAGE PATTERNS FOR THE OFF-SITE FLOW WILL NOT BE MODIFIED OR AFFECTED BY THE ADDITION OF THE ROADWAY IMPROVEMENTS.
- (b) OFF-SITE RUN-OFF SHOULD BE DIVERTED AWAY OR THROUGH THE CONSTRUCTION AREA, IF POSSIBLE. THIS ADDITIONAL FLOW, IF NOT DIVERTED, CAN ADD VOLUME AND SIZE TO STRUCTURAL PRACTICES, REQUIRING MORE FREQUENT MAINTENANCE AND LIMITING EFFECTIVENESS OF EROSION AND SEDIMENT CONTROLS.
- (c) THE CONTRACTOR WILL PROVIDE POLLUTION CONTROL BY IMPLEMENTING DUST CONTROL DURING ALL PHASES OF CONSTRUCTION. THIS WILL BE ACCOMPLISHED BY USING STREET OR VACUUM SWEEPERS.
- (d) THE STORMWATER SHALL BE CONVEYED TO THE PERMANENT STORMWATER MANAGEMENT FACILITIES (TREATMENT POND). THE PROPOSED POND SHALL BE CONSTRUCTED DURING THE INITIAL PHASE OF CONSTRUCTION AND USED DURING CONSTRUCTION OF THE ROADWAY AS A TEMPORARY SEDIMENT BASIN.
- (e) THE CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO PREVENT UNAUTHORIZED MATERIALS FROM ENTERING THE WATERWAYS.

**II. EROSION AND SEDIMENT CONTROLS**

(1) WATER QUALITY MONITORING SHALL BE CONDUCTED BY THE PROJECT ENGINEER UPON THE OBSERVATION THAT THE WATER QUALITY STANDARDS MAY BE VIOLATED BY THE CONTRACTOR'S ACTIVITIES. MONITORING LOCATIONS SHALL BE DESIGNATED BY THE PROJECT ENGINEER. THE PROJECT ENGINEER WILL BE RESPONSIBLE FOR MONITORING ANY ACTIVITIES FOR VIOLATION OF WATER QUALITY STANDARDS AS THEY RELATE TO TURBIDITY (29 NTUS ABOVE BACKGROUND). MONITORING OF WATER QUALITY SHALL BE CONDUCTED A MINIMUM OF TWICE DAILY FOR ANY EARTHWORK ACTIVITIES WITHIN THE STRUCTURE IMPROVEMENT AREA. MONITORING WILL BE ACCOMPLISHED BY RECORDING TURBIDITY READINGS. ONE (1) UPSTREAM OF THE ACTIVITY AND ONE (1) DOWNSTREAM OF THE EROSION CONTROL DEVICES, BUT WITHIN THE PROJECT RIGHT-OF-WAY. IF WATER QUALITY STANDARDS ARE VIOLATED, CONSTRUCTION SHALL STOP IMMEDIATELY AND EROSION MONITORING ACTIVITIES AND TURBIDITY READINGS SHALL BE RECORDED ON THE CONSTRUCTION INSPECTION REPORT AND CONTINUED UNTIL TURBIDITY READINGS FALL BELOW AN ACCEPTABLE LEVEL (29 NTUS ABOVE BACKGROUND). WATER QUALITY MONITORING MAY BE CONDUCTED DURING ANY PHASE OF CONSTRUCTION AS DIRECTED BY THE PROJECT ENGINEER.

ORANGE COUNTY PUBLIC WORKS		SHERRY DRIVE BRIDGE REPLACEMENT		OCOW PROJECT NO. 2722		SHEET NO. 38
GTC PROJECT NO. FLO 1110		SHERRY DRIVE BRIDGE REPLACEMENT		OCOW PROJECT NO. 2722		
GTC Engineering Corporation 98 South Swann Rd, Orlando, FL 32807 Phone Number - 407-883-9492 Certificate of Professional Engineer Number 6754 Claude L. Casagrande, P.E. P.E. Number 35498		SHERRY DRIVE BRIDGE REPLACEMENT		OCOW PROJECT NO. 2722		
REVISIONS		DESCRIPTION		DATE		
DATE		DESCRIPTION		DATE		

- (2) OFF SITE VEHICLE TRACKING - WILL BE CONTROLLED BY THE FOLLOWING METHODS:  
 EROSION AND SEDIMENT CONTROLS
- (a) LOADED HAUL TRUCKS ARE TO BE COVERED BY A TARP/AULIN AT ALL TIMES
  - (b) EXCESS DIRT ON ROAD WILL BE REMOVED DAILY

- (2) STABILIZATION PRACTICES  
 STABILIZATION MEASURES, SUCH AS SODDING OR SEEDING OF SLOPE SLOPES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE SHALL THE TIME BE GREATER THAN 7 DAYS AFTER THE CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASES.

- (3) APPLICATION OF FERTILIZERS AND PESTICIDES  
 FERTILIZERS AND PESTICIDES WILL BE USED ON THIS PROJECT IN ACCORDANCE WITH "FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", SECTIONS 570.575, OR 577, AT THE DISCRETION OF THE CONTRACTOR WITH THE COORDINATION OF THE PROJECT ENGINEER.

IV. MAINTENANCE

- (1) THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AND REPAIRS OF EROSION AND SEDIMENT CONTROL DEVICES, AND REMOVAL OF EROSION AND SEDIMENT CONTROL DEVICES WHEN NOTICE OF TERMINATION IS MAILED.
- (2) INSTALLATION, MAINTENANCE, REPAIR AND REMOVAL REQUIRED FOR THE CONTROL AND ABRASION OF EROSION AND WATER POLLUTION SHALL BE INCLUDED IN THE INDIVIDUAL COSTS OF THE EROSION CONTROL DEVICES OR THE LUMP SUM COST OF THE PROJECT.
- (3) THE FOLLOWING PRACTICES WILL BE USED TO MAINTAIN EROSION AND SEDIMENT CONTROLS:  
 GENERAL - ALL CONTROL MEASURES WILL BE MAINTAINED DAILY BY THE CONTRACTOR. ALL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER. IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF NOTICE.
- (4) STRUCTURAL PRACTICES - BUILD UP SEDIMENT WILL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED ONE QUARTER OF THE HEIGHT OF THE FENCE. SODDING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH. SILT FENCES SHALL BE REPLACED EVERY TWELVE (12) MONTHS OR WHEN IT HAS SERVED ITS USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORMWATER FLOW OR DRAINAGE. STABILIZED CONSTRUCTION ENTRANCES SHALL BE MAINTAINED TO PREVENT CLOGGING OF ROCK BEDDING WHICH MAY IMPEDE THE USEFULNESS OF THE STRUCTURE.

V. INSPECTION:

- (1) THE CONTRACTOR SHALL INSTALL AND MAINTAIN RAIN GAUGES ON THE PROJECT SITE AND RECORD WEEKLY RAINFALL IN ACCORDANCE WITH NPDES PERMIT. ALL CONTROL MEASURES WILL BE MAINTAINED DAILY BY THE CONTRACTOR.
- (2) ALL EROSION AND WATER POLLUTION ABATEMENT AND CONTROL MEASURES WILL BE INSPECTED DAILY AND WITHIN 24 HOURS OF THE END OF A STORM EVENT OF 0.5 INCHES (12.7 mm) OR GREATER BY THE CONTRACTOR'S PERSONNEL WHO ARE F.D.E.P. CERTIFIED STORMWATER MANAGEMENT INSPECTORS.
- (3) THE CONTRACTOR SHALL COMPLETE ALL SWPPP INSPECTION REPORT FORMS REQUIRED FOR THE NPDES PERMIT.

VI. TRACKING AND REPORTING:

- (1) THE CONTRACTOR SHALL SUBMIT A WEEKLY REPORT TO THE COUNTY DOCUMENTING THE DAILY TRACKING AND REPORTING OF THE EROSION CONTROL MEASURES. THE CONTRACTOR SHALL MAINTAIN ALL REQUIRED REPORTS AND COMPLETE ALL SWPPP INSPECTION FORMS.
- (2) PREPARATION OF ALL THE CONTRACTOR'S REPORTS OF INSPECTION, MAINTENANCE AND REPAIRS REQUIRED FOR THE CONTROL AND ABATEMENT OF EROSION AND WATER POLLUTION, SHALL BE INCLUDED IN THE INDIVIDUAL COSTS OF THE EROSION CONTROL DEVICES OR LUMP SUM COST OF THE PROJECT.
- (3) THE CONTRACTOR SHALL USE THE CONSTRUCTION INSPECTION REPORT (# 650-040-03), DATED 2/01, FOR DAILY INSPECTIONS.

II. CONTROLS (CONTINUED):

EROSION AND SEDIMENT CONTROLS

- (3) STRUCTURAL PRACTICES INCLUDE:
  - (a) SILT FENCES
  - (b) ROCK BAGS
  - (c) SOIL TRACKING PREVENTION DEVICES AT CONSTRUCTION ENTRANCES/EXITS
  - (d) TEMPORARY FLOATING TURBIDITY BARRIER
- (4) SILT FENCE LOCATIONS:
  - (a) SILT FENCE SHALL BE USED ALONG THE LENGTH OF THE PROJECT WHERE THE EXISTING GROUND SLOPES AWAY FROM THE RIGHT OF WAY OR WHERE THERE IS POTENTIAL FOR SEDIMENT TO BE DIRECTED OFF-SITE.
  - (b) STOCKPILE AREAS SHALL INCLUDE SILT FENCE AROUND THE PERIMETER.
- (5) ROCK BAG LOCATIONS:
  - GENERALLY, ROCK BAGS SHALL BE INSTALLED FOR THE PURPOSE OF CONTROLLING SILTATION AT LOBB AND GUTTER INLETS WHERE ONE CAN NOT DRIVE A STAKE.
- (6) CONSTRUCTION ENTRANCES/EXITS:
  - SOIL TRACKING PREVENTION DEVICES SHALL BE PROVIDED FOR BOTH ON-SITE AND OFF-SITE LOCATIONS OF STOCKPILED OR EXCAVATED MATERIAL, INCLUDING PROPOSED POND SITES, IF IMMEDIATELY ADJACENT TO A PUBLIC ROADWAY. THE ENGINEER SHALL BE RESPONSIBLE FOR MODIFYING THE SYSTEM OR PROCEDURES AS NEEDED.
- (7) TEMPORARY FLOATING TURBIDITY BARRIER:
  - FLOATING TURBIDITY BARRIER SHALL BE INSTALLED NORTH OF THE EXISTING GABIONS ALONG THE LITTLE WENYVA RIVER TO PREVENT SEDIMENT FROM TRAVELING DOWNSTREAM DURING CONSTRUCTION.

III. OTHER CONTROLS:

- (1) WASTE DISPOSAL
  - (a) THE CONTRACTOR WILL PROVIDE LITTER CONTROL AND COLLECTION WITHIN THE PROJECT AREA.
  - (b) ALL FERTILIZER AND CHEMICAL CONTAINERS SHALL BE DISPOSED OF BY THE CONTRACTOR ACCORDING TO EPA'S STANDARD PRACTICES AS DETAILED BY THE MANUFACTURER.
  - (c) NO SOLID MATERIALS, INCLUDING BUILDING AND CONSTRUCTION MATERIALS, SHALL BE DISCHARGED TO WETLANDS OR BURIED ON SITE.
  - (d) ALL SANITARY WASTE WILL BE COLLECTED FROM PORTABLE UNITS BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR AS REQUIRED BY STATE REGULATIONS.

DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION

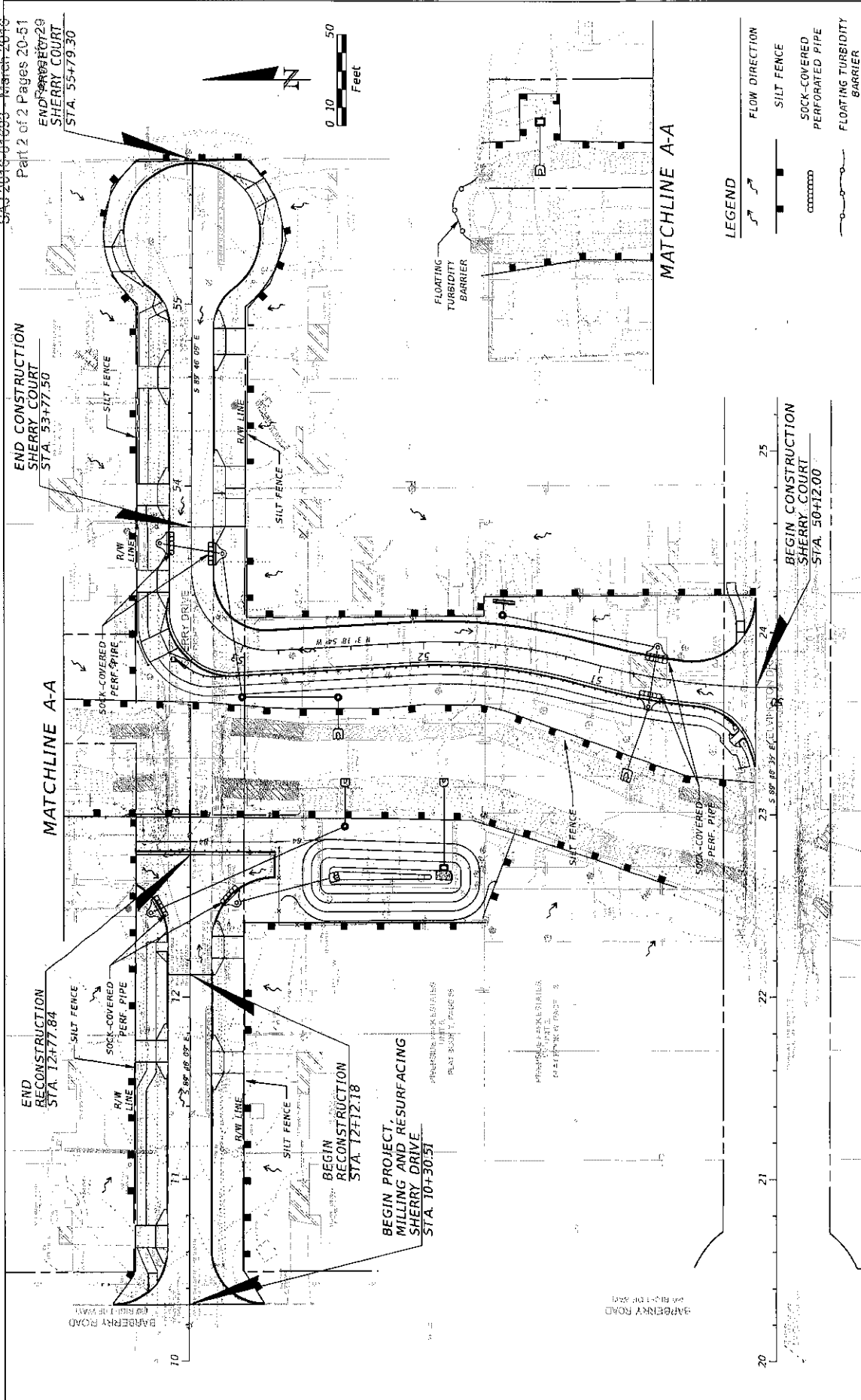
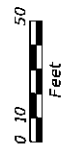
<b>GTC Engineering Corporation</b> 14 South Commerce Blvd., Ocala, FL 32067 Phone: (352) 349-4400 Fax: (352) 349-4401 Charles L. Casanova, P.E. License # 1214 Employee of Subcontractor		ORANGE COUNTY PUBLIC WORKS GTC PROJECT NO. FLO 1110 SHERIFF DRIVE REPLACEMENT OCTW PROJECT NO. 2722	STORMWATER POLLUTION PREVENTION PLAN	SHEET NO. 39
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Attachment 1 - Permit Drawings  
 SAJ 2016-01693 - March 2016

Part 2 of 2 Pages 20-51  
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 SHERRY COURT  
 STA. 55+77.50

END CONSTRUCTION  
 SHERRY COURT  
 STA. 55+77.50

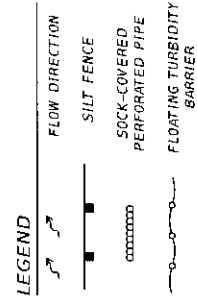
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 SHERRY COURT  
 STA. 12+77.84



BEGIN PROJECT, MILLING AND SURFACING  
 SHERRY DRIVE  
 STA. 10+30.51

BEGIN CONSTRUCTION  
 SHERRY COURT  
 STA. 50+12.00

MATCHLINE A-A

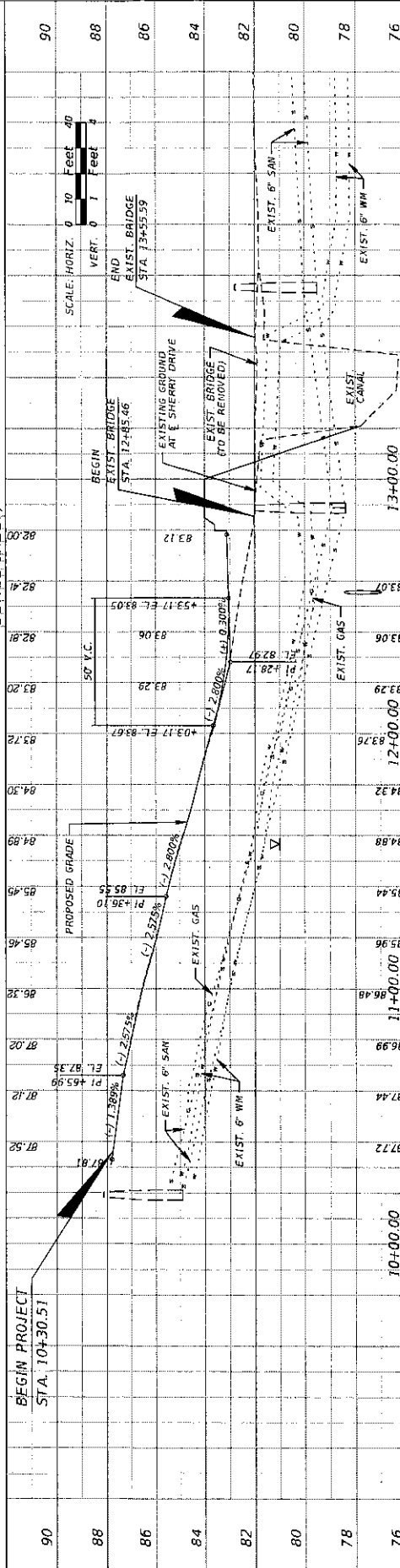
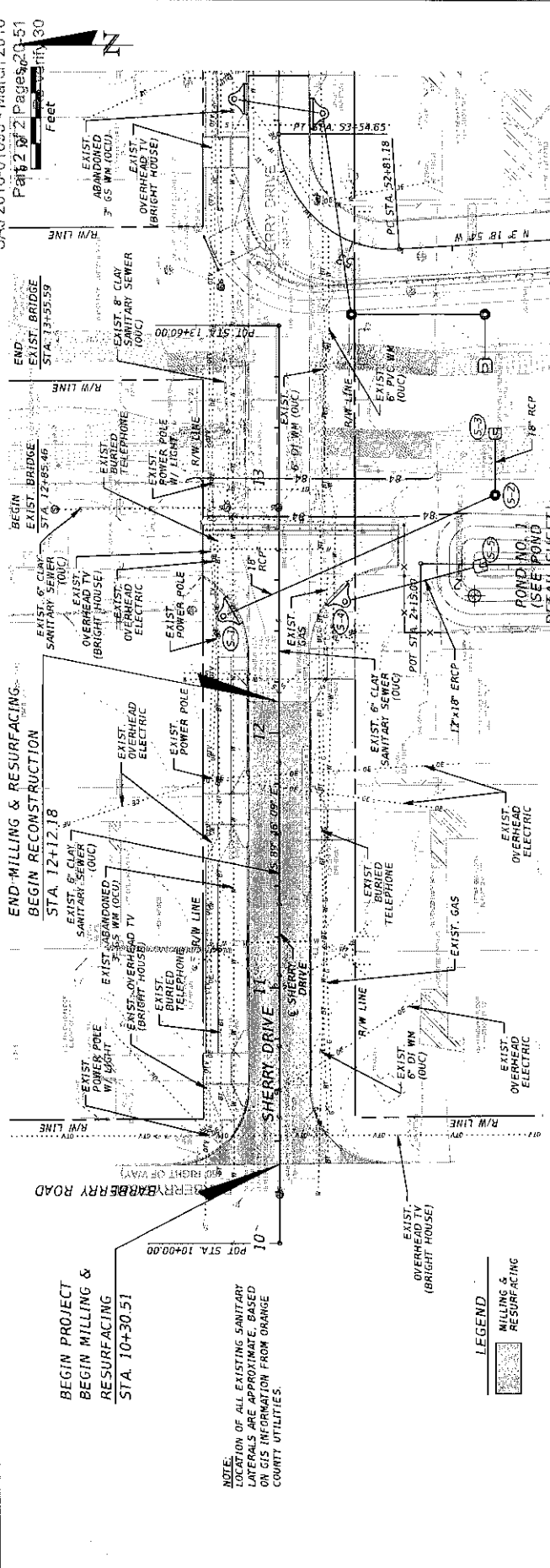


<b>EROSION CONTROL PLAN</b>		SHEET NO.	40
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<b>ORANGE COUNTY PUBLIC WORKS</b>			
GTC PROJECT NO.	SHERRY DRIVE BRIDGE REPLACEMENT	DCPW PROJECT NO.	2722
FLO 1110			

<b>GTC Engineering Corporation</b>				
28 South Summer Blvd., Orlando, FL 32807				
Phone Number: 407-380-8400				
Craig L. Castagnoli, P.E.				
Certificate of Professional Registration Number: 6558				
DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION

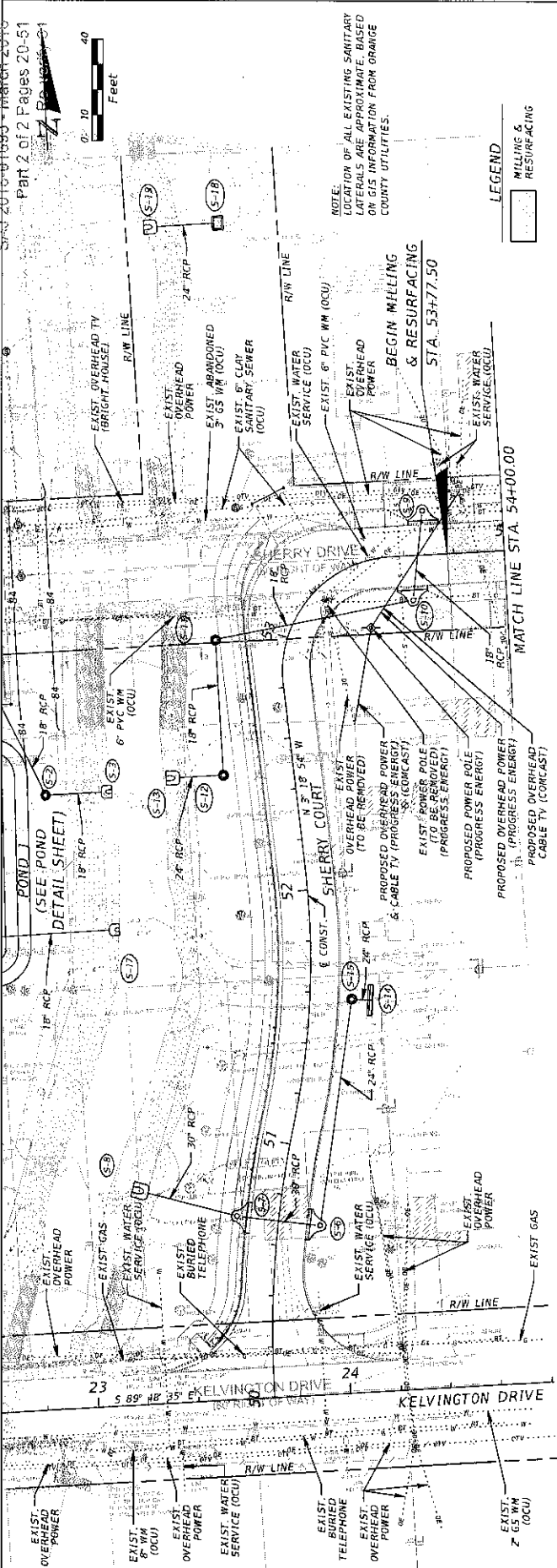
4/2/2016 10:05:02 PM H:\MSR\FLO1110-Sher\Roadway\SWP\FR02.DGN



DATE	DESCRIPTION	REVISIONS

<b>ORANGE COUNTY PUBLIC WORKS</b>		<b>DCPW PROJECT NO.</b> 2722
<b>GTC Engineering Corporation</b> 20 South Semoran Blvd., Orlando, FL 32807 Phone Number: 407-382-0400 Clyde A. Casagrande, P.E. Certificate of Professional Engineer Number: 6758		<b>SHERRY DRIVE BRIDGE REPLACEMENT</b>
<b>FLO 1110</b>		<b>4/2/08</b>
<b>STATION 10+37.13 TO STA. 12+77.84</b>		
<b>UTILITY ADJUSTMENT PLAN</b>		<b>SHEET NO. 41</b>





STATION	DESCRIPTION	DATE	REVISIONS
88			
86			
84			
82			
80			
78			
76			
74			

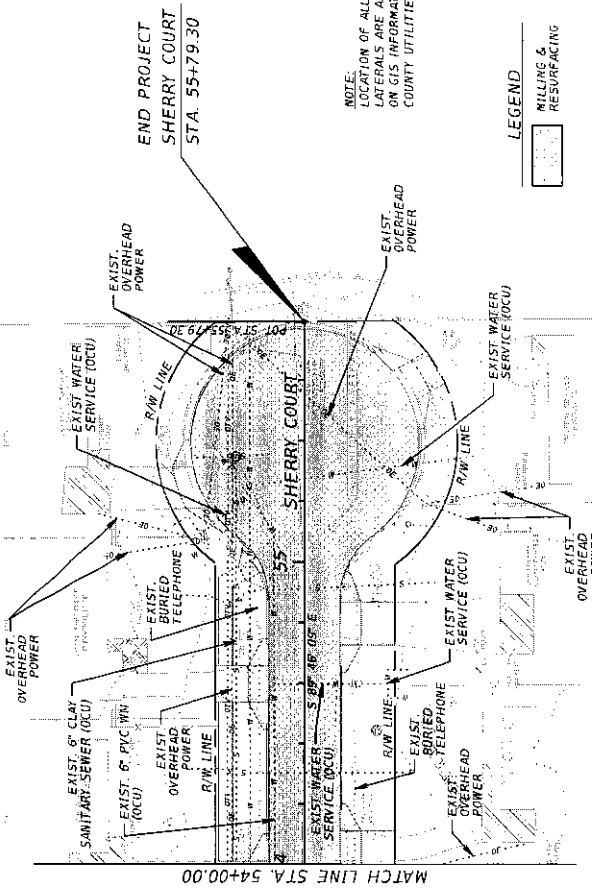
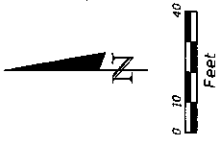
DATE	DESCRIPTION	DATE	REVISIONS
88			
86			
84			
82			
80			
78			
76			
74			

**ORANGE COUNTY PUBLIC WORKS**  
 SHERRY COURT  
 UTILITY ADJUSTMENT PLAN  
 STA. 50+12.00 TO STA. 54+00.00

GTC Engineering Corporation  
 20 South Orange Blvd., Orange, FL 32667  
 Phone Number - 407.338.8462  
 Claude L. Campbell, P.E.  
 P.E. Number 4199  
 Certificate of Registration Number 6738

GTC PROJECT NO. FLO 11.10  
 DCRW PROJECT NO. 2722

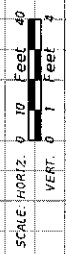
DATE: 4/2/2016 10:05:07 PM  
 FILE: H:\Jobs\16\10110-Short\Drawings\16\10110-16.dwg



NOTE:  
 LOCATION OF ALL EXISTING SANITARY  
 LATERALS ARE APPROXIMATE, BASED  
 ON GIS INFORMATION FROM ORANGE  
 COUNTY UTILITIES.



DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION
82.24			82.24	
82.26			82.26	
82.33			82.33	
82.39			82.39	
82.59			82.59	
82.95			82.95	
83.30			83.30	
83.36			83.36	
83.39			83.39	
84	EXISTING GROUND @ 6' LOWST.		84	
84	EXIST. 6" SAN		84	
82	EXIST. 6" W/W		82	
80	PROPOSED GRADE		80	
78			78	
76			76	
54+00.00			54+00.00	



DATE	DESCRIPTION
82.19	
82.26	
82.33	
82.39	
82.59	
82.95	
83.30	
83.36	
83.39	
84	
82	
80	
78	
76	
54+00.00	

<b>GTC Engineering Corporation</b> <small>18 South Orange Blvd., Suite 200        Orange, CA 92667        Phone: (714) 961-3440        Fax: (714) 961-3441        Website: www.gtc-engineering.com</small>		<b>ORANGE COUNTY PUBLIC WORKS</b> SHERRY DRIVE REFLECTMENT
GTC PROJECT NO. <b>FLO 1110</b>	OCPW PROJECT NO. <b>2722</b>	<b>SHERRY COURT</b> <b>UTILITY ADJUSTMENT PLAN</b> <b>STA. 54+00.00 TO STA. 55+79.30</b>

SHEET NO. <b>43</b>
------------------------



# St. Johns River Water Management District

Hans G. Tanzler III, Executive Director

4049 Reid Street • P.O. Box 1429 • Palatka, FL 32178-1429 • (386) 329-4500  
On the Internet at [floridaswater.com](http://floridaswater.com).

October 16, 2014

Orange County Public Works  
4200 S John Young Pkwy  
Orlando, FL 32839-9205

SUBJECT: Permit Number 133762-2  
Sherry Drive Bridge Replacement

Dear Sir/Madam:

Enclosed is your individual permit issued by the St. Johns River Water Management District on October 16, 2014. This permit is a legal document and should be kept with your other important documents. Permit issuance does not relieve you from the responsibility of obtaining any necessary permits from any federal, state, or local agencies for your project.

#### **Technical Staff Report:**

If you wish to review a copy of the Technical Staff Report (TSR) that provides the District's staff analysis of your permit application, you may view the TSR by going to the Permitting section of the District's website at [floridaswater.com/permitting](http://floridaswater.com/permitting). Using the "search applications and permits" feature, you can use your permit number or project name to find information about the permit. When you see the results of your search, click on the permit number and then on the TSR folder.

#### **Noticing Your Permit:**

For noticing instructions, please refer to the noticing materials in this package regarding closing the point of entry for someone to challenge the issuance of your permit. Please note that if a timely petition for administrative hearing is filed, your permit will become nonfinal and any activities that you choose to undertake pursuant to your permit will be at your own risk.

#### **Compliance with Permit Conditions:**

To submit your required permit compliance information, go to the District's website at [floridaswater.com/permitting](http://floridaswater.com/permitting). Under the "Apply for a permit or submit compliance data" section, click to sign-in to your existing account or to create a new account. Select the "Compliance Submittal" tab, enter your permit number, and select "No Specific Date" for the Compliance Due Date Range. You will then be able to view all the compliance submittal requirements for your project. Select the compliance item that you are ready to submit and then attach the appropriate information or form. The forms to comply with your permit conditions are available at [floridaswater.com/permitting](http://floridaswater.com/permitting) under the section "Handbooks, forms, fees, final orders". Click on forms to view all permit compliance forms, then scroll to the ERP application forms section and select the applicable compliance forms. Alternatively, if you have difficulty finding forms or need copies of the appropriate forms, please contact the Bureau of Regulatory Support at (386) 329-4570.

#### **Transferring Your Permit:**

Your permit requires you to notify the District in writing within 30 days of any change in ownership or control of the project or activity covered by the permit, or within 30 days of any change in ownership or control of the real property on which the permitted project or activity is located or occurs. You will need to provide the District with the information specified in rule 62-

#### **GOVERNING BOARD**

John A. Miklos, CHAIRMAN  
ORLANDO

Mariyam H. Ghyabi, VICE CHAIRMAN  
ORLANDO BEACH

Fred N. Roberts Jr., SECRETARY  
OCALA

George W. Robbins, TREASURER  
JACKSONVILLE

Douglas C. Bouranique  
VERO BEACH

Douglas Burnett  
ST. AUGUSTINE

Lad Daniels  
JACKSONVILLE

Chuck Drake  
ORLANDO

Carla Yetter  
TERMINADINA BEACH

330.340, Florida Administrative Code (F.A.C.). Generally, this will require you to complete and submit Form 62-330.340(1), "Request to Transfer Permit," available at <http://www.floridaswater.com/permitting/permitforms.html>.

Please note that a permittee is liable for compliance with the permit before the permit is transferred. The District, therefore, recommends that you request a permit transfer in advance in accordance with the applicable rules. You are encouraged to contact District staff for assistance with this process.

Thank you and please let us know if you have additional questions. For general questions contact [e-permit@sjrwmd.com](mailto:e-permit@sjrwmd.com) or (386) 329-4570.

Sincerely,



Margaret Daniels, Bureau Chief  
Bureau of Regulatory Support  
St. Johns River Water Management District  
4049 Reid Street  
Palatka, FL 32177-2529  
(386) 329-4570

Enclosures: Permit

cc: District Permit File

**Agent:** Claude Cassagnol  
98 S Semoran Blvd  
Orlando, FL 32807-3229

**ST. JOHNS RIVER WATER MANAGEMENT DISTRICT**  
**Post Office Box 1429**  
**Palatka, Florida 32178-1429**

**PERMIT NO:** 133762-2

**DATE ISSUED:** October 16, 2014

**PROJECT NAME:** Sherry Drive Bridge Replacement

**A PERMIT AUTHORIZING:**

Modification of a Stormwater Management System for Sherry Drive Bridge Replacement and erosion sediment control, a 1.58 - acre project to be constructed and operated as per plans received by the District on July 30, 2014.

**LOCATION:**

**SECTION(S):** 33  
Orange County

**TOWNSHIP(S):** 21S

**RANGE(S):** 29E

**ISSUED TO:**

Orange County Public Works  
4200 S John Young Pkwy  
Orlando, FL 32839-9205

The permittee agrees to hold and save the St. Johns River Water Management District and its successors harmless from any and all damages, claims, or liabilities which may arise from permit issuance. Said application, including all plans and specifications attached thereto, is by reference made a part hereof.

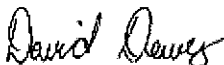
This permit does not convey to the permittee any property rights nor any rights or privileges other than those specified herein, nor relieve the permittee from complying with any law, regulation or requirement affecting the rights of other bodies or agencies. All structures and works installed by permittee hereunder shall remain the property of the permittee.

This permit may be revoked, modified or transferred at any time pursuant to the appropriate provisions of Chapter 373, Florida Statutes.

**PERMIT IS CONDITIONED UPON:**

See conditions on attached "Exhibit A", dated October 16, 2014

**AUTHORIZED BY:** St. Johns River Water Management District  
Division of Regulatory, Engineering and Environmental Services

By: 

---

David Dewey  
Service Center Director

**"EXHIBIT A"**  
**CONDITIONS FOR ISSUANCE OF PERMIT NUMBER 133762-2**  
**Orange County Public Works, Ghulam Qadir**  
**DATE ISSUED October 16, 2014**

1. All activities shall be implemented following the plans, specifications and performance criteria approved by this permit. Any deviations must be authorized in a permit modification in accordance with Rule 62-330.315, F.A.C. Any deviations that are not so authorized may subject the permittee to enforcement action and revocation of the permit under Chapter 373, F.S.
2. A complete copy of this permit shall be kept at the work site of the permitted activity during the construction phase, and shall be available for review at the work site upon request by the District staff. The permittee shall require the contractor to review the complete permit prior to beginning construction.
3. Activities shall be conducted in a manner that does not cause or contribute to violations of state water quality standards. Performance-based erosion and sediment control best management practices shall be installed immediately prior to, and be maintained during and after construction as needed, to prevent adverse impacts to the water resources and adjacent lands. Such practices shall be in accordance with the State of Florida Erosion and Sediment Control Designer and Reviewer Manual (Florida Department of Environmental Protection and Florida Department of Transportation June 2007), and the Florida Stormwater Erosion and Sedimentation Control Inspector's Manual (Florida Department of Environmental Protection, Nonpoint Source Management Section, Tallahassee, Florida, July 2008), which are both incorporated by reference in subparagraph 62-330.050(9)(b)5, F.A.C., unless a project-specific erosion and sediment control plan is approved or other water quality control measures are required as part of the permit.
4. At least 48 hours prior to beginning the authorized activities, the permittee shall submit to the District a fully executed Form 62-330.350(1), "Construction Commencement Notice," [10-1-13], incorporated by reference herein (<http://www.flrules.org/Gateway/reference.asp?No=Ref-02505>), indicating the expected start and completion dates. A copy of this form may be obtained from the District, as described in subsection 62-330.010(5), F.A.C. If available, an District website that fulfills this notification requirement may be used in lieu of the form.
5. Unless the permit is transferred under Rule 62-330.340, F.A.C., or transferred to an operating entity under Rule 62-330.310, F.A.C., the permittee is liable to comply with the plans, terms and conditions of the permit for the life of the project or activity.
6. Within 30 days after completing construction of the entire project, or any independent portion of the project, the permittee shall provide the following to the Agency, as applicable:
  - a. For an individual, private single-family residential dwelling unit, duplex, triplex, or quadruplex — "Construction Completion and Inspection Certification for Activities Associated With a Private Single-Family Dwelling Unit" [Form 62-330.310(3)]; or
  - b. For all other activities — "As-Built Certification and Request for Conversion to Operational Phase" [Form 62-330.310(1)].
  - c. If available, an Agency website that fulfills this certification requirement may be used in lieu of the form.

7. If the final operation and maintenance entity is a third party:
  - a. Prior to sales of any lot or unit served by the activity and within one year of permit issuance, or within 30 days of as-built certification, whichever comes first, the permittee shall submit, as applicable, a copy of the operation and maintenance documents (see sections 12.3 thru 12.3.3 of Volume I) as filed with the Department of State, Division of Corporations and a copy of any easement, plat, or deed restriction needed to operate or maintain the project, as recorded with the Clerk of the Court in the County in which the activity is located.
  - b. Within 30 days of submittal of the as- built certification, the permittee shall submit "Request for Transfer of Environmental Resource Permit to the Perpetual Operation Entity" [Form 62-330.310(2)] to transfer the permit to the operation and maintenance entity, along with the documentation requested in the form. If available, an Agency website that fulfills this transfer requirement may be used in lieu of the form.
8. The permittee shall notify the District in writing of changes required by any other regulatory District that require changes to the permitted activity, and any required modification of this permit must be obtained prior to implementing the changes.
9. This permit does not:
  - a. Convey to the permittee any property rights or privileges, or any other rights or privileges other than those specified herein or in Chapter 62-330, F.A.C.;
  - b. Convey to the permittee or create in the permittee any interest in real property;
  - c. Relieve the permittee from the need to obtain and comply with any other required federal, state, and local authorization, law, rule, or ordinance; or
  - d. Authorize any entrance upon or work on property that is not owned, held in easement, or controlled by the permittee.
10. Prior to conducting any activities on state-owned submerged lands or other lands of the state, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund, the permittee must receive all necessary approvals and authorizations under Chapters 253 and 258, F.S. Written authorization that requires formal execution by the Board of Trustees of the Internal Improvement Trust Fund shall not be considered received until it has been fully executed.
11. The permittee shall hold and save the District harmless from any and all damages, claims, or liabilities that may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any project authorized by the permit.
12. The permittee shall notify the District in writing:
  - a. Immediately if any previously submitted information is discovered to be inaccurate; and
  - b. Within 30 days of any conveyance or division of ownership or control of the property or the system, other than conveyance via a long-term lease, and the new owner shall request transfer of the permit in accordance with Rule 62-330.340, F.A.C. This does not apply to the sale of lots or units in residential or commercial subdivisions or condominiums where the stormwater management system has been completed and converted to the operation phase.

13. Upon reasonable notice to the permittee, District staff with proper identification shall have permission to enter, inspect, sample and test the project or activities to ensure conformity with the plans and specifications authorized in the permit.
14. If any prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, work involving subsurface disturbance in the immediate vicinity of such discoveries shall cease. The permittee or other designee shall contact the Florida Department of State, Division of Historical Resources, Compliance and Review Section, at (850) 245-6333 or (800) 847-7278, as well as the appropriate permitting agency office. Such subsurface work shall not resume without verbal or written authorization from the Division of Historical Resources. If unmarked human remains are encountered, all work shall stop immediately and notification shall be provided in accordance with Section 872.05, F.S.
15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under Rule 62-330.201, F.A.C., provides otherwise.
16. The permittee shall provide routine maintenance of all components of the stormwater management system to remove trapped sediments and debris. Removed materials shall be disposed of in a landfill or other uplands in a manner that does not require a permit under Chapter 62-330, F.A.C., or cause violations of state water quality standards.
17. This permit is issued based on the applicant's submitted information that reasonably demonstrates that adverse water resource-related impacts will not be caused by the completed permit activity. If any adverse impacts result, the District will require the permittee to eliminate the cause, obtain any necessary permit modification, and take any necessary corrective actions to resolve the adverse impacts.
18. A Recorded Notice of Environmental Resource Permit may be recorded in the county public records in accordance with Rule 62-330.090(7), F.A.C. Such notice is not an encumbrance upon the property.
19. The proposed project must be constructed and operated as per plans and calculations received by the District on July 30, 2014.
20. This permit for construction will expire five years from the date of issuance.
21. At a minimum, all retention and detention storage areas must be excavated to rough grade prior to building construction or placement of impervious surface within the area to be served by those facilities. To prevent reduction in storage volume and percolation rates, all accumulated sediment must be removed from the storage area prior to final grading and stabilization.
22. Thirty days prior to initiation of construction, the permittee shall submit a detailed erosion and sediment control plan to the District. The plan shall detail all erosion, sediment, and turbidity control measures to be implemented both during and after construction. At a minimum of the plan shall include:
  - a. Details demonstrating that the flow within the canal will be maintained, and the method to be used to bypass flow during construction.



- b. Identification of any areas where any dewatering will be performed during construction.
- c. Details of specific erosion and sediment control measures to be implemented to control the discharge of turbid water due to any dewatering activities.
- d. Construction sequencing and location of all areas of material stockpiling and equipment staging.
- e. Details of all erosion and sediment control measures to be implemented during each sequence of construction.

## Notice Of Rights

1. A person whose substantial interests are or may be affected has the right to request an administrative hearing by filing a written petition with the St. Johns River Water Management District (District). Pursuant to Chapter 28-106 and Rule 40C-1.1007, Florida Administrative Code, the petition must be filed (received) either by delivery at the office of the District Clerk at District Headquarters, P. O. Box 1429, Palatka Florida 32178-1429 (4049 Reid St., Palatka, FL 32177) or by e-mail with the District Clerk at [Clerk@sjrwm.com](mailto:Clerk@sjrwm.com), within twenty-six (26) days of the District depositing the notice of District decision in the mail (for those persons to whom the District mails actual notice), within twenty-one (21) days of the District emailing the notice of District decision (for those persons to whom the District emails actual notice), or within twenty-one (21) days of newspaper publication of the notice of District decision (for those persons to whom the District does not mail or email actual notice). A petition must comply with Sections 120.54(5)(b)4. and 120.569(2)(c), Florida Statutes, and Chapter 28-106, Florida Administrative Code. The District will not accept a petition sent by facsimile (fax), as explained in paragraph no. 4 below.
2. Please be advised that if you wish to dispute this District decision, mediation may be available and that choosing mediation does not affect your right to an administrative hearing. If you wish to request mediation, you must do so in a timely-filed petition. If all parties, including the District, agree to the details of the mediation procedure, in writing, within 10 days after the time period stated in the announcement for election of an administrative remedy under Sections 120.569 and 120.57, Florida Statutes, the time limitations imposed by Sections 120.569 and 120.57, Florida Statutes, shall be tolled to allow mediation of the disputed District decision. The mediation must be concluded within 60 days of the date of the parties' written agreement, or such other timeframe agreed to by the parties in writing. Any mediation agreement must include provisions for selecting a mediator, a statement that each party shall be responsible for paying its pro-rata share of the costs and fees associated with mediation, and the mediating parties' understanding regarding the confidentiality of discussions and documents introduced during mediation. If mediation results in settlement of the administrative dispute, the District will enter a final order consistent with the settlement agreement. If mediation terminates without settlement of the dispute, the District will notify all the parties in writing that the administrative hearing process under Sections 120.569 and 120.57, Florida Statutes, is resumed. Even if a party chooses not to engage in formal mediation, or if formal mediation does not result in a settlement agreement, the District will remain willing to engage in informal settlement discussions.
3. A person whose substantial interests are or may be affected has the right to an informal administrative hearing pursuant to Sections 120.569 and 120.57(2), Florida Statutes, where no material facts are in dispute. A petition for an informal hearing must also comply with the requirements set forth in Rule 28-106.301, Florida Administrative Code.

## Notice Of Rights

4. A petition for an administrative hearing is deemed filed upon receipt of the complete petition by the District Clerk at the District Headquarters in Palatka, Florida during the District's regular business hours. The District's regular business hours are 8:00 a.m. – 5:00 p.m., excluding weekends and District holidays. Petitions received by the District Clerk after the District's regular business hours shall be deemed filed as of 8:00 a.m. on the District's next regular business day. The District's acceptance of petitions filed by e-mail is subject to certain conditions set forth in the District's Statement of Agency Organization and Operation (issued pursuant to Rule 28-101.001, Florida Administrative Code), which is available for viewing at [floridaswater.com](http://floridaswater.com). These conditions include, but are not limited to, the petition being in the form of a PDF or TIFF file and being capable of being stored and printed by the District. Further, pursuant to the District's Statement of Agency Organization and Operation, attempting to file a petition by facsimile is prohibited and shall not constitute filing.
5. Failure to file a petition for an administrative hearing within the requisite timeframe shall constitute a waiver of the right to an administrative hearing. (Rule 28-106.111, Florida Administrative Code).
6. The right to an administrative hearing and the relevant procedures to be followed are governed by Chapter 120, Florida Statutes, Chapter 28-106, Florida Administrative Code, and Rule 40C-1.1007, Florida Administrative Code. Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means the District's final action may be different from the position taken by it in this notice. A person whose substantial interests are or may be affected by the District's final action has the right to become a party to the proceeding, in accordance with the requirements set forth above.
7. Pursuant to Section 120.68, Florida Statutes, a party to the proceeding before the District who is adversely affected by final District action may seek review of the action in the District Court of Appeal by filing a notice of appeal pursuant to Rules 9.110 and 9.190, Florida Rules of Appellate Procedure, within 30 days of the rendering of the final District action.
8. A District action is considered rendered, as referred to in paragraph no. 7 above, after it is signed on behalf of the District and filed by the District Clerk.
9. Failure to observe the relevant timeframes for filing a petition for judicial review as described in paragraph no. 7 above will result in waiver of that right to review.

NOR.Decision.DOC.001  
Revised 12.7.11

**Notice Of Rights**

**Certificate of Service**

I HEREBY CERTIFY that a copy of the foregoing Notice of Rights has been sent to the permittee:

Orange County Public Works  
4200 S John Young Pkwy  
Orlando, FL 32839-9205

This 16th day of October, 2014.



Margaret Daniels, Bureau Chief  
Bureau of Regulatory Support  
St. Johns River Water Management District  
4049 Reid Street  
Palatka, FL 32177-2529  
(386) 329-4570

Permit Number: 133762-2

## NOTICING INFORMATION

Dear Permittee:

Please be advised that the St. Johns River Water Management District will not publish a notice in the newspaper advising the public that it has issued a permit for this project.

Newspaper publication, using the District's notice form, notifies members of the public of their right to challenge the issuance of the permit. If proper notice is given by newspaper publication, then there is a 21-day time limit for someone to file a petition for an administrative hearing to challenge the issuance of the permit.

To close the point of entry for filing a petition, you may publish (at your own expense) a one-time notice of the District's decision in a newspaper of general circulation within the affected area as defined in Section 50.011 of the Florida Statutes. If you do not publish a newspaper notice to close the point of entry, the time to challenge the issuance of your permit will not expire and someone could file a petition even after your project is constructed.

A copy of the notice form and a partial list of newspapers of general circulation are attached for your convenience. However, you are not limited to those listed newspapers. If you choose to close the point of entry and the notice is published, the newspaper will return to you an affidavit of publication. In that event, it is important that you either submit a scanned copy of the affidavit by emailing it to [compliancesupport@sjrwmd.com](mailto:compliancesupport@sjrwmd.com) (preferred method) or send a copy of the original affidavit to:

Margaret Daniels, Bureau Chief  
Bureau of Regulatory Support  
4049 Reid Street  
Palatka, FL 32177

If you have any questions, please contact the Bureau of Regulatory Support at (386) 329-4570.

Sincerely,



Margaret Daniels, Bureau Chief

Bureau of Regulatory Support

NOTICE OF AGENCY ACTION TAKEN BY THE  
ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

Notice is given that the following permit was issued on \_\_\_\_\_:

(Name and address of applicant) \_\_\_\_\_  
permit# \_\_\_\_\_. The project is located in \_\_\_\_\_ County, Section  
\_\_\_\_\_, Township \_\_\_\_\_ South, Range \_\_\_\_\_ East. The permit authorizes a surface  
water management system on \_\_\_\_\_ acres for  
\_\_\_\_\_ known as  
\_\_\_\_\_. The receiving water body is \_\_\_\_\_.

A person whose substantial interests are or may be affected has the right to request an administrative hearing by filing a written petition with the St. Johns River Water Management District (District). Pursuant to Chapter 28-106 and Rule 40C-1.1007, Florida Administrative Code (F.A.C.), the petition must be filed (received) either by delivery at the office of the District Clerk at District Headquarters, P.O. Box 1429, Palatka FL 32178-1429 (4049 Reid St, Palatka, FL 32177) or by e-mail with the District Clerk at Clerk@sjrwm.d.com, within twenty-one (21) days of newspaper publication of the notice of District decision (for those persons to whom the District does not mail or email actual notice). A petition must comply with Sections 120.54(5)(b)4. and 120.569(2)(c), Florida Statutes (F.S.), and Chapter 28-106, F.A.C. The District will not accept a petition sent by facsimile (fax). Mediation pursuant to Section 120.573, F.S., may be available and choosing mediation does not affect your right to an administrative hearing.

A petition for an administrative hearing is deemed filed upon receipt of the complete petition by the District Clerk at the District Headquarters in Palatka, Florida during the District's regular business hours. The District's regular business hours are 8 a.m. – 5 p.m., excluding weekends and District holidays. Petitions received by the District Clerk after the District's regular business hours shall be deemed filed as of 8 a.m. on the District's next regular business day. The District's acceptance of petitions filed by e-mail is subject to certain conditions set forth in the District's Statement of Agency Organization and Operation (issued pursuant to Rule 28-101.001, Florida Administrative Code), which is available for viewing at [floridaswater.com](http://floridaswater.com). These conditions include, but are not limited to, the petition being in the form of a PDF or TIFF file and being capable of being stored and printed by the District. Further, pursuant to the District's Statement of Agency Organization and Operation, attempting to file a petition by facsimile (fax) is prohibited and shall not constitute filing.

The right to an administrative hearing and the relevant procedures to be followed are governed by Chapter 120, Florida Statutes, Chapter 28-106, Florida Administrative Code, and Rule 40C-1.1007, Florida Administrative Code. Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means the District's final action may be different from the position taken by it in this notice. **Failure to file a petition for an administrative hearing within the requisite time frame shall constitute a waiver of the right to an administrative hearing. (Rule 28-106.111, F.A.C.).**

If you wish to do so, please visit [http://floridaswater.com/nor\\_dec/](http://floridaswater.com/nor_dec/) to read the complete Notice of Rights to determine any legal rights you may have concerning the District's decision(s) on the permit application(s) described above. You can also request the Notice of Rights by contacting the Director of Regulatory Support, 4049 Reid St., Palatka, FL 32177-2529, tele. no. (386)329-4570.

## **NEWSPAPER ADVERTISING**

### **ALACHUA**

The Alachua County Record, Legal Advertising  
P. O. Box 806  
Gainesville, FL 32602  
352-377-2444/ fax 352-338-1986

### **BRAFORD**

Bradford County Telegraph, Legal Advertising  
P. O. Drawer A  
Starke, FL 32901  
904-964-6305/ fax 904-964-8628

### **CLAY**

Clay Today, Legal Advertising  
1560 Kinsley Ave., Suite 1  
Orange Park, FL 32073  
904-264-3200/ fax 904-264-3285

### **FLAGLER**

Flagler Tribune, c/o News Journal  
P. O. Box 2831  
Daytona Beach, FL 32120-2831  
386-681-2322

### **LAKE**

Daily Commercial, Legal Advertising  
P. O. Drawer 490007  
Leesburg, FL 34749  
352-365-8235/fax 352-365-1951

### **NASSAU**

News-Leader, Legal Advertising  
P. O. Box 766  
Fernandina Beach, FL 32035  
904-261-3696/fax 904-261-3698

### **ORANGE**

Sentinel Communications, Legal Advertising  
633 N. Orange Avenue  
Orlando, FL 32801  
407-420-5160/ fax 407-420-5011

### **PUTNAM**

Palatka Daily News, Legal Advertising  
P. O. Box 777  
Palatka, FL 32178  
386-312-5200/ fax 386-312-5209

### **SEMINOLE**

Seminole Herald, Legal Advertising  
300 North French Avenue  
Sanford, FL 32771  
407-323-9408

### **BAKER**

Baker County Press, Legal Advertising  
P. O. Box 598  
MacLenny, FL 32063  
904-259-2400/ fax 904-259-6502

### **BREVARD**

Florida Today, Legal Advertising  
P. O. Box 419000  
Melbourne, FL 32941-9000  
321-242-3832/ fax 321-242-6618

### **DUVAL**

Daily Record, Legal Advertising  
P. O. Box 1769  
Jacksonville, FL 32201  
904-356-2466 / fax 904-353-2628

### **INDIAN RIVER**

Vero Beach Press Journal, Legal Advertising  
P. O. Box 1268  
Vero Beach, FL 32961-1268  
772-221-4282/ fax 772-978-2340

### **MARION**

Ocala Star Banner, Legal Advertising  
2121 SW 19th Avenue Road  
Ocala, FL 34474  
352-867-4010/fax 352-867-4126

### **OKEECHOBEE**

Okeechobee News, Legal Advertising  
P. O. Box 639  
Okeechobee, FL 34973-0639  
863-763-3134/fax 863-763-5901

### **OSCEOLA**

Little Sentinel, Legal Advertising  
633 N. Orange Avenue  
Orlando, FL 32801  
407-420-5160/ fax 407-420-5011

### **ST. JOHNS**

St. Augustine Record, Legal Advertising  
P. O. Box 1630  
St. Augustine, FL 32085  
904-819-3436

### **VOLUSIA**

News Journal Corporation, Legal Advertising  
P. O. Box 2831  
Daytona Beach, FL 32120-2831  
(386) 681-2322



# St. Johns River Water Management District

Ann B. Shortelle, Ph.D., Executive Director

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4049 Reid Street • P.O. Box 1429 • Palatka, FL 32178-1429 • (386) 329-4500  
On the Internet at [www.sjrwmd.com](http://www.sjrwmd.com).

November 03, 2016

Ghulam Qadir  
Orange County Public Works  
4200 S John Young Pkwy  
Orlando, FL 32839-9205

SUBJECT: 133762-3  
Sherry Drive Canal Bank Erosion Protection

Dear Sir/Madam:

Enclosed is your individual permit issued by the St. Johns River Water Management District on November 03, 2016. This permit is a legal document and should be kept with your other important documents. Permit issuance does not relieve you from the responsibility of obtaining any necessary permits from any federal, state, or local agencies for your project.

**Technical Staff Report:**

If you wish to review a copy of the Technical Staff Report (TSR) that provides the District's staff analysis of your permit application, you may view the TSR by going to the Permitting section of the District's website at [www.sjrwmd.com/permitting](http://www.sjrwmd.com/permitting). Using the "search applications and permits" feature, you can use your permit number or project name to find information about the permit. When you see the results of your search, click on the permit number and then on the TSR folder.

**Noticing Your Permit:**

For noticing instructions, please refer to the noticing materials in this package regarding closing the point of entry for someone to challenge the issuance of your permit. Please note that if a timely petition for administrative hearing is filed, your permit will become non-final and any activities that you choose to undertake pursuant to your permit will be at your own risk.

**Compliance with Permit Conditions:**

To submit your required permit compliance information, go to the District's website at [www.sjrwmd.com/permitting](http://www.sjrwmd.com/permitting). Under the "Apply for a permit or submit compliance data" section, click to sign-in to your existing account or to create a new account. Select the "Compliance Submittal" tab, enter your permit number, and select "No Specific Date" for the Compliance Due Date Range. You will then be able to view all the compliance submittal requirements for your project. Select the compliance item that you are ready to submit and then attach the appropriate information or form. The forms to comply with your permit conditions are available at [www.sjrwmd.com/permitting](http://www.sjrwmd.com/permitting) under the section "Handbooks, forms, fees, final orders". Click on forms to view all permit compliance forms, then scroll to the ERP application forms section and select the applicable compliance forms. Alternatively, if you have difficulty finding forms or need

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**GOVERNING BOARD**

John A. Miklos, CHAIRMAN  
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Fred N. Roberts Jr., VICE CHAIRMAN  
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John P. Browning, Jr.  
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Douglas Burnett  
ST. AUGUSTINE

Maryam H. Ghyabi  
ORMOND BEACH

Ron Howse  
COCOA



copies of the appropriate forms, please contact the Bureau of Regulatory Support at (386) 329-4570.

**Transferring Your Permit:**

Your permit requires you to notify the District within 30 days of any change in ownership or control of the project or activity covered by the permit, or within 30 days of any change in ownership or control of the real property on which the permitted project or activity is located or occurs. You will need to provide the District with the information specified in rule 62-330.340, Florida Administrative Code (F.A.C.). Generally, this will require you to complete and submit Form 62-330.340(1), "Request to Transfer Permit," available at <http://www.sjrwmd.com/permitting/permitforms.html>.

Please note that a permittee is liable for compliance with the permit before the permit is transferred. The District, therefore, recommends that you request a permit transfer in advance in accordance with the applicable rules. You are encouraged to contact District staff for assistance with this process.

Thank you and please let us know if you have additional questions. For general questions contact [e-permit@sjrwmd.com](mailto:e-permit@sjrwmd.com) or (386) 329-4570.

Sincerely,



Margaret Daniels, Office Director  
Office of Business and Administrative Services  
St. Johns River Water Management District  
4049 Reid Street  
Palatka, FL 32177-2529  
(386) 329-4570

Enclosures: Permit

cc: District Permit File

[[[SEND\_CC\_NAMES\_CAREOF\_WITH\_ADDRESS]]]

**ST. JOHNS RIVER WATER MANAGEMENT DISTRICT**  
**Post Office Box 1429**  
**Palatka, Florida 32178-1429**

**PERMIT NO:** 133762-3

**DATE ISSUED:** November 03, 2016

**PROJECT NAME:** Sherry Drive Canal Bank Erosion Protection

**A PERMIT AUTHORIZING:**

Modification of Permit Number IND-095-133762-2 for Sherry Drive Canal Bank Erosion Protection, to include a 0.31- acre project to be constructed as per plans received by the District on May 19, 2016, and as amended by Sheet 40 received by the District on June 16, 2016, and as amended by Sheet 9 received by the District on October 20, 2016.

**LOCATION:**

Section(s): 33                      Township(s): 21S                      Range(s): 29E  
Orange County

**Receiving Water Body:**

Name	Class
Little Wekiva River	III Fresh

**ISSUED TO:**

Orange County Public Works  
4200 S John Young Pkwy  
Orlando, FL 32839-9205

The permittee agrees to hold and save the St. Johns River Water Management District and its successors harmless from any and all damages, claims, or liabilities which may arise from permit issuance. Said application, including all plans and specifications attached thereto, is by reference made a part hereof.

This permit does not convey to the permittee any property rights nor any rights or privileges other than those specified herein, nor relieve the permittee from complying with any law, regulation or requirement affecting the rights of other bodies or agencies. All structures and works installed by permittee hereunder shall remain the property of the permittee.

This permit may be revoked, modified or transferred at any time pursuant to the appropriate provisions of Chapter 373, Florida Statutes.

**PERMIT IS CONDITIONED UPON:**

See conditions on attached "Exhibit A", dated November 03, 2016

**AUTHORIZED BY:** St. Johns River Water Management District  
Division of Regulatory, Engineering and Environmental Services

By: 

\_\_\_\_\_  
David Miracle  
Regulatory Coordinator

**"EXHIBIT A"**  
**CONDITIONS FOR ISSUANCE OF PERMIT NUMBER 133762-3**  
**Sherry Drive Canal Bank Erosion Protection**  
**DATED November 03, 2016**

1. All activities shall be implemented following the plans, specifications and performance criteria approved by this permit. Any deviations must be authorized in a permit modification in accordance with Rule 62-330.315, F.A.C. Any deviations that are not so authorized may subject the permittee to enforcement action and revocation of the permit under Chapter 373, F.S.
2. A complete copy of this permit shall be kept at the work site of the permitted activity during the construction phase, and shall be available for review at the work site upon request by the District staff. The permittee shall require the contractor to review the complete permit prior to beginning construction.
3. Activities shall be conducted in a manner that does not cause or contribute to violations of state water quality standards. Performance-based erosion and sediment control best management practices shall be installed immediately prior to, and be maintained during and after construction as needed, to prevent adverse impacts to the water resources and adjacent lands. Such practices shall be in accordance with the State of Florida Erosion and Sediment Control Designer and Reviewer Manual (Florida Department of Environmental Protection and Florida Department of Transportation June 2007), and the Florida Stormwater Erosion and Sedimentation Control Inspector's Manual (Florida Department of Environmental Protection, Nonpoint Source Management Section, Tallahassee, Florida, July 2008), which are both incorporated by reference in subparagraph 62-330.050(9)(b)5, F.A.C., unless a project-specific erosion and sediment control plan is approved or other water quality control measures are required as part of the permit.
4. At least 48 hours prior to beginning the authorized activities, the permittee shall submit to the District a fully executed Form 62-330.350(1), "Construction Commencement Notice," [10-1-13], incorporated by reference herein (<http://www.flrules.org/Gateway/reference.asp?No=Ref-02505>), indicating the expected start and completion dates. A copy of this form may be obtained from the District, as described in subsection 62-330.010(5), F.A.C. If available, an District website that fulfills this notification requirement may be used in lieu of the form.
5. Unless the permit is transferred under Rule 62-330.340, F.A.C., or transferred to an operating entity under Rule 62-330.310, F.A.C., the permittee is liable to comply with the plans, terms and conditions of the permit for the life of the project or activity.
6. Within 30 days after completing construction of the entire project, or any independent portion of the project, the permittee shall provide the following to the Agency, as applicable:
  - a. For an individual, private single-family residential dwelling unit, duplex, triplex, or quadruplex — "Construction Completion and Inspection Certification for Activities Associated With a Private Single-Family Dwelling Unit" [Form 62-330.310(3)]; or
  - b. For all other activities — "As-Built Certification and Request for Conversion to Operational Phase" [Form 62-330.310(1)].
  - c. If available, an Agency website that fulfills this certification requirement may be used in lieu of the form.

7. If the final operation and maintenance entity is a third party:
  - a. Prior to sales of any lot or unit served by the activity and within one year of permit issuance, or within 30 days of as-built certification, whichever comes first, the permittee shall submit, as applicable, a copy of the operation and maintenance documents (see sections 12.3 thru 12.3.3 of Volume I) as filed with the Department of State, Division of Corporations and a copy of any easement, plat, or deed restriction needed to operate or maintain the project, as recorded with the Clerk of the Court in the County in which the activity is located.
  - b. Within 30 days of submittal of the as-built certification, the permittee shall submit "Request for Transfer of Environmental Resource Permit to the Perpetual Operation Entity" [Form 62-330.310(2)] to transfer the permit to the operation and maintenance entity, along with the documentation requested in the form. If available, an Agency website that fulfills this transfer requirement may be used in lieu of the form.
8. The permittee shall notify the District in writing of changes required by any other regulatory District that require changes to the permitted activity, and any required modification of this permit must be obtained prior to implementing the changes.
9. This permit does not:
  - a. Convey to the permittee any property rights or privileges, or any other rights or privileges other than those specified herein or in Chapter 62-330, F.A.C.;
  - b. Convey to the permittee or create in the permittee any interest in real property;
  - c. Relieve the permittee from the need to obtain and comply with any other required federal, state, and local authorization, law, rule, or ordinance; or
  - d. Authorize any entrance upon or work on property that is not owned, held in easement, or controlled by the permittee.
10. Prior to conducting any activities on state-owned submerged lands or other lands of the state, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund, the permittee must receive all necessary approvals and authorizations under Chapters 253 and 258, F.S. Written authorization that requires formal execution by the Board of Trustees of the Internal Improvement Trust Fund shall not be considered received until it has been fully executed.
11. The permittee shall hold and save the District harmless from any and all damages, claims, or liabilities that may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any project authorized by the permit.
12. The permittee shall notify the District in writing:
  - a. Immediately if any previously submitted information is discovered to be inaccurate; and
  - b. Within 30 days of any conveyance or division of ownership or control of the property or the system, other than conveyance via a long-term lease, and the new owner shall request transfer of the permit in accordance with Rule 62-330.340, F.A.C. This does not apply to the sale of lots or units in residential or commercial subdivisions or condominiums where the stormwater management system has been completed and converted to the operation phase.

13. Upon reasonable notice to the permittee, District staff with proper identification shall have permission to enter, inspect, sample and test the project or activities to ensure conformity with the plans and specifications authorized in the permit.
14. If any prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, work involving subsurface disturbance in the immediate vicinity of such discoveries shall cease. The permittee or other designee shall contact the Florida Department of State, Division of Historical Resources, Compliance and Review Section, at (850) 245-6333 or (800) 847-7278, as well as the appropriate permitting agency office. Such subsurface work shall not resume without verbal or written authorization from the Division of Historical Resources. If unmarked human remains are encountered, all work shall stop immediately and notification shall be provided in accordance with Section 872.05, F.S.
15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under Rule 62-330.201, F.A.C., provides otherwise.
16. The permittee shall provide routine maintenance of all components of the stormwater management system to remove trapped sediments and debris. Removed materials shall be disposed of in a landfill or other uplands in a manner that does not require a permit under Chapter 62-330, F.A.C., or cause violations of state water quality standards.
17. This permit is issued based on the applicant's submitted information that reasonably demonstrates that adverse water resource-related impacts will not be caused by the completed permit activity. If any adverse impacts result, the District will require the permittee to eliminate the cause, obtain any necessary permit modification, and take any necessary corrective actions to resolve the adverse impacts.
18. A Recorded Notice of Environmental Resource Permit may be recorded in the county public records in accordance with Rule 62-330.090(7), F.A.C. Such notice is not an encumbrance upon the property.
19. This permit for construction will expire five years from the date of issuance.
20. The operation and maintenance entity shall inspect the stormwater or surface water management system once within two years after the completion of construction and every two years thereafter to determine if the system is functioning as designed and permitted. The operation and maintenance entity must maintain a record of each required inspection, including the date of the inspection, the name and contact information of the inspector, and whether the system was functioning as designed and permitted, and make such record available for inspection upon request by the District during normal business hours. If at any time the system is not functioning as designed and permitted, then within 30 days the entity shall submit a report electronically or in writing to the District using Form 62-330.311(1), "Operation and Maintenance Inspection Certification," describing the remedial actions taken to resolve the failure or deviation.
21. The proposed permit modification project shall be constructed as per plans received by the District on May 19, 2016, and as amended by Sheet 40 received by the District on June 16, 2016, and as amended by Sheet 9 received by the District on October 20, 2016.

22. Thirty days prior to initiation of construction, the permittee shall submit a detailed erosion and sediment control plan to the District for written approval. The plan shall detail all erosion and sediment control measures to be implemented both during and after construction. At a minimum the plan shall include:

a. Identification of any areas where any dewatering will be performed during construction;

b. Details of specific erosion and sediment control measures to be implemented to control the discharge of turbid water due to any dewatering activities; and

c. Construction sequencing and location of all areas of material stockpiling and equipment staging; and

d. Details of all erosion and sediment control measures to be implemented during each sequence of construction.

Construction shall not commence until the permittee receives written approval of the plan from the District.

## Notice Of Rights

1. A person whose substantial interests are or may be affected has the right to request an administrative hearing by filing a written petition with the St. Johns River Water Management District (District). Pursuant to Chapter 28-106 and Rule 40C-1.1007, Florida Administrative Code, the petition must be filed (received) either by delivery at the office of the District Clerk at District Headquarters, P. O. Box 1429, Palatka Florida 32178-1429 (4049 Reid St., Palatka, FL 32177) or by e-mail with the District Clerk at [Clerk@sjrwmd.com](mailto:Clerk@sjrwmd.com), within twenty-six (26) days of the District depositing the notice of District decision in the mail (for those persons to whom the District mails actual notice), within twenty-one (21) days of the District emailing the notice of District decision (for those persons to whom the District emails actual notice), or within twenty-one (21) days of newspaper publication of the notice of District decision (for those persons to whom the District does not mail or email actual notice). A petition must comply with Sections 120.54(5)(b)4. and 120.569(2)(c), Florida Statutes, and Chapter 28-106, Florida Administrative Code. The District will not accept a petition sent by facsimile (fax), as explained in paragraph no. 4 below.
2. Please be advised that if you wish to dispute this District decision, mediation may be available and that choosing mediation does not affect your right to an administrative hearing. If you wish to request mediation, you must do so in a timely-filed petition. If all parties, including the District, agree to the details of the mediation procedure, in writing, within 10 days after the time period stated in the announcement for election of an administrative remedy under Sections 120.569 and 120.57, Florida Statutes, the time limitations imposed by Sections 120.569 and 120.57, Florida Statutes, shall be tolled to allow mediation of the disputed District decision. The mediation must be concluded within 60 days of the date of the parties' written agreement, or such other timeframe agreed to by the parties in writing. Any mediation agreement must include provisions for selecting a mediator, a statement that each party shall be responsible for paying its pro-rata share of the costs and fees associated with mediation, and the mediating parties' understanding regarding the confidentiality of discussions and documents introduced during mediation. If mediation results in settlement of the administrative dispute, the District will enter a final order consistent with the settlement agreement. If mediation terminates without settlement of the dispute, the District will notify all the parties in writing that the administrative hearing process under Sections 120.569 and 120.57, Florida Statutes, is resumed. Even if a party chooses not to engage in formal mediation, or if formal mediation does not result in a settlement agreement, the District will remain willing to engage in informal settlement discussions.
3. A person whose substantial interests are or may be affected has the right to an informal administrative hearing pursuant to Sections 120.569 and 120.57(2), Florida Statutes, where no material facts are in dispute. A petition for an informal hearing must also comply with the requirements set forth in Rule 28-106.301, Florida Administrative Code.

## Notice Of Rights

4. A petition for an administrative hearing is deemed filed upon receipt of the complete petition by the District Clerk at the District Headquarters in Palatka, Florida during the District's regular business hours. The District's regular business hours are 8:00 a.m. – 5:00 p.m., excluding weekends and District holidays. Petitions received by the District Clerk after the District's regular business hours shall be deemed filed as of 8:00 a.m. on the District's next regular business day. The District's acceptance of petitions filed by e-mail is subject to certain conditions set forth in the District's Statement of Agency Organization and Operation (issued pursuant to Rule 28-101.001, Florida Administrative Code), which is available for viewing at [sjrwmd.com](http://sjrwmd.com). These conditions include, but are not limited to, the petition being in the form of a PDF or TIFF file and being capable of being stored and printed by the District. Further, pursuant to the District's Statement of Agency Organization and Operation, attempting to file a petition by facsimile is prohibited and shall not constitute filing.
5. Failure to file a petition for an administrative hearing within the requisite timeframe shall constitute a waiver of the right to an administrative hearing. (Rule 28-106.111, Florida Administrative Code).
6. The right to an administrative hearing and the relevant procedures to be followed are governed by Chapter 120, Florida Statutes, Chapter 28-106, Florida Administrative Code, and Rule 40C-1.1007, Florida Administrative Code. Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means the District's final action may be different from the position taken by it in this notice. A person whose substantial interests are or may be affected by the District's final action has the right to become a party to the proceeding, in accordance with the requirements set forth above.
7. Pursuant to Section 120.68, Florida Statutes, a party to the proceeding before the District who is adversely affected by final District action may seek review of the action in the District Court of Appeal by filing a notice of appeal pursuant to Rules 9.110 and 9.190, Florida Rules of Appellate Procedure, within 30 days of the rendering of the final District action.
8. A District action is considered rendered, as referred to in paragraph no. 7 above, after it is signed on behalf of the District and filed by the District Clerk.
9. Failure to observe the relevant timeframes for filing a petition for judicial review as described in paragraph no. 7 above will result in waiver of that right to review.



## NOTICING INFORMATION

Dear Permittee:

Please be advised that the St. Johns River Water Management District will not publish a notice in the newspaper advising the public that it has issued a permit for this project.

Newspaper publication, using the District's notice form, notifies members of the public of their right to challenge the issuance of the permit. If proper notice is given by newspaper publication, then there is a 21-day time limit for someone to file a petition for an administrative hearing to challenge the issuance of the permit.

To close the point of entry for filing a petition, you may publish (at your own expense) a one-time notice of the District's decision in a newspaper of general circulation within the affected area as defined in Section 50.011 of the Florida Statutes. If you do not publish a newspaper notice to close the point of entry, the time to challenge the issuance of your permit will not expire and someone could file a petition even after your project is constructed.

A copy of the notice form and a partial list of newspapers of general circulation are attached for your convenience. However, you are not limited to those listed newspapers. If you choose to close the point of entry and the notice is published, the newspaper will return to you an affidavit of publication. In that event, it is important that you either submit a scanned copy of the affidavit by emailing it to [compliancesupport@sjrwmd.com](mailto:compliancesupport@sjrwmd.com) (preferred method) or send a copy of the original affidavit to:

Margaret Daniels, Office Director  
Office of Business and Administrative Services  
4049 Reid Street  
Palatka, FL 32177

If you have any questions, please contact the Office of Business and Administrative Services at (386) 329-4570.

Sincerely,



Margaret Daniels, Office Director  
Office of Business and Administrative Services

NOTICE OF AGENCY ACTION TAKEN BY THE  
ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

Notice is given that the following permit was issued on \_\_\_\_\_:

(Name and address of applicant) \_\_\_\_\_  
permit# \_\_\_\_\_. The project is located in \_\_\_\_\_ County, Section  
\_\_\_\_\_, Township \_\_\_\_\_ South, Range \_\_\_\_\_ East. The permit authorizes a surface  
water management system on \_\_\_\_\_ acres for  
\_\_\_\_\_ known as  
\_\_\_\_\_. The receiving water body is \_\_\_\_\_.

A person whose substantial interests are or may be affected has the right to request an administrative hearing by filing a written petition with the St. Johns River Water Management District (District). Pursuant to Chapter 28-106 and Rule 40C-1.1007, Florida Administrative Code (F.A.C.), the petition must be filed (received) either by delivery at the office of the District Clerk at District Headquarters, P.O. Box 1429, Palatka FL 32178-1429 (4049 Reid St, Palatka, FL 32177) or by e-mail with the District Clerk at Clerk@sjrwmd.com, within twenty-one (21) days of newspaper publication of the notice of District decision (for those persons to whom the District does not mail or email actual notice). A petition must comply with Sections 120.54(5)(b)4. and 120.569(2)(c), Florida Statutes (F.S.), and Chapter 28-106, F.A.C. The District will not accept a petition sent by facsimile (fax). Mediation pursuant to Section 120.573, F.S., may be available and choosing mediation does not affect your right to an administrative hearing.

A petition for an administrative hearing is deemed filed upon receipt of the complete petition by the District Clerk at the District Headquarters in Palatka, Florida during the District's regular business hours. The District's regular business hours are 8 a.m. – 5 p.m., excluding weekends and District holidays. Petitions received by the District Clerk after the District's regular business hours shall be deemed filed as of 8 a.m. on the District's next regular business day. The District's acceptance of petitions filed by e-mail is subject to certain conditions set forth in the District's Statement of Agency Organization and Operation (issued pursuant to Rule 28-101.001, Florida Administrative Code), which is available for viewing at [www.sjrwmd.com](http://www.sjrwmd.com). These conditions include, but are not limited to, the petition being in the form of a PDF or TIFF file and being capable of being stored and printed by the District. Further, pursuant to the District's Statement of Agency Organization and Operation, attempting to file a petition by facsimile (fax) is prohibited and shall not constitute filing.

The right to an administrative hearing and the relevant procedures to be followed are governed by Chapter 120, Florida Statutes, Chapter 28-106, Florida Administrative Code, and Rule 40C-1.1007, Florida Administrative Code. Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means the District's final action may be different from the position taken by it in this notice. **Failure to file a petition for an administrative hearing within the requisite time frame shall constitute a waiver of the right to an administrative hearing. (Rule 28-106.111, F.A.C.).**

If you wish to do so, please visit [http://www.sjrwmd.com/nor\\_dec/](http://www.sjrwmd.com/nor_dec/) to read the complete Notice of Rights to determine any legal rights you may have concerning the District's decision(s) on the permit application(s) described above. You can also request the Notice of Rights by contacting the Director of Regulatory Support, 4049 Reid St., Palatka, FL 32177-2529, tele. no. (386)329-4570.

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**PART H**  
**TECHNICAL PROVISIONS**

**TP 101 - Mobilization**

**MOBILIZATION**

Mobilization shall include all items detailed in Article 101 of the Standard Specifications, the Special Provisions and on the plans, except as directed by the Engineer.

Preservation of Property Corners including all items detailed in Section 7-11 of the Standard Specifications shall be included in the contract price for mobilization.

**Basis of Payment**

The work and incidental costs covered under Mobilization will be paid for at the contract lump sum price and will be paid in partial payments in accordance with the following:

Percent of Original Contract Amount Earned	Allowable Percent of the Lump Sum Price for the Items*
5	25
10	50
25	75
50	100

\*Partial payments as detailed above will be limited to 10% of the original Contract amount for the roadway pay items. Any amount of mobilization in excess of 10% of the roadway pay items will be paid upon completion of all work.

Payment shall be made under:

Pay Item:

101-1	Mobilization	Lump Sum
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**PART H**  
**TECHNICAL PROVISIONS**

**TP 102 – Maintenance of Traffic**

**MAINTENANCE OF TRAFFIC**

All Maintenance of Traffic work shall conform to the requirements of Section 102 of the Standard Specifications, Index 600 of the FDOT Design Standards, the plans, and/or as herein modified, except as directed by the Engineer.

The road shall be kept open to two-way traffic on a paved surface during construction except when full closures are allowed by the plans or by the Engineer. The Contractor shall not be permitted to isolate residences or places of business. Access shall be provided to all residences and all places of business whenever construction interferes with the existing means of access.

The Contractor shall furnish, erect and maintain all necessary traffic control devices, including flagmen and pilot cars, in accordance with the *Manual of Uniform Traffic Control Devices for Streets and Highways*, published by the U.S. Department of Transportation, Federal Highway Administration. The Contractor shall provide and maintain in a safe condition the entire project limits included, but not limited to pre-existing conditions, driving lanes, temporary approaches, crossings, and intersections with trails, roads, streets, business parking lots, residences, garages and completed work. The Contractor shall take all necessary precautions for the protection of the work and the safety of the public in accordance with Section 102.

The Contractor shall present his signed and sealed Maintenance of Traffic Plan that is approved by Orange County Traffic Engineering to the Engineer at the preconstruction conference, and shall be fully and solely responsible for the adequacy of the Maintenance of Traffic plan regardless of the source. The plan shall be signed and sealed by a professional engineer licensed in the State of Florida.

The Contractor shall be responsible for installation of signs for all business along the project corridor. Signs should be manufactured and installed in accordance with FDOT design standards. No special compensation will be made to the contractor to defray costs of any of the work or delays for complying with the requirements of installing business signs, but such costs shall be considered as having been included in the price stipulated for the Maintenance of Traffic pay item.

**Basis of Payment**

All materials, work and incidental costs related to Maintenance of Traffic will be paid for at the contract lump sum price. All material, labor and equipment necessary for the construction and maintenance of the entire project limits included, but not limited to pre-existing conditions, driving lanes, temporary approaches, crossings, intersections with trails, roads, streets, business parking lots, residences, garages, temporary driving lanes, side streets, driveway connections, and completed work, as may be directed by the Engineer shall be included in the contract price.

Payment shall be made under:

**Pay Item:**

102-1            Maintenance of Traffic            - Lump Sum

**PART H**  
**TECHNICAL PROVISIONS**

**TP 104 - Prevention, Control and Abatement  
of Erosion and Water Pollution**

**PREVENTION, CONTROL and ABATEMENT of EROSION and WATER POLLUTION**

**LAND CLEARING**

Prevention, control and abatement of erosion and water pollution shall conform to the requirements of Section 104 of the Standard Specifications, National Pollution Discharge Elimination System (NPDES) requirements, except as modified by these Technical Provisions or as directed by the Engineer.

The Contractor shall present at the Preconstruction Conference its Storm Water Pollution Prevention Plan (SWPPP) and a separate schedule to manage erosion and water pollution. This schedule shall include a complete outline of the proposed construction of all erosion and pollution control and abatement items required.

The Contractor shall be responsible for the preparation and submittal of the Notice of Intent (NOI) and Notice of Termination (NOT) to the Florida Department of Environmental Protection (FDEP) and shall obtain the FDEP Generic Permit for Stormwater Discharge from Large and Small Construction Activities.

**DEWATERING**

The term treatment as used in this technical provision means the application of all FDEP approved techniques and/or methods available to remove the exceedances out of dewatering effluent except impounding. Impounding is not considered a treatment method for purposes of compensation under this technical provision.

The CONTRACTOR shall include in his/her bid all applicable costs, including monitoring, resulting from treatment and disposal of contaminated groundwater with concentration levels that exceed the allowable limits of the FDEP generic permit, and shall not be entitled to any adjustment in the Contract Price as a result of any change in the permit fees or unanticipated treatment and disposal costs.

Prior to any work commencing, and for the duration of the work, the CONTRACTOR is responsible for meeting all the conditions of the applicable permits and submitting any required reports to the appropriate agencies.

The CONTRACTOR shall dewater only in relation to the location and relocation of facilities owned by the COUNTY. No compensation shall be provided for dewatering performed for facilities that are not owned by the COUNTY.

**Permitting**

If exceedances are found in the dewatering effluent, the CONTRACTOR will be required to:

**PART H**  
**TECHNICAL PROVISIONS**

**TP 104 - Prevention, Control and Abatement  
of Erosion and Water Pollution**

1. Immediately notify the COUNTY and report the exceedances that are encountered.
2. Meet with the FDEP to determine any and all alternatives that are acceptable.
3. Obtain prior COUNTY approval of treatment and disposal alternatives.
4. Obtain prior written COUNTY authorization to use pay item TP 104-14
5. Apply and obtain any and all permits and/or treatment approvals that FDEP requires including, but not limited to:
  - a. Generic Permit for Discharges from Petroleum Contaminated Sites (62-621.300(1), F.A.C.). Allows discharges from sites with automotive gasoline, aviation gasoline, jet fuel, or diesel fuel contamination.
  - b. Permit for all Other Contaminated Sites (62-04; 62-302; 62-620 & 62-660, F.A.C.). The coverage is available only through the individual NPDES permit issued by FDEP. Allows discharges from sites with general contaminant issues, i.e. ground water and/or soil contamination other than petroleum fuel contamination.
  - c. Generic Permit for the Discharge of Produced Ground Water from Any Non-Contaminated Site Activity (62-621.300(2), F.A.C.).
  - d. Generic Permit for Stormwater Discharge from Large or Small Construction Activities (62-621.300(4) (a), F.A.C.).
6. Apply and obtain any and all permits and/or treatment approvals that the Water Management District requires including, but not limited to:
  - a. No-Notice Short-Term Dewatering Permit (40E-20.302(3), F.A.C.) If the CONTRACTOR'S proposed work is expected to exceed 90 days in duration, or does not meet any of the other requirements listed with the requirements of Rule 40E-20.302(3), the CONTRACTOR must apply for and obtain a Dewatering General Water Use Permit (40E-20.302(2) F.A.C.)

The CONTRACTOR shall not be entitled to file, or recover under, any delay claim based on preparation of permit applications and the time required for obtaining the applicable permits. 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.

**PART H**  
**TECHNICAL PROVISIONS**

**TP 104 - Prevention, Control and Abatement  
of Erosion and Water Pollution**

The CONTRACTOR shall consider and anticipate the potential need to obtain the herein discussed permits in developing his schedule, and shall make every effort to avoid or minimize potential impacts to his critical path that might result from delays in dewatering activities due to the time necessary for the CONTRACTOR to obtain the necessary permits. The CONTRACTOR shall make every effort to schedule activities requiring dewatering as late as possible during his schedule, and shall schedule activities not impacted by dewatering as early as possible. For each day, up to a maximum of one hundred eighty (180) days that the CONTRACTOR diligently pursues such permit(s) and is unable to avoid adversely impacting his critical path, a day will be added to the time allotted to the CONTRACTOR to complete performance of the Project.

**Treatment**

The CONTRACTOR shall implement the appropriate treatment that is acceptable to FDEP, COUNTY, and, if necessary, the Water Management District to attain compliance for all exceedances encountered during dewatering activities. Treatments may include, but are not limited to: chemical treatment, ion exchange treatment, filtration, and disposal of discharged groundwater in a properly permitted facility.

The CONTRACTOR shall:

1. Make every effort to minimize the spread of contamination into uncontaminated areas;
2. Provide for the health and safety of all workers at the job site and make provisions necessary for the health and safety of the public that may be exposed to any potentially hazardous conditions;
3. Ensure such provisions adhere to all applicable laws, rules or regulations covering hazardous conditions in a manner commensurate with the level of severity of the conditions;
4. If necessary, provide contamination assessment and remediation personnel to handle site assessment, determine the course of action necessary for site security, and perform the necessary steps under applicable laws, rules, and regulations for additional assessment and/or remediation work to resolve the contamination issue;
5. Delineate the contamination area(s), any staging or holding area required, and develop a work plan that will provide the schedule of projected completion dates for the final resolution of the contamination issue;
6. Maintain jurisdiction over activities inside any delineated contamination areas and any associated staging or holding areas;
7. Be responsible for the health and safety of workers within the delineated areas; and



**PART H**  
**TECHNICAL PROVISIONS**

**TP 104 - Prevention, Control and Abatement  
of Erosion and Water Pollution**

8. Provide continuous access to representatives of regulatory or enforcement agencies having jurisdiction.

**Basis of Payment**

All work and incidental costs required to comply with the articles of this specification will be paid at the contract lump sum price for Prevention, Control and Abatement of Erosion and Water Pollution.

Payment will be made under:

Pay Item:

104-14	Prevention, Control and Abatement of Erosion and Water Pollution	Lump Sum
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**PART H**  
**TECHNICAL PROVISIONS**

**TP 110 – Clearing and Grubbing**

**CLEARING AND GRUBBING**

All clearing and grubbing shall be performed in accordance with the requirements of Section 110 of the Standard Specifications, except as directed by the Engineer.

Scope of work to include but not be limited to, the removal of all rigid, asphalt pavement, Portland cement concrete pavement, curb, curb and gutter, ditch pavement, sidewalk, driveway aprons, concrete slabs, concrete structures, brick, fences, gravity walls, retaining walls, pipes, etc.

Clearing and Grubbing shall also include the removal of existing pavement and base course and backfilling with suitable material, as shown in the construction plans. Removal of the existing roadway shall also include the proper disposal of the removed materials as specified above.

**Basis of Payment**

All work and incidental costs required to perform clearing and grubbing as herein specified will be paid for at the contract lump sum price.

Payment shall be made under:

Pay Item:

110-1-1	Clearing and Grubbing	Lump Sum
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## PART H

### TECHNICAL PROVISIONS

#### TP 120

#### EXCAVATION, EMBANKMENT AND GRADING

All excavation and embankment work shall conform to the requirements of Section 120 of the "Standard Specifications", and the provisions of this section, except as directed by the Engineer.

#### Basis of Payment

Subsoil Excavation will be paid for at the contract price per cubic yard.

Payment shall constitute full compensation for all work described herein and in the Special Provisions and shall include the excavation and disposal of muck, clay, rock, or any other material that is unsuitable in its original position and that is excavated below the finished grading template. Work under this pay item shall also include the excavation of all suitable material within the specified limits as necessary to excavate the unsuitable material. The bottom of the finished grading template shall be considered to be the top of the finished base, shoulders, and slopes for stabilized bases and the finished shoulder and slope lines and bottom of base or rigid pavement for rigid pavement or all other bases. Payment shall also include the provision, placement, shaping, and compaction of suitable backfill material to replace the removed unsuitable material up to the original grade line or to the bottom of the proposed roadway base material, whichever is lower.

The limits of Subsoil Excavation indicated in the construction plans are considered to be particularly variable, in accordance with field conditions actually encountered.

Excavation, Embankment and Grading will be paid for at the contract lump sum price.

Payment shall constitute full compensation for all work described herein and in the Special Provisions and shall include grading of shoulders, graded road connections, slopes, compaction, final dressing, subsoil excavation, replacement material and all work required for completing the project that is not paid for under the other pay items. Also included are removals and off-site disposal or on-site utilization of all materials, structures, abandoned utilities and obstructions as directed by the Engineer.

#### **Payment shall be made under:**

- Item 120-4 Subsoil Excavation (contingency item) – per CY
- Item 120-9 Excavation Embankment and Grading –Lump Sum (LS)

**PART H**  
**TECHNICAL PROVISIONS**

**TP 160 – Stabilized Subgrade**

**STABILIZED SUBGRADE**

All work shall be performed in accordance with the requirements of Section 160 of the Standard Specifications (Stabilizing) and shall be constructed to the limits, thickness, and specified limerock bearing ratio as shown on the plans, except as directed by the Engineer.

**Method of Measurement**

Quantities of stabilized subgrade measured for payment under this Section shall be the actual area in square yards of satisfactorily installed stabilized subgrade.

**Basis of Payment**

Stabilized subgrade will be paid for at the contract unit price per square yard installed and accepted and shall include the cost of furnishing and hauling additional stabilizing materials required, and all mixing, shaping and compacting of the stabilized area. The increased thickness of the Type B stabilization under curb and gutter sections shall be considered incidental and included in the contract unit price.

Payment shall be made under:

Pay Item:

160-4	Type B Stabilization (12") (Min LBR 40)	Per Square Yard
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**PART H**  
**TECHNICAL PROVISIONS**

**TP 270- Soil Cement Base (Primed)**

**SOIL-CEMENT BASE (PRIMED)**

Construction of a Soil Cement Base shall consist of soil, water, and portland cement uniformly mixed, moistened, compacted, finished and cured in accordance with these specifications and shall conform to the lines, grades, thicknesses and typical cross-sections shown on the plans. Soil cement base that is not finished and cured within (36) hours after compaction has been achieved may be rejected and subject to removal and replacement if so directed by the Engineer.

**Testing**

- A. The Contractor shall submit a mix design prepared by an independent Geotechnical Engineer to the Engineer for acceptance before using the material for road construction. Processing of the base shall proceed after the design mix is accepted by the Engineer. A modified Portland Cement Association (PCA) Short Cut Procedure for sand soil test method may be used in lieu of the wet-dry/freeze-thaw test method. However, a 7-day minimum laboratory compressive strength of 300 psi shall be used to determine the cement content when using the modified PCA test method.
- B. Construction of the soil cement base shall proceed only after 48 hours prior notice has been received by the Engineer and the County's geotechnical engineer. The geotechnical engineer shall be present during construction. The following is the minimum information/test data to be obtained during construction:
1. Area & Date of Construction
  2. Average Cement Content
  3. Uniformity of Mix
  4. Moisture Content at Time of Compaction
  5. Percent Compaction
  6. Compacted Thickness
  7. 7-Day Compressive Strength Tests

The geotechnical engineer will prepare and submit to the Engineer a signed report documenting all field tests and observations.

**Materials**

A. Portland Cement

Portland Cement shall be Type I, II, III, or Type I-S or Type I-P and shall comply with FDOT Standard Specification Section 921. Portland Cement shall also comply with ASTM C-150 and/or AASHTO M-85 and be produced in the United States. Cement which is

**PART H**  
**TECHNICAL PROVISIONS**

**TP 270- Soil Cement Base (Primed)**

partially set, lumpy or caked shall not be used. One cubic foot of Portland Cement shall be considered to weigh 94 lbs.

**B. Water**

Water shall be clean and free from substances deleterious to the hardening of the soil cement mixture.

**C. Soil**

Only soils which have proven themselves to produce a high quality soil cement base shall be acceptable. New sources of soil cement material shall be accepted by the County prior to use.

Specific Requirements for Soil:

Organic Material (As per FM 1-T267)	Maximum 5%
Total Clay and Silt Content (minus No. 200 [75µm sieve) (As per AASHTO T 88, no hydrometer test)	Maximum 25%
Plastic Index (As per AASHTO T 90)	Maximum 10%
Liquid Limit (As per AASHTO T 89)	Maximum 25%
Gradation: (As per AASHTO T 88)	
Passing 2 inch [50 mm] sieve	Minimum 100%
Passing No. 4 [4.75 mm] sieve	Minimum 55%
Passing No. 10 [2.00 mm] sieve	Minimum 37%

As an exception to the above requirements, the Contractor may use any material meeting the requirements for Limerock in Section 911 of the FDOT Standard Specifications.

**D. Prime Coat**

The prime coat shall be emulsified Asphalt Grades SS-1 or SS-IH, or Special MS-Emulsion, diluted per the manufacturer's recommendations.

**Equipment**

Soil Cement may be constructed with any machine, combination of machines or equipment that will produce the results meeting the requirements for soil pulverization, cement application, mixing, uniform depth control, water application, incorporation of materials, compaction, finishing and curing as required to comply with these specifications.

**PART H**  
**TECHNICAL PROVISIONS**

**TP 270- Soil Cement Base (Primed)**

**Construction Methods**

**A. General**

The Soil-Cement base shall be placed under the supervision of a competent superintendent having a minimum of two (2) years experience in the construction of soil-cement base courses. Soil-Cement base proportioning and construction shall only be performed when ambient temperatures measured in the shade are at 45°F and rising and that temperatures are not forecast to fall below 35°F for 48 hours following placement of the material. All mixing, shaping, finishing and compaction shall be completed within four hours starting from the time mixing commences.

**B. Mix Proportioning**

The Soil-Cement base shall be proportioned using Strength Design criteria. Proportioning of the soil, cement and water shall be performed in a pugmill at a central mix plant. Mixing shall be sufficiently achieved to prevent cement balls from forming when water is added. The Contractor shall continuously monitor plant batching and mixing of the materials and submit to the Engineer reports of the gradation, cement content and moisture content prepared by the independent Geotechnical Engineer. The County's Geotechnical Engineer shall monitor the installation and conduct applicable tests and inspections as outlined in this Section.

**C. Preparation**

Before construction operations are begun, the area to be paved shall be graded and shaped as required to receive the spread of soil-cement mixture delivered from the plant and allow construction in conformance with the grades, lines, thicknesses and typical cross sections shown on the plans. Additional soil needed, if any, shall be placed as directed. Unsuitable soil or materials shall be removed and replaced with acceptable soil. The subgrade shall be compacted to the density, thickness, lines, grades, and typical sections shown on the plans. The contractor shall maintain the required density until the base is placed on the subgrade.

**D. Pulverization**

The soil to be used in mixing shall be so pulverized that, at the completion of moist-mixing, 100 percent by dry weight passes a 1" sieve, and a minimum of 80% passes a No. 4 sieve, exclusive of gravel or stone retained on these sieves.

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**TECHNICAL PROVISIONS**

**TP 270- Soil Cement Base (Primed)**

**E. Application of Cement**

The specified quantity of Portland Cement required for full depth treatment shall be metered out at the plant in accurate proportion in accordance with the mix design. The percentage of moisture in the soil, at the time of cement application at the plant, shall not exceed the quantity that will permit a uniform and intimate mixture of soil and cement during proportioning and shall not exceed 2% below the optimum moisture content for the soil cement mixture.

**F. Mixing**

After the cement has been applied, it shall be thoroughly mixed with the soil at the pugmill. Mixing shall continue until the cement has been thoroughly blended with the soil in order to prevent the formation of cement balls when water is applied. Any uncompacted soil and cement mixture that has not been compacted and finished shall not remain undisturbed for more than thirty (30) minutes.

**G. Application of Water and Moist Mixing**

Immediately after and/or during the mixing of soil and cement, the moisture content of the soil cement mixture shall be determined by the laboratory. Water shall be applied uniformly in quantities required to obtain the proper design moisture content within the range provided by the contractor's geotechnical engineer. After the final application of water, mixing shall continue until a uniform and intimate mixture of soil, cement and water is obtained.

When water application and mixing have been completed, the percentage of moisture in the mixture, based on oven-dry weights, shall be no more than two percentage points above the specified optimum moisture content, and shall be less than that quantity which will cause the soil cement mixture to become unstable during compaction and finishing.

**H. Spreading**

The mixed base material shall be hauled to the placement site in trucks equipped with protective covers and immediately placed on top of the prepared subgrade. The material shall be graded to conform to the lines and grades of the finished pavement section as shown on the project drawings and shall be placed in a sufficient thickness to assure the minimum required compacted thickness free from high and low spots. No more than 60 minutes will be allowed between placement of adjacent passes of the spreader at any location, except at construction joints.

**I. Compaction**

The material shall be placed in a single, uniformly thick, loose layer and evenly compacted



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**TECHNICAL PROVISIONS**

**TP 270- Soil Cement Base (Primed)**

to a density not less than 97% of the modified maximum density determined by AASHTO T-134 on representative samples of soil cement mixture obtained from the roadway at the time compaction begins. Not more than four hours shall elapse from the time of batching to final compaction and the material shall not remain undisturbed for more than two hours. The surface of the base course may require the addition of water during the final rolling and shaping operation to prevent excessive surface moisture losses prior to sealing the base.

**J. Finishing**

After the mixture has been initially compacted, the surface of the soil cement shall be shaped to the required lines, grades and cross-section. During the shaping operations, the surface shall be lightly scarified to loosen any imprints left by the compacting or shaping equipment, when deemed necessary. The resulting surface shall then be compacted to the specified density with a pneumatic tire roller. Rolling shall be supplemented by broom-dragging, if required.

The moisture content of the surface material must be maintained at not less than its specified optimum moisture content during finishing operations. Surface compaction and finishing shall be done in such a manner as to produce a smooth, dense surface, free of surface compaction planes, cracks, ridges, or loose material. Surface-finishing methods may vary, provided a smooth, dense surface free of surface compaction planes is produced. The moisture and density requirements shall be determined by the methods prescribed in AASHTO T-134.

**K. Surface Requirements (Scalping or Hard-Planing)**

After completing compaction and finishing but not later than the beginning of the next calendar day after constructing any section of the base, the surface shall be tested with a template cut to the required crown and/or with a 15 foot straight-edge laid parallel to the centerline. All irregularities greater than 1/4 inch shall be immediately corrected with a blade adjusted to the lightest cut which will insure a surface that does not contain depressions greater than 1/4 inch under the template or the straight-edge. The material removed shall be wasted. Additional wetting during and after that final shaping operation shall be provided to keep the base continuously moist.

**L. Prime/Curing**

After finishing the soil cement it shall be protected against drying for 7 days by applying a bituminous curing material as soon as possible after completing finishing operations. The finished soil cement shall be kept continuously wet until the curing material is placed. Curing material shall consist of a mixture of 60% grade SS-1 and 40% water applied at the rate of 0.15 to 0.20 gallons per square yard.

The prime coat bituminous material specified shall be uniformly applied to the surface of the completed soil cement. The exact rate and temperature of application to give complete coverage

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**TP 270- Soil Cement Base (Primed)**

without excessive runoff will be accepted by the Engineer. At the time the bituminous material is applied, the soil cement surface shall be dense, free of all loose and extraneous material, and contain sufficient moisture to prevent penetration of the bituminous material. Water shall be applied in sufficient quantity to fill the surface voids of the soil cement immediately before the bituminous curing material is applied. The bituminous material shall be sanded using a sufficient amount of clean sand to prevent bleeding or traffic pick-up.

**M. Construction Joints**

Prior to the beginning of each day's construction, a straight transverse construction joint shall be formed by cutting back into the completed work to form a true vertical face.

**N. Thickness**

During various stages of construction test holes or trenches shall be dug in the mixture to determine the thickness. After completing the base, test holes shall be dug or drilled at intervals of not more than 300 feet (closer intervals if necessary) and the thickness of the base shall be determined from measurements made in these test holes.

Where the base is deficient in thickness by more than 1/2 inch, the area of deficient base shall be removed and replaced with base of the required thickness at the Contractor's sole expense. At the Engineer's option such deficient thickness base may be left in place, provided the deficiency is not more than one inch. This deficiency shall be made up in asphaltic concrete, provided the control grades can be maintained. Payment will be made on the basis of full depth soil-cement. No additional payment will be made for asphaltic concrete required to make up deficiencies in soil-cement base thicknesses.

**Opening To Traffic**

The Contractor will not be permitted to drive heavy equipment over the completed sections, but light weight pneumatic-tired equipment may be permitted after 24 hours, provided the surface has hardened sufficiently to prevent the equipment's marking the surface and provided the protection and curing specified are not impaired.

**Maintenance**

The Contractor shall maintain the base to a true and satisfactory surface until the wearing surface is constructed. Should any repairs or patching be necessary, they shall extend to the full depth of the base and shall be made in a manner that will assure restoration of a uniform base course conforming to the requirements of these specifications. The bituminous curing coating shall be maintained until the wearing surface is constructed.

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**TP 270- Soil Cement Base (Primed)**

**Inspection**

The Engineer, Geotechnical Engineer and Contractor shall inspect the base for deficiencies after a minimum of seven 7 days have elapsed and prior to applying the asphalt wearing surface. All deficiencies shall be corrected and accepted by the Engineer 48 hours prior to commencing paving operations.

**Method of Measurement**

Quantities measured for payment under this Section shall be the actual area in square yards of soil cement base constructed to limits, thicknesses, lines and grades shown on the plans, completed and accepted.

**Basis of Payment**

Soil Cement Base will be paid for at the contract unit price per square yard completed and accepted. The cost of the cement, prime coat and cover material, including the spreading of each, shall be included in the contract unit price.

Payment shall be made under:

Item No

270-8	Soil Cement Base, (Primed) (8") (300 psi)	Per Square Yard
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**TP 285 – Optional Base Course**

**OPTIONAL BASE COURSE**

Work specified in this Section consists of constructing Optional Base Course in Section 280 of the “Standard Specifications”, except as amended herein. The plant, methods of operation and equipment shall conform to Section 320; general construction requirements shall be as specified in Section 320; and materials and compositions shall conform to Section 330 of the “Standard Specifications”, except as directed by the Engineer.

**Method of Measurement**

Quantities measured for payment under this Section shall be the actual area in square yards of optional base course installed within the limits of the contract.

**Basis of Payment**

Optional Base Course will be paid for at the contract unit price per square yard, completed and accepted. No additional payment will be made for thickness greater than indicated neither on the plans nor for pavement of unauthorized areas.

Payment shall constitute full compensation including but not limited to all labor, equipment, materials including bituminous material (plant mix), bituminous material (tack coat) and all other incidental costs necessary to complete the work as specified.

**Payment shall be made under:**

Item No

285-706      Optional Base Group 6 (5.0” Type B-12.5 Only) (Black Base)  
Per Square Yard (SY)

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#### **TP 327 – Milling of Existing Asphalt**

##### **MILLING OF EXISTING ASPHALT PAVEMENT**

Milling of existing asphalt pavement shall be performed in accordance with the requirements of Sections 327 and 300 of the “Standard Specifications”, except as amended herein. The work specified in this Section consists of removing existing asphaltic concrete pavement by milling to lower the finished grade adjacent to existing curb prior to resurfacing, except as directed by the Engineer.

Milled material becomes the property of the Contractor.

##### **Equipment**

The milling machine shall be capable of maintaining a depth of cut and cross slope that achieves the results specified in the plans and specifications. The overall length of the machine (out to out measurements excluding the conveyor) shall be a minimum of 18 feet. The minimum cutting width shall be 6 feet.

The milling machine shall be equipped with a built-in automatic grade control system that controls the transverse slope and the longitudinal profile to produce the specified results.

Any commercially manufactured milling machine meeting the above requirements shall be accepted prior to starting the project. If after milling has started the milling machine cannot consistently produce the specified results, the milling machine will be rejected for further use.

Equipment permitted when milling adjacent to existing curbs or other areas. Use of a smaller milling machine will be subject to the Engineer’s acceptance, where it is impractical to use the above-described equipment.

The milling machine shall be equipped with means to effectively limit the amount of dust escaping the removal operation.

##### **Construction**

The Contractor shall remove the existing raised reflective pavement markers prior to milling. Include the cost of removing existing pavement markers in the price for milling.

The milling machine shall be operated to minimize the amount of dust being emitted from the machine. Pre-wetting of the pavement may be required.

Where traffic will be maintained on the milled surface prior to placing the new asphaltic concrete, the striation patterns shall produce an acceptable riding surface. The Engineer will accept the traveling speed of the milling machine to produce an acceptable riding surface.

Before opening a milled area to traffic, the pavement shall be thoroughly swept with power broom or other acceptable equipment to remove, to the greatest extent practicable, fine material, which will dust under traffic. This operation shall be conducted in such a manner that will minimize the potential of creating a traffic hazard and minimize air pollution.

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#### **TP 327 – Milling of Existing Asphalt**

Sweeping the milled surface with a power broom is required before placing asphaltic concrete.

The sweeping operation shall be performed immediately after the milling to prevent milled material infiltrating into the storm sewer system when the milling operation is near a municipal curb and gutter or a closed drainage system.

This operation shall include thoroughly removing all milled material from the gutter to prevent it from being swept into inlet openings or grates. Curbs shall not be damaged during the removal operation. The Engineer may require the equipment and/or methods be changed to achieve satisfactory results.

#### **Milled Surface**

Milled surfaces shall have a reasonably uniform texture, shall be within ¼ inch of a true profile grade and shall have no deviation in excess of ¼ inch from a straightedge applied to the pavement perpendicular to the centerline. Variations of the longitudinal joint between multiple cut areas shall not exceed ¼ inch. Areas varying from a true surface in excess of the above stated tolerance may be accepted without correction if the Engineer determines that they were caused by a pre-existing condition, which could not have reasonably been corrected by the milling operations. Any unsuitable texture or profile, as determined by the Engineer, shall be corrected by the Contractor at no additional compensation.

The Engineer may require re-milling of any area where a surface lamination causes a non-uniform texture to occur.

#### **Method of Measurement**

Quantities measured for payment under this Section shall be square yards, of milling acceptably completed.

#### **Basis of Payment**

Milling Existing Asphalt Pavement will be paid for at the contract unit price per square yard. Payment shall be full compensation for all work specified in this Section, including hauling off or otherwise disposing of the milled material.

#### **Payment shall be made under:**

ITEM NO. 327-70-6 MILLING EXISTING ASPHALT PAVEMENT (1.5" AVG. DEPTH) - PER SQUARE YARD (SY)

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#### TP 334 – Superpave Asphaltic Concrete

#### SUPERPAVE ASPHALTIC CONCRETE PAVING

##### **334-1 GENERAL**

Work specified in this Provision consists of the application of Asphaltic Concrete structural courses properly produced and laid upon a prepared and accepted base in accordance with these specifications and in conformity with the lines, grades, thicknesses and cross-sections provided in the plans. Base preparation and Asphaltic Concrete Friction Courses are covered under separate provisions.

This Provision is intended to stand alone for the production and placement of structural course asphalt and replaces Sections 330 and 334 of the FDOT Standard Specifications for Road and Bridge Construction except when specific references are made to these or other Sections. Any references to FDOT Specification Sections shall mean the latest FDOT Standard Specifications for Road and Bridge Construction, including Supplements. Any incorrect references to or conflicts with the FDOT specifications, test methods, or standards shall be brought to the attention of the Engineer for clarification.

The Engineer will have the right to disapprove of any material or process that does not conform to these specifications.

The Contractor shall document all QC procedures, Process Control, inspection, and all test results and make them available for review by the Engineer throughout the Contract duration.

All test methods designated as FM refer to the FDOT Florida Sampling and Testing Methods.

##### **334-2 CONTRACTOR QUALITY CONTROL REQUIREMENTS**

**334-2.1 GENERAL:** The Contractor shall be responsible for the overall quality of the materials and workmanship of the work covered under this Provision.

Ensure that the qualifications and certifications of personnel and laboratories are maintained throughout the Contract duration. Provide proof of qualifications and all applicable certifications to the County prior to construction operations commencing. Notify the County immediately when there is a change in any qualification or certification during the Contract duration.

**334-2.2 PERSONNEL:** Provide personnel who are both qualified and certified in all activities related to asphalt mix production at the plant and placement on the roadway, especially for the sampling, testing and inspection of materials and construction activities. At a minimum, a certified Paving Level II technician shall be present on site at all times during paving operations. Provide documentation to the Engineer that the personnel responsible for the production and placement of asphalt products under the Contract are qualified and certified.

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**334-2.3 TESTING LABORATORY:** Furnish or have furnished a fully equipped asphalt laboratory (permanent or portable) at the production site. Provide documentation to the Engineer that any Laboratory used is FDOT qualified and certified.

**334-2.4 EQUIPMENT:** Provide equipment and methods conforming to Section 320 of the FDOT Standard Specifications for Road and Bridge Construction. Provide a sufficient number of trucks to transport the asphalt mixture from the plant to the job site such that paving of each lane can proceed in one smooth uninterrupted operation. In determining the number of trucks required the Contractor shall consider the capacity of the trucks, the length of the approved haul route from the plant to the job site, traffic conditions, weather conditions, and any other factors that could impact the round trip travel time. Stopping the paver to wait for trucks bringing the asphalt mixture will not be acceptable. In addition to meeting the requirements in Section 320-5, the paving machine shall be capable of pushing the asphalt truck as it dumps the asphalt mixture into the hopper. Stopping the paving machine to allow the next asphalt truck to back up to it to fill the hopper is not an acceptable procedure, and shall not be allowed.

Unless otherwise approved by the Engineer, the paving machine shall weigh a minimum of 26,000 pounds.

**334-2.5 MINIMUM QUALITY CONTROL REQUIREMENTS:** Perform the following activities necessary to maintain quality and process control and meet specification requirements:

**Stockpiles:** Ensure each aggregate component is placed in an individual stockpile, and separated from adjacent stockpiles, either by space or by a system of bulkheads. Prevent the intermingling of different materials in stockpiles. Form and maintain stockpiles in a manner that will prevent separation, contamination, segregation, etc. Identify each individual stockpile, including RAP, as shown on the mix design.

**Incoming Aggregate:** Obtain gradations and bulk specific gravity (Gsb) values from aggregate supplier for reference; determine the gradation of all component materials; routinely compare gradations and Gsb values to mix design.

**Cold Bins:** Calibrate the cold gate/feeder belt for each material; determine cold gate/feeder belt settings; observe operation of cold feeder for uniformity.

**Dryer:** Observe pyrometer for aggregate temperature control; observe efficiency of the burner.



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#### **TP 334 – Superpave Asphaltic Concrete Pavement**

**For Batch Plants:** Determine percent used and weight to be pulled from each bin to assure compliance with Mix Design, check mixing time, and check operations of weigh bucket and scales.

**For Drum Mixer Plants:** Determine aggregate moisture content, and calibrate the weigh bridge on the charging conveyor.

**Control Charts:** Plot and keep charts updated daily for all Quality Control Sampling and Testing and post in the asphalt lab where they can be seen. Maintain the following charts:

1. Sample test results for the following: No. 8 sieve, No. 200 sieve, asphalt binder content, air voids, and density.
2. Gradation of incoming aggregate.
3. Gradation and asphalt content of RAP.
4. Any other test result or material characteristic (as determined by the Contractor) necessary for process control.

The above listed minimum activities are to be considered normal activities necessary to control the production of hot mix asphalt at an acceptable quality level. It is recognized, however, that depending on the type of process or materials, some of the activities listed may not be necessary and in other cases, additional activities may be required. The frequency of these activities will also vary with the process and the materials. When the process varies from the defined process average and variability targets, the frequency of these activities will be increased until the proper conditions have been restored.

#### **334-2.6 MINIMUM PROCESS CONTROL TESTING REQUIREMENTS:**

##### **Asphalt Plant**

1. Hot Mix Asphalt: Determine the asphalt binder content; mix gradation and volumetric properties at a minimum frequency of one per day. In the event that the daily production exceeds 1,000 tons, perform these tests a minimum of two times per day.
2. Aggregate (Including RAP): One sample per 1,000 tons of incoming material as it is stockpiled for gradation. The testing of RAP material shall include the determination of asphalt binder content and gradation of extracted aggregate.

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#### **TP 334 – Superpave Asphaltic Concrete**

3. Monitor the mix temperature for the first five loads and every fifth load thereafter.
4. Monitor the aggregate moisture content from stockpiles or combined cold feed aggregate - one per day.
5. Other tests (as determined necessary by the Contractor) for process control.

#### **Roadway**

1. Monitor the mix temperature for the first five loads and every fifth load thereafter.
2. Monitor the prime/tack spread rate as needed to control operations and ensure that it meets or exceeds the target spread rate.
3. Monitor the pavement cross slope at a frequency necessary to fulfill the requirements of the plans and section 334-3.10.3 below, and identify a system to control the cross slope of each pavement layer during construction.
4. Monitor the mix spread rate at the beginning of each day's production, and as needed to control the operations, at a minimum of once per 200 tons placed to ensure that the spread rate meets or exceeds the target spread rate. When determining the spread rate, use an average of five truckloads of mix.
5. Monitor mat placement thickness every 25' to ensure the minimum design thickness is met.
6. Monitor the pavement temperature with an infrared temperature device. Monitor the roadway density with either 6 inch diameter roadway cores, a nuclear density gauge, or other density measuring device, at a minimum frequency of once per 1,500 feet of pavement. When the layer thickness is greater than or equal to 1 inch (or the spread rate is greater than or equal to 105 lb/yd<sup>2</sup>) and an approved rolling pattern may be used in lieu of density testing, monitor the density (for informational purposes only) by cutting and testing a 6 inch diameter core at a minimum frequency of three cores per day. Maintain daily records of the testing results and make them available for review by the Engineer throughout the life of the Contract.
7. Monitor the pavement smoothness with a 15-foot rolling straightedge as required by section 334-3.10.4 below.

#### **334-3 GENERAL CONSTRUCTION REQUIREMENTS**

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#### TP 334 – Superpave Asphaltic Concrete

##### 334-3.1 DESCRIPTION

Construct plant-mixed hot bituminous pavements. Establish and maintain a quality control system in accordance with section 334-2 above that provides assurance that all materials, products and completed construction submitted for acceptance meet Contract requirements.

##### 334-3.2 LIMITATIONS OF OPERATIONS

**334-3.2.1 Weather Limitations:** Do not transport asphalt mix from the plant to the roadway unless all weather conditions are suitable for the laying operations.

##### 334-3.2.2 Limitations of Laying Operations:

**334-3.2.2.1 General:** Spread the mixture only when the surface upon which it is to be laid has been previously prepared, is intact, firm, and properly cured, and is substantially dry. Do not place friction course until the adjacent shoulder area has been dressed and grassed.

**334-3.2.2.2 Temperature:** Spread the mixture only when the air temperature in the shade and away from artificial heat is at least 40°F and rising for layers greater than 1 inch in thickness and at least 45°F and rising for layers 1 inch or less in thickness (including leveling courses). The minimum temperature requirement for leveling courses with a spread rate of 50 lb/yd<sup>2</sup> or less is 50°F and rising.

**334-3.2.2.3 Wind:** Do not spread the mixture when the wind is blowing to such an extent that proper and adequate compaction cannot be maintained or when sand, dust, etc., are being deposited on the surface being paved to the extent that the bond between layers will be diminished.

**334-3.2.2.4 Night Paving:** Provide sufficient lighting for night operations.

##### 334-3.3 ROADWAY SURFACE PREPARATION

**334-3.3.1 Cleaning:** Prior to the laying of the mixture, clean the surface of the base or pavement to be covered of all loose and deleterious material by the use of a vacuum truck. Power brooms or blowers may be used when the use of a vacuum truck is impractical, supplemented by hand brooming where necessary.

**334-3.3.2 Patching and Leveling Courses:** Where an asphalt mix is to be placed on an existing pavement or old base which is irregular, or wherever the plans indicate, bring the existing surface to proper grade and cross-section by the

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application of patching or leveling courses. Wherever a patch is required, the width shall be taken out to the full width of each lane affected and the length shall extend far enough longitudinally to fully encompass the affected area. The existing pavement receiving a patch or leveling course shall be milled as shown on the plans or as required by the Engineer.

**334-3.3.3 Application Over Surface Treatment:** Where an asphalt mix is to be placed over a newly constructed surface treatment, sweep and dispose of all loose material from the paving area.

**334-3.3.4 Coating Surfaces of Contacting Structures:** Paint all structures which will be in actual contact with the asphalt mixture, with the exception of the vertical faces of existing pavements and curbs or curb and gutter, with a uniform coating of asphalt cement to provide a closely bonded, watertight joint.

#### **334-3.3.5 Tack Coat:**

**334-3.3.5.1 Tack Coat Required:** Apply a tack coat, meeting the requirements of Section 300 in the FDOT Standard Specifications for Road and Bridge Construction, on existing pavement structures that are to be overlaid with an asphalt mix and between successive layers of all asphalt mixes. The use of Trackless Polymer Modified Asphalt Emulsion Tack Coat (MTSS-1HM) is not allowed unless approved by the Engineer.

**334-3.3.5.2 Tack Coat at Engineer's Option:** Apply a tack coat on the following surfaces only when so directed by the Engineer:

1. Freshly primed bases.
2. Surface treatment.

#### **334-3.4 ASPHALT PLANT PREPARATION**

Ensure the following requirements are met at the asphalt plant:

##### **Asphalt Cement**

- Asphalt cement is delivered to the asphalt plant at a temperature not to exceed 370°F.
- Asphalt cement is maintained in storage within a range of 230 to 370°F in advance of mixing operations.
- Constant heating is maintained within these limits, and that high fluctuations in temperature during a day's production is avoided.

##### **Aggregate Blending:**

- All aggregates to be blended or proportioned are placed in separate bins at the

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cold hopper.

- Proportioning is performed by means of securely positioned calibrated gates or other approved devices.

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#### **Aggregate Cold Bins:**

- Bin compartments are constructed to prevent any spilling or leakage of aggregate from one bin to another.
- Bin compartments have the capacity and design to permit a uniform flow of aggregates.
- Bin compartments are mounted over a feeder of uniform speed, which will deliver the specified proportions of aggregate to the drier.
- Bins are equipped with vibrators to ensure a uniform flow of aggregate at all times.
- Each bin compartment is provided with a gate which is adjustable in the vertical direction.
- Gates can be held securely at any specified vertical opening.
- Gates are equipped with a measuring device for measuring the vertical opening of the gates from a horizontal plane level with the bottom of the feeder.

#### **Mineral Filler:**

Mineral filler (if required in the mix design) is fed or weighed in separately from the other aggregates.

#### **Aggregate Heating and Drying:**

- Aggregates are heated and dried before screening.
- The temperature of the aggregates is controlled so that the temperature of the completed mixture at the plant falls within the permissible range allowed by this Section.

#### **Aggregate Screening:**

- Oversized pieces of aggregate are removed by the use of a scalping screen.
- Oversized material is not returned to the stockpile for reuse unless it has been crushed

and reprocessed into sizes that will pass the scalping screen.

- The quantity of aggregates being discharged onto the screens does not exceed the capacity of the screens to actually separate the aggregates into the required sizes.
- A maximum of 10% plus-10 material in the minus-10 bin is maintained.

### 334-3.5 MIXTURE PREPARATION

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Ensure the following requirements are met:

**334-3.5.1 Batch Mixing:** The dried aggregates and mineral filler (if required), prepared as specified and proportioned to meet the verified mix design, shall be conveyed to the empty mixer. The accurately measured hot asphalt binder shall be introduced into the mixer simultaneously with, or after, the hot aggregates. The blended materials shall be continuously mixed until thoroughly uniform with all particles fully coated. The mixing time begins when the measuring devices for both the asphalt and the aggregates indicate that all the material is in the mixer, and continues until the material begins to leave the mixing unit. In no case will the mixing time be less than 35 seconds.

**334-3.5.2 Continuous Mixing:** The dried aggregates and mineral filler (if required), prepared as specified and proportioned to meet the verified mix design, shall be introduced into the mixer in synchronization with the accurate feeding of the hot asphalt cement. The blended materials shall be sufficiently mixed until thoroughly uniform with all particles fully coated.

**334-3.5.3 Mix Temperature:** The ingredients of the mix shall be heated and combined in such a manner as to produce a mixture with a temperature, when discharged from the pugmill or surge bin, which is within the master range as defined below.

The temperature of the completed mixture shall be determined using a quick-reading thermometer through a hole in the side of the loaded truck immediately after loading. A 1/4 inch hole on both sides of the truck body within the middle third of the length of the body, and at a distance from 6 to 10 inches above the surface supporting the mixture shall be provided.

The normal frequency for taking asphalt mix temperatures will be for each day, for each design mix on the first five loads and once every five loads thereafter. The temperature of the asphalt mix at the plant and at the roadway shall be taken at the normal frequency before the mix is placed. The temperature shall be recorded on the front of the respective delivery ticket. The Engineer shall review the plant and roadway temperature readings and may take additional temperature measurements at any time.

The master range for all mix designs will be the established temperature from the mix design  $\pm 30^{\circ}\text{F}$ . Reject for use on the project any load or portion of a load of asphalt mix at the plant or at the roadway with a temperature outside of this master range. The Engineer will be immediately notified of the rejection.

If any single load at the plant or at the roadway is within the master range but differs from the established mix temperature by more than  $\pm 25^{\circ}\text{F}$  or if the average difference of

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the temperature measurements from the established mix temperature for five loads exceeds  $\pm 15^{\circ}\text{F}$ , the temperature of every load will be monitored until the temperature falls within the specified tolerance range in Table 334-1; at this time the normal frequency may be resumed.

##### Table 334-1

##### Temperature Tolerance From Verified Mix Design

Any Single Measurement

$\pm 25^{\circ}\text{F}$

Average of Any Five Consecutive Measurements

$\pm 15^{\circ}\text{F}$

**334-3.5.4 Maximum Period of Storage:** The maximum time that any mix may be kept in a hot storage or surge bin shall be 72 hours.

**334-3.5.5 Contractor's Responsibility for Mixture Requirements:** Produce a homogeneous mixture, free from moisture and with no segregated materials, that meets all specification requirements. Also apply these requirements to all mixes produced by the drum mixer process and all mixes processed through a hot storage or surge bin, both before and after storage.

#### 334-3.6 MIXTURE TRANSPORT

Transport the mixture in tight vehicles previously cleaned of all foreign material. After cleaning, thinly coat the inside surface of the truck bodies with soapy water or an asphalt release agent as needed to prevent the mixture from adhering to the beds. Do not allow excess liquid to pond in the truck body. Do not use diesel fuel or any other hazardous or environmentally detrimental material as a coating for the inside surface of the truck body. Cover each load during cool and cloudy weather and at any time there is a probability of rain.

#### 334-3.7 MIXTURE PLACEMENT

##### 334-3.7.1 Requirements Applicable to All Mixture Types:

**334-3.7.1.1 Alignment of Edges:** Lay all asphalt concrete mixtures, including leveling courses, other than the pavement edge just adjacent to curb and gutter or other true edges, by the stringline method to obtain an accurate, uniform alignment of the pavement edge. Control the unsupported pavement edge to ensure that it will not deviate more than  $\pm 1.5$  inches from the stringline.

**334-3.7.1.2 Temperature of Spreading:** Maintain the temperature of the mix at the time of spreading within the master range as defined in 334-3.5.3.

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**334-3.7.1.3 Rain and Surface Conditions:** Immediately cease transportation of asphalt mixtures from the plant when rain begins at the roadway. Do not place asphalt mixtures while rain is falling, or when there is standing water on the surface to be covered. Once the rain has stopped and water has been removed from the tacked surface to the satisfaction of the Engineer and the temperature of the mixture caught in transit still meets the requirements as specified in 334-3.7.1.2, the Contractor may then place the mixture caught in transit.

**334-3.7.1.4 Speed of Paver:** Establish the forward speed of the asphalt paver based on the rate of delivery of the mix to the roadway but not faster than the optimum speed needed to adequately compact the pavement.

**334-3.7.1.5 Automatic Screed Control:** For all asphalt courses placed with an asphalt paver, equip the paver with automatic longitudinal screed controls of either the skid type, traveling stringline type, or non-contact averaging ski type with a minimum length of 25 feet. On the final layer of asphalt base, overbuild, and structural courses, and for friction courses, use the joint matcher in lieu of the skid, traveling stringline, or non-contact averaging ski on all passes after the initial pass. Equip the asphalt paver with electronic cross slope controls.

**334-3.7.1.6 Number of Crews Required:** For each paving machine operated, use a separate crew, each crew operating as a full unit. The technician who will be in charge of all paving operations shall be state approved and properly certified as deemed appropriate by the Engineer. The Contractor's technician in charge of the paving operations may be responsible for more than one crew but must be physically accessible to the Engineer at all times when placing mix.

**334-3.7.1.7 Checking Depth of Layer:** Check the depth of each layer at frequent intervals, and make adjustments when the thickness deviates from the design thickness. When making an adjustment, allow the paving machine to travel a minimum distance of 32 feet to stabilize before the second check is made to determine the effects of the adjustment.

**334-3.7.1.8 Hand Spreading:** In limited areas where the use of the spreader is impossible or impracticable, the Contractor may spread and finish the mixture by hand.

**334-3.7.1.9 Straightedging and Back-patching:** Straightedge and backpatch after obtaining initial compaction and while the material is still hot.



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##### **334-3.7.2 Requirements Applicable to Courses Other Than Leveling:**

**334-3.7.2.1 Spreading and Finishing:** Upon arrival, dump the mixture in the approved mechanical spreader, and immediately spread and strike-off the mixture to the full width required, and to such loose depth for each course that, when the work is completed, the required specified thickness is placed. Carry a uniform amount of mixture ahead of the screed at all times.

**334-3.7.2.2 Thickness of Layers:** Construct each course of Type SP mixture in layers of thickness as shown in Section 334-4.1.3.

**334-3.7.2.3 Laying Width:** For regular roadways, pave to the full lane width, except in areas where physically constrained. For other applications such as sidewalks, provide a spreader capable of placing and screeding to the plan width. If necessary due to the traffic requirements, lay the mixture in strips in such a manner as to provide for the passage of traffic. As an option, where the road is closed to traffic, lay the mixture to the full width with machines traveling in echelon. Plan longitudinal joints such that they are not placed where a permanent wheel path will occur.

**334-3.7.2.4 Correcting Defects:** Before starting any rolling, check the surface. Correct any irregularities; remove all drippings, fat sandy accumulations from the screed, and fat spots from any source; and replace them with satisfactory material. Do not skin patch. When correcting a depression while the mixture is hot, scarify the surface and add fresh mixture.

##### **334-3.7.3 Requirements Applicable Only to Leveling Courses:**

**334-3.7.3.1 Patching Depressions:** Before spreading any leveling course, fill all depressions in the existing surface more than 1 inch deep by spot patching with leveling course mixture, and then compact them thoroughly.

**334-3.7.3.2 Spreading Leveling Courses:** Place all courses of leveling by the use of two motor graders, equip one with a spreader box. Other types of leveling devices may be used if approved by the Engineer.

**334-3.7.3.3 Rate of Application:** When using Type SP-9.5 (fine graded) for leveling, do not allow the average spread of a layer to be less than 50 lb/yd<sup>2</sup> or more than 75 lb/yd<sup>2</sup>. The quantity of mix for leveling shown in the plans represents the average for the entire project.

#### **334-3.8 MIXTURE COMPACTION**

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**334-3.8.1 Equipment and Sequence:** For each paving or leveling train in operation, furnish a separate set of rollers, with their operators.

Select equipment, sequence, and coverage of rolling to meet the specified mix design density. The coverage is the number of times the roller passes over a given area of pavement.

Regardless of the rolling procedure used, complete the final rolling before the surface temperature of the pavement drops to the extent that effective compaction may not be achieved or the rollers begin to damage the pavement.

**334-3.8.2 Standard Rolling Procedure:** Meet the following equipment, sequence, and coverage requirements:

1. Seal Rolling: Provide two coverages with a tandem steel-wheeled roller, weighing 5 to 12 tons, following as close behind the spreader as possible without pick-up, undue displacement, or blistering of the material. Use static mode only for all compaction. No vibration will be allowed.
2. Intermediate rolling: Provide five coverages with a self-propelled pneumatic-tired roller, following as close behind the seal rolling operation as the mix will permit.
3. Final rolling: Provide one coverage with a tandem steel-wheeled roller (static mode only), weighing 5 to 12 tons, after completing the seal rolling and intermediate rolling, but before the surface pavement temperature drops to the extent that effective compaction may not be achieved or the rollers begin to damage the pavement.

For patching and leveling courses, the first structural layer placed on a milled surface, and on the first overbuild course, use only a self-propelled pneumatic-tired roller.

The Contractor may use equipment, sequences, or coverages other than those specified in the standard rolling procedure if so authorized by the Engineer.

**334-3.8.3 Compaction at Crossovers, Intersections, etc.:** When using a separate paving machine to pave the crossovers, compact the crossovers with one, 8 to 12 ton tandem steel roller (static mode only). If placing crossovers, intersections, and acceleration and deceleration lanes with the main run of paving, also use a traffic roller to compact these areas.

**334-3.8.4 Rolling Procedures:** Ensure that the initial rolling is longitudinal.

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Where the lane being placed is adjacent to a previously placed lane, pinch or roll the center joint prior to the rolling of the rest of the lane.

Roll across the mat, overlapping the adjacent pass by at least 6 inches. Roll slowly enough to avoid displacement of the mixture, and correct any displacement at once by the use of rakes and the addition of fresh mixture if required.

Continue final rolling to eliminate all roller marks.

**334-3.8.5 Number of Pneumatic-tired Rollers Required:** Use a sufficient number of self-propelled pneumatic-tired rollers to ensure that the rolling of the surface for the required number of passes does not delay any other phase of the laying operation and does not result in excessive cooling of the mixture before completing the rolling. In the event that the rolling falls behind, discontinue the laying operation until the rolling operations are sufficiently caught up.

**334-3.8.6 Compaction of Areas Inaccessible to Rollers:** Use hand tamps or other satisfactory means to compact areas which are inaccessible to a roller, such as areas adjacent to curbs, headers, gutters, bridges, manholes, etc.

**334-3.8.7 Correcting Defects:** Do not allow the rollers to deposit gasoline, oil, or grease onto the pavement. Remove and replace any areas damaged by such deposits as directed by the Engineer. While rolling is in progress, test the surface continuously, and correct all discrepancies to comply with the surface requirements.

Remove and replace all drippings, fat or lean areas, and defective construction of any description. Remedy depressions that develop before completing the rolling by loosening the mixture and adding new mixture to bring the depressions to a true surface. Should any depression remain after obtaining the final compaction, remove the full depth of the mixture, and replace it with sufficient new mixture to form a true and even surface.

Correct all high spots, high joints, and honeycombing as directed by the Engineer.

Remove and replace any mixture remaining unbonded after rolling. Correct all defects prior to laying the subsequent course.

#### 334-3.9 JOINTS

**334-3.9.1 General:** When laying fresh mixture against the exposed edges of joints (trimmed or formed as provided below), place it in close contact with the exposed edge to produce an even, well-compacted joint after rolling.

**334-3.9.2 Transverse Joints:** Place the mixture as continuously as possible. Do not pass the roller over the unprotected end of the freshly laid mixture except

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when discontinuing the laying operation long enough to permit the mixture to become chilled.

When thus interrupting the laying operation, construct a transverse joint by cutting back on the previous run to expose the full depth of the mat.

**334-3.9.3 Longitudinal Joints:** For all layers of pavement except the leveling course, place each layer so that longitudinal construction joints are offset 6 to 12 inches laterally between successive layers. The Engineer may waive this requirement where offsetting is not feasible due to the sequence of construction.

#### 334-3.10 SURFACE REQUIREMENTS

**334-3.10.1 General:** Construct a smooth pavement with good surface texture and the proper cross-slope.

**334-3.10.2 Texture of the Finished Surface of Paving Layers:** Produce a finished surface of uniform texture and compaction with no pulled, torn, raveled, crushed or loosened portions and free of segregation, bleeding, flushing, sand streaks, sand spots, or ripples. Correct any area of the surface that does not meet the foregoing requirements in accordance with 334-3.10.5.

Do not use asphalt concrete mixtures containing aggregates that cause a different color appearance in the final wearing surface in sections less than 1 mile in length and across the full width of the roadway unless approved by the Engineer.

**334-3.10.3 Cross Slope:** Construct a pavement surface with cross slopes in compliance with the requirements of the Contract Documents. Furnish a level with a minimum length of 4 feet or a digital measuring device approved by the Engineer for the control of cross slope. Make this level or measuring device available at the jobsite at all times during paving operations. Utilize electronic transverse screed controls on the paving machine (unless directed otherwise by the Engineer) to obtain an accurate transverse slope of the pavement surface.

**334-3.10.3.1 Quality Control Checks:** Measure the cross slope of the pavement surface by placing the measuring device perpendicular to the roadway centerline. Report the cross slope to the nearest 0.1%. Record all the measurements on an approved form and submit to the Engineer for documentation. The cross slope report shall be submitted to the Engineer prior to the next scheduled paving operation.

Measure the cross slope at a minimum frequency of one measurement every 100 feet during paving operations to ensure that the cross slope is uniform and in compliance with the design cross slope. When the difference

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between the measured cross slope and the design cross slope exceeds  $\pm 0.2\%$  for travel lanes (including turn lanes) or  $\pm 0.5\%$  for shoulders, make all corrections immediately to bring the cross slope into the acceptable range.

When the cross slope is consistently within the acceptable range, upon the approval of the Engineer, the frequency of the cross slope measurements can be reduced to one measurement every 250 feet during paving operations.

For intersections, tapers, crossovers, transitions at beginning and end of project and similar areas, adjust the cross slope to match the actual site conditions or as directed by the Engineer.

**334-3.10.4 Pavement Smoothness:** Construct a smooth pavement meeting the requirements of this Specification. The County will provide a representative to be present when smoothness testing is performed.

**334-3.10.4.1 General:** Furnish a 15 foot manual and a 15 foot rolling straightedge meeting the requirements of FM 5-509. Make them available at the job site at all times during paving operations. Obtain a smooth surface on all pavement courses placed, and then straightedge all final structural and friction course layers in accordance with 334-3.10.4.5.

**334-3.10.4.2 Test Method:** Perform all straightedge testing in accordance with FM 5-509 with one pass of the rolling straightedge operated along the outside wheel path of each lane being tested. The Engineer may require additional testing at other locations within the lane.

**334-3.10.4.3 Traffic Control:** Provide traffic control in accordance with 334-3.2 and FDOT Design Standard Indices (600 series as applicable) during all testing. When traffic control cannot be provided in accordance with the applicable indices, submit an alternative Traffic Control Plan. The cost of this traffic control is included in the Contract bid prices for other pay items.

#### **334-3.10.4.5 Quality Control Checks:**

**334-3.10.4.5.1 General:** Straightedge the final Type SP structural layer and friction course layer with a rolling straightedge. Test all pavement lanes and ramps where the width is constant using a rolling straightedge and document all deficiencies on a form approved by the Engineer. Notify the Engineer of the location and time of all straightedge checks a minimum of 48 hours before beginning. Testing shall be conducted by a certified Paving Level I or higher technician. Maintain a field record during testing on a form approved by the Engineer identifying the areas tested and listing the location and degree of all deficiencies found. The

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field record shall be signed by the technician conducting the test and the Engineer or Engineer's Representative observing the test.

**334-3.10.4.5.2 Rolling Straightedge Exceptions:** Testing with the rolling straightedge will not be required in the following areas: intersections, tapers, crossovers, parking lots and similar areas. In addition, testing with the rolling straightedge will not be performed on the following areas when they are less than 50 feet in length: turn lanes, acceleration/deceleration lanes and side streets. However, correct any individual surface irregularity in these areas that deviates from the plan grade in excess of 3/8 inch as determined by a 15 foot manual straightedge, and that the Engineer deems to be objectionable, in accordance with 334-3.10.5.

In addition, the Engineer may also waive the straightedging requirements on ramps and superelevated sections where the geometrical orientation of the pavement results in an inaccurate measurement with the rolling straightedge.

**334-3.10.4.5.3 Intermediate Layers:** Straightedge all intermediate Type SP layers (structural and overbuild) as necessary to construct a smooth pavement.

On roadways with a design speed 50 miles per hour or greater, when an intermediate Type SP layer will be opened to traffic, straightedge the pavement with a rolling straightedge and correct all deficiencies in excess of 3/8 inch within 72 hours of placement, unless directed otherwise by the Engineer. Correct all deficiencies in accordance with 334-3.10.5.

**334-3.10.4.5.4 Final Type SP Structural Layer:** Straightedge the final Type SP structural layer with a rolling straightedge, either behind the final roller of the paving train or as a separate operation. The Engineer will verify the straightedge testing by observing the Quality Control straightedging operations. Correct all deficiencies in excess of 3/16 inch in accordance with 334-3.10.5, and retest the corrected areas prior to placing the friction course.

For bicycle paths, straightedge the final structural layer with a rolling straightedge, either behind the final roller of the paving train or as a separate operation. Correct all deficiencies in excess of 5/16 inch in accordance with 334-3.10.5. Retest all corrected areas. If the Engineer determines that the deficiencies on the bicycle path are due to field geometrical conditions, the Engineer will waive corrections.

**334-3.10.4.5.5 Friction Course Layer:** Acceptance for pavement smoothness will be based on verified Quality Control measurements using

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the rolling straightedge. The Engineer will verify the straightedge testing by observing the Quality Control straightedging operations.

At the completion of all paving operations, straightedge the friction course as a separate operation. As an exception, if approved by the Engineer, straightedge the friction course behind the final roller of the paving train. Correct all deficiencies in excess of 3/16 inch in accordance with 334-3.10.5. Recheck all corrected areas.

**334-3.10.5 Correcting Unacceptable Pavement:** Correct all areas of unacceptable pavement at no cost to the County. Correct deficiencies in the Type SP structural layers or in the friction course by removing and replacing the full depth of the layer, extending for a distance on either side of the defective area as determined by the Engineer, but in no case less than 50 feet on either side of the defective area for the full width of the paving lane. At the discretion of the Engineer, removal and replacement of the entire limits of the new pavement may be required.

**334-3.11 FINISHED SURFACE PROTECTION**

Keep sections of newly compacted asphalt concrete, which are to be covered by additional courses, clean until the successive course is laid.

Do not dump embankment or base material directly on the pavement. Dress shoulders before placing the friction course on adjacent pavement.

Equip blade graders operating adjacent to the pavement during shoulder construction with a 2 by 8 inch or larger board, or other attachment providing essentially the same results, attached to their blades in such manner that it extends below the blade edge in order to protect the pavement surface from damage by the grader blade.

To prevent rutting or other distortion, protect sections of newly finished dense graded friction course and the last structural layer prior to the friction course from traffic until the surface temperature has cooled below 160°F.

The Contractor may use artificial methods to cool the pavement to expedite paving operations. The County may direct the Contractor to use artificial cooling methods when maintenance of traffic requires opening the pavement to traffic at the earliest possible time.

**334-3.12 STRIPING**

Following final cooling and compaction of the mat and prior to opening to traffic, place temporary painted traffic stripes in accordance with TP-710 and Standard Specification 710 on each paved surface that will receive traffic, including intermediate structural courses, final structural courses that will serve as the surface course, and friction courses. Following thirty (30) days after placement of the final surface course, structural or friction, place thermoplastic striping in accordance with TP-711 and Standard Specification 711 and place raised reflective pavement markers.

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Final pavement markings are subject to a 180 day observation period under normal traffic. The observation period shall begin with the satisfactory completion and acceptance of the work. The pavement markings shall show no signs of failure due to blistering, excessive cracking, chipping, discoloration, poor adhesion to the pavement, loss of reflectivity or vehicular damage. The County reserves the right to check the color and retroreflectivity within 30 days prior to the end of the observation period. Replace, at no additional expense to the County, any pavement markings that do not perform satisfactorily under traffic during the 180 day observation period.

**334-4 SUPERPAVE ASPHALTIC CONCRETE**

**334-4.1 DESCRIPTION**

**334-4.1.1 General:** Construct a Superpave Asphaltic Concrete pavement using the type of mixture specified in the Contract on a properly prepared and accepted base. Superpave mixes are identified as Type SP-9.5, Type SP-12.5 or Type SP-19.0.

Meet the requirements of 334-2 for personnel, plant, methods and equipment. Meet the general construction requirements of 334-3.

**334-4.1.2 Traffic Levels:** The requirements for Type SP Asphaltic Concrete mixtures are based on the design traffic level of the project, expressed in 18-Kip Equivalent Single Axle Loads (ESAL's). The traffic levels applicable for this specification are as shown in Table 1.

<b>Table 1 Superpave Traffic Levels</b>		
<b>Traffic Level</b>	<b>Million ESAL's</b>	<b>Typical Applications</b>
A	<0.3	Local roads, county roads, and city streets where truck traffic is light or prohibited
B	0.3 to <3	Arterial roads, Collector roads, access streets, medium duty city streets and the majority of county roadways
C	3 to < 10	

The traffic level(s) for the project are as specified in the Contract. A Type SP mix one traffic level higher than the traffic level specified in the Contract, up to a Traffic Level C mix, may be substituted at no cost to the County. In situations where the design traffic level is not specified in the Contract, a Traffic Level C mix shall be used.



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**334-4.1.3 Layers:** Use only fine graded Superpave mixes.

**334-4.1.3.1 Layer Thickness:** The allowable structural layer thicknesses for fine Type SP Asphaltic Concrete mixtures are as follows:

Type SP-9.5.....	1 1/4 – 1 1/2 inches
Type SP-12.5.....	1 1/2 – 2 1/2 inches
Type SP-19.0.....	2- 3 inches

In addition to the minimum and maximum thickness requirements, the following restrictions are placed on fine mixes when used as a structural course:

Type SP-9.5 - Limited to the top two structural layers, two layers maximum.

Type SP-12.5 - May not be used in the first layer of courses over 3 1/2 inches thick, nor in the first layer of courses over 2 3/4 inches thick on limited access facilities.

Type SP-19.0 - May not be used in the final (top) structural layer.

**334-4.1.3.2 Additional Requirements:** The following requirements also apply to fine Type SP Asphaltic Concrete mixtures:

**334-4.1.3.2.1** When construction includes the paving of adjacent shoulders ( $\leq 5$  feet wide), the layer thickness for the upper pavement layer and shoulder shall be the same and paved in a single pass, unless called for differently in the contract documents.

**334-4.1.3.2.2** All overbuild layers shall be Type SP Asphalt Concrete designed at the traffic level as stated in the Contract. Use the minimum and maximum layer thicknesses as specified above unless called for differently in the contract documents. On variable thickness overbuild layers, the minimum allowable thickness may be reduced by 1/4 inch, and the maximum allowable thickness may be increased 1/2 inch, unless called for differently in the contract documents.

**334-4.2 MIX COMPOSITION**

**334-4.2.1 General:** Compose the asphalt mixture using a combination of aggregates (coarse, fine or mixtures thereof), mineral filler, if required, and asphalt binder material. Size, grade and combine the aggregate proportions to

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meet the grading and physical properties of the approved mix design. Aggregates from various sources may be combined.

**334-4.2.2 Mix Design:** Submit to the Engineer the proposed mix design and proof that this mix design is on the FDOT District 5 accepted list. The Engineer will verify with the FDOT District 5 Bituminous Engineer that the mix is on the approved list. No mix design revisions will be allowed. A new design mix will be required for any substitution of an aggregate product, binder, or other design component unless approved by the Engineer. The Engineer will consider any marked variations from mix design parameters or any evidence of inadequate field performance of a mix design as sufficient evidence that the properties of the mix design have changed, and the Engineer will no longer allow the use of that mix design. Provide certification from the plant (either in a statement on the delivery ticket or on a separate sheet) that the mix provided is in conformance with the design mix.

**334-4.2.3 Additional Information:** Provide the following information to the Engineer with each FDOT approved mix design submitted for use:

- The approved FDOT Mix Design Number.
- The design traffic level and the design number of gyrations ( $N_{\text{design}}$ ).
- The source and description of the materials to be used.
- The FDOT source number product code of the aggregate components furnished from an FDOT approved source.
- The gradation and proportions of the raw materials as intended to be combined in the paving mixture. The gradation of the component materials shall be representative of the material at the time of use. Compensate for any change in aggregate gradation in handling and processing as necessary.
- A single percentage of the combined mineral aggregate passing each specified sieve. Degradation of the aggregate due to processing (particularly -No. 200 [-75  $\mu\text{m}$ ]) should be accounted for and identified for the applicable sieves.
- The bulk specific gravity value for each individual aggregate (and RAP) component, as identified in the FDOT aggregate control program.
- A single percentage of asphalt binder by weight of total mix intended to be incorporated in the completed mixture, shown to the nearest 0.1%.
- A target temperature at which the mixture is to be discharged from the plant and a target roadway temperature. Do not exceed a target temperature of 340°F for modified asphalts and 315°F for unmodified asphalts.

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- The physical properties achieved at four different asphalt binder contents, one of which shall be at the optimum asphalt content, and must conform to all specified physical requirements.
- The ignition oven calibration factor.

**334-4.3 MATERIALS**

**334-4.3.1 General Requirements:** Meet the material requirements specified in Division III of the FDOT Standard Specifications for Road and Bridge Construction. Specific references are as follows:

Coarse Aggregate: Stone, Slag, Crushed Gravel, Crushed Reclaimed Portland Cement Concrete Pavement, Crushed Glass.....Section 901  
Fine Aggregate.....Section 902  
Superpave PG Asphalt Binder ..... Section 916-1

**334-4.3.2 Superpave Asphalt Binder:** Unless specified otherwise in the Contract, use a PG 58-22 or PG 67-22 asphalt binder unless the use of a different binder or recycling agent has been approved by the Florida Department of Transportation and the Engineer for a particular mix design.

**334-4.3.3 Use of Reclaimed Asphalt Pavement (RAP) Material:**

**334-4.3.3.1 General Requirements:** Reclaimed Asphalt Pavement (RAP) may be used as a component material of the asphalt mixture, with the exception of Friction Course mixes, subject to the following requirements:

- Assume responsibility for the production and placement of asphalt mixes which incorporate RAP as a component material.
- Use only RAP that has been approved by the FDOT. Provide documentation of the FDOT approval.
- Limit the amount of RAP material used in the mix to a maximum of 30% by weight of total aggregate, unless otherwise approved the Engineer.
- Use any suitable means to prevent oversized RAP material from showing up in the completed recycled mixture. Take immediate corrective action if oversized RAP material appears in the completed recycled mix.
- Provide stockpiled RAP material that is reasonably consistent in characteristics and contains no aggregate particles which are soft or conglomerates of fines.

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- Provide RAP having a minimum average asphalt content of 4.0% by weight. The Engineer may sample the stockpile to verify that this requirement is met.

#### 334-4.4 ACCEPTANCE

**334-4.4.1 General:** The asphalt mixture will be accepted based on one of the following methods as determined by the Engineer and/or the Contract Documents:

- 1) Certification, Contractor Process Control Testing, and Acceptance Testing by the Engineer
- 2) Other method(s) as determined by the Contract

**334-4.4.2 Certification by the Contractor:** Submit a Notarized Certification of Specification Compliance letter by an officer of the company who is in responsible charge of paving operations. The letter shall be submitted on company letterhead to the Engineer and shall state that all material produced and placed on the project was in substantial compliance with the Specifications.

**334-4.4.3 Contractor Process Control Testing:** Provide supporting test data documenting all quality and process control testing as described in 334-2 above. A pre-qualified Independent Laboratory as approved by the Engineer may be utilized for the Process Control testing.

**334-4.4.4 Acceptance Testing by the Engineer:** The Engineer may employ the use of a pre-qualified Independent Geotechnical Engineering firm and/or Laboratory to perform acceptance testing. For every 500 feet of pavement placed per lane per day, take a set of three (3) randomly placed cores, at least two (6") inches in diameter, for determining density and thickness. A minimum of two sets of three cores will be taken per roadway. Acceptance will be based on the following:

**334-4.4.4.1 Density:** The minimum acceptable average density for each course of asphaltic concrete placed shall be ninety-two (92%) percent of the design unit weight ( $G_{mm}$ ) of the job mix, with no test lower than ninety and eight tenths (90.8%) percent or higher than ninety-five (95%) percent.

**334-4.4.4.2 Thickness:** Meet the minimum design thickness on all cores. When a deficiency in thickness is found, the Engineer may require additional cores to be taken to determine the extent of the thickness deficiency. For any thickness that is less than the design thickness, remove and replace the full depth of the layer, extending for a distance on either side of the defective area

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as determined by the Engineer, but in no case less than 50 feet on either side of the defective area for the full width of the paving lane. At the discretion of the Engineer, removal and replacement of the entire limits of the new pavement may be required. For any thickness that is greater than the design thickness, the Engineer will make a determination about acceptance.

**334-4.4.4.3 Surface Tolerance:** The asphalt mixture will be accepted on the roadway with respect to surface tolerance in accordance with the applicable requirements of 334-3.10.

**334-4.4.4.4 Additional Tests:** The County reserves the right to run any test at any time for informational purposes and for determining the effectiveness of the Contractor's quality control and process control.

#### **334-4.5 METHOD OF MEASUREMENT**

For the work specified under this Section the quantity to be paid for shall be the actual area in Square Yards (SY) of asphaltic concrete placed and accepted within the limits of the contract.

#### **334-4.6 BASIS OF PAYMENT**

Type SP Asphaltic Concrete will be paid for at the contract unit price per square yard, completed and accepted. No additional payment will be made for thickness of asphalt greater than the design thickness.

The bid price for the asphalt mix will include the cost of the liquid asphalt or the asphalt recycling agent. There will be no separate payment for the asphalt binder material in the asphalt mix.

Payment shall be made under:

Item No. 334-1-13    Superpave Asphaltic Concrete (1 ½") (SP-12.5) (Incl. Tack Coat) – SY (square yards)

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**TP 339 – Miscellaneous Asphalt Pavement**

**MISCELLANEOUS ASPHALT PAVEMENT**

**339-1 DESCRIPTION**

The work specified in this Section consists of asphalt pavement construction, which shall comply with all requirements of Section 339 of the “Standard Specifications”, except as directed by the Engineer. The work also includes chemical treatment of the underlying soil to prevent plant growth.

**339-2 METHOD OF MEASUREMENT**

The quantity of pavement to be paid for under this section shall be by the tons measured as specified in Article 339-7 of the “Standard Specifications”, except as directed by the Engineer.

**339-3 BASIS OF PAYMENT**

The quantity of miscellaneous asphalt pavement, determined as provided above, shall be paid for at the contract unit price per ton.

Such price and payment shall be full compensation for all the work specified in Section 339 including shaping and compacting the foundation, soil sterilization treatment, furnishing of the bituminous material used in the mixture and shaping of adjacent earth surfaces.

**Payment shall be made under:**

339-1 Miscellaneous Asphalt Pavement (2") per ton (TN)

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**TP 400 – Concrete Structures**

**CONCRETE STRUCTURES**

The work specified in this Section consists of the construction of concrete structures and other concrete members at the locations and to the dimensions shown on the plans in accordance with Section 400 of the FDOT Standard Specifications for Road and Bridge Construction. All concrete construction not covered under a separate specific technical provision or pay item should be constructed in accordance with this technical provision.

Exposed concrete surfaces shall receive a Class I Surface Finish as required by Article 400-15.2.2 of the Standard Specifications, unless otherwise noted in the construction plans.

**Method of Measurement**

The quantity to be paid for under this Section shall be the volume, in cubic yards, of the classes of concrete shown in the plans, completed, in place, and accepted, except as noted herein.

**Basis of Payment**

Price and payment will be full compensation for the classes of concrete shown in the plans and shall include all labor, excavation, backfilling, compaction, forms, bracing, reinforcing steel, concrete, dewatering, and all items and incidentals necessary to complete this item of work. No separate payment will be made for obtaining the required concrete finish.

Approach slabs will be paid at the contract unit price each for concrete approach slab.

Payment shall constitute full compensation for all work and materials specified herein, and in Sections 400 and 415 of the FDOT Standard Specifications for Road and Bridge Construction.

Payment shall be made under:

Pay Item:

400- 1-2	Class I Concrete, Endwalls (Includes Reinforcing Steel)	per Cubic Yard
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### **TP 425**

#### **INLETS, MANHOLES, AND JUNCTION BOXES**

Construction of Inlets, Manholes and Junction Boxes shall conform to the requirements of Section 425 of the "Standard Specifications" and applicable FDOT Design Standards and Details contained in the plans, except as directed by the Engineer.

Precast inlet tops shall not be used for any type of inlet.

#### **STORMWATER INLET BASKETS:**

**CURB BASKET (CB):** The CBs shall be designed to fit within standard Florida Department of Transportation (FDOT) approved stormwater curb inlets without significant modification to the existing curb inlet structure. The baskets shall be made to withstand 250 lbs when loaded with debris. The material shall be non-corrosive and able to withstand the effects of possible exposure to stormwater chemicals and submersion for prolonged periods of time. CBs that have manhole access shall have a higher capacity style basket installed; inlets without an access manhole shall have a standard capacity basket installed. Each CB shall have a diversion structure that directs all the untreated stormwater flow into a CB. The CBs, diversion structure, and associated hardware shall be made of durable materials designed to persist through years of monthly handling in central Florida's climate without the need for severe repairs or replacement. The catch baskets shall be designed for easy removal and cleaning. Each CB shall allow the storm water to flow through the basket while collecting and retaining the associated debris. The CBs shall be of sufficient size to maximize the quantity of debris collected without affecting draining and flow. The design of the catch baskets shall allow stormwater to flow-over or bypass the catch basket without clogging the inlet flow once the basket is full.

**GRATE INLET BASKET (GB):** The GB shall be designed to fit within standard FDOT approved stormwater grate inlet structures. The GB shall fit inside of the structure just under the existing cover grate. The baskets shall be made to withstand 250 lbs when loaded with debris. The basket and associated hardware shall be made of durable materials designed to persist through years of monthly handling in central Florida's climate without the need for severe repairs or replacement. Each GB shall allow stormwater to enter the grate inlet's basket where debris can be screened out through a minimum of two different sized screens. The basket shall have a by-pass or overflow design to ensure excess water can be diverted into the storm drain if needed. The design of the catch basket shall allow stormwater to flow-over or bypass the catch basket without clogging the inlet flow once the basket is full.

#### **General Stormwater Inlet Basket (SIB) Specifications:**

1. The SIBs filtering capability of sediment, trash, leaves, and other similar pollutants shall not be dependent upon disposable filter media which requires replacement or may cause clogging.



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2. Each SIB shall be capable of monthly removal and emptying without loss of structural integrity, cracking, breaking, or functionality over the period of several years.
3. Each SIB shall be designed to receive raw, untreated stormwater typical of residential, commercial and roadway land uses.
4. Each SIB shall be designed to provide the maximum water-permeable surface area in order to allow for the highest flow rate screening of leaf, sediment and trash debris.
5. Each SIB shall be constructed/installed with a bypass system greater than or equal to 20% of the cross sectional area of the basket, so as not to impede the flow of water, which could result in localized flooding or drainage hazards.
6. Each SIB shall have a physical method of preventing the re-suspension and wash-out loss of the screened/captured material during flow receiving conditions regardless of basket fullness.
7. All SIB including mounting hardware, nuts, bolts, washers, and miscellaneous parts shall be constructed of durable, corrosion resistant, non-ferrous material capable of withstanding load weights of at least 250 lbs. The SIB design shall incorporate three porous hole/screen sizes (coarse, medium and fine) which remove coarse and fine sediments, debris and trash. Hole/screen sizes should vary from top to bottom, with top holes being no smaller than 0.750" (coarse mesh) and bottom holes 0.1875" (fine mesh), respectively.
8. The Contractor shall properly install new SIBs in either a curb or grated stormwater catch basin. The inlets have access via an iron grate or manhole cover.
9. For each new SIB installation, the County will provide the Contractor with the number and potential location of SIB to be installed. In return, the Contractor shall screen for each location and provide an accurate and itemized quote based on the contracted pricing.

#### **Unique Curb Baskets (CB) Specifications:**

10. Each CB shall have a support system to help direct all stormwater flow into the basket. This support system shall be firmly anchored into the catch basin's walls and be capable of supporting weights of at least 250 lbs without significant bowing or deforming that could alter unit structural integrity or performance. The support system shall be designed so as not to obstruct 100% of the inlet opening to allow for emergency overflow.
11. The support system shall be made so that stormwater is directed to the CB screening device. The CB shall be placed under the curb grade line and accessible via the manhole cover, situated overtop the CB.

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12. Each CB shall be designed to allow for easy removal via an attachment point, with a tool such as with a manhole hook. The attachment point(s) shall be strong enough to allow for repeated removal of basket and sediments in excess of 250 lbs.
13. Each CB shall be designed to prevent the basket from becoming dislodged from its supporting shelf and or falling below the support system and into the bottom of the structure or piping system.
14. Each CB installed in a curbed inlet shall have a secondary system capable of arresting the basket, e.g., a lock and tether or equivalent, in case of dislodgement from the support structure. The arresting device shall be capable of supporting the CB at full capacity (250lbs).

#### **Unique Grate Inlet Baskets (GB) Specifications:**

15. For grated curb and common inlets, GB's shall be designed to fit within the existing inlet of the Stormwater Catch Basin with the grate firmly placed over top. The GB shall be large enough to filter 100% of the water that enters the inlet, through the grate. The deck shall either be anchored to the walls of the catch basin or be molded to fit within the opening of the inlet. Installation of the GB shall be such as to allow the grate to firmly fit over top of the GB, laying flush to the ground level.
16. All GBs shall be capable of withstanding weights of at least 250 lbs. The GB design shall be a square basket shape, with various screens sizes which removes fine and coarse sediments, debris and trash, as described in the General Specifications.
17. Each GB shall be constructed/installed with a bypass system greater than or equal to 20% of the cross sectional area of the basket, so as not to impede the flow of water, which could result in localized flooding or drainage hazards.

#### **SIB Installation & Maintenance:**

18. Designs are subject to approval by the County Project Manager before installation.
19. A detailed digital proposal shall be submitted outlining the timeframes for inlet specification measurements, materials manufacturing and fabrication, installation and report submittal. At a minimum, an accurate itemized list of locations with GPS coordinates in decimal degree format NAVD '88 datum, or a GIS file, shall be provided prior to County project manager approval for installation. Timeframes shall be adhered to or as negotiated by County Project Manager.
20. Basis of payment per SIB unit shall include all sizes, types, and models.

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21. Basis of payment for all associated costs with the installation per SIB shall be included in the bid item "Installation of Stormwater Catch Basin Insert Filter Basket". Pricing shall also include any special fabrication necessary for proper installation.
22. Basis of payment for all associated costs to install tethers to the SIB shall be included in the bid item "Tethers" and priced per unit.
23. The Contractor shall assess each potential inlet location, determine the appropriate style and size of basket and perform the duties per contract specification.
24. The Contractor warrants each SIB to be free of defects in materials and workmanship for a period of at least five (5) years from the date of installation. The warranty shall cover all materials, parts and labor. If the workmanship and/or products are defective within the five (5) years, then all defects shall be repaired or replaced to the County's satisfaction, with no additional expense to the County.
25. The Contractor shall design and install the SIB so as to provide the maximum benefit while preventing flooding and/or drainage problems. The following list describes the installation standards that include, but are not limited to:
  - a. SIB shall be a minimum of 12" deep unless otherwise instructed by the County Project Manager.
  - b. The stormwater catch basin, which houses the SIB, shall be a minimum of 24" deep to install a SIB, unless otherwise instructed by the County Project Manager. The depth shall be determined from the grade line of the inlet opening to the top of the catch basin conveyance channel or discharge pipe.
  - c. The bottom of the SIB shall rest above the conveyance channel or pipe within the stormwater catch basin.
  - d. No SIB shall be installed in Conflicted Stormwater Catch Basins, which may have other utility infrastructure/s present, unless otherwise instructed to do so by the County Project Manager.
26. The Contractor shall ensure the structural integrity and functionality of the stormwater catch basin is maintained during installation of the SIB, ensuring compliance with all applicable F.D.O.T. and County Standards. Any defects, caused by the installation of the SIB in the integrity and/or functionality to any part of the stormwater catch basin shall be corrected within fourteen (14) days of being notified by the County Project Manager and before final payment is authorized, without any additional incurred costs to the County.
27. Once all SIB are installed, the Contractor shall provide notification to the County Project

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Manager that the job is completed along with a digital excel spreadsheet listing, but not limited to: the date installed, drain type/location and volume/ type of sediment filter basket. Specifications included on the reporting spreadsheet will be dictated by the County Project Manager. Each basket and stormwater inlet shall have a label with a unique number, as provided by the County Project Manager, permanently affixed to the individual basket and stormwater inlet for tracking and reference purposes. The final four digits of the identification number are reserved for the Contractor's use in warranty tracking. Also included on the excel sheet, the Contractor shall provide GPS coordinates using decimal degree coordinates in NAVD '88 datum for each installation. GPS coordinates recorded using smart phones, remotely tagging from aerial views, or vehicle navigation GPS systems shall not be used. Additionally, digital photographs showing the location of the baskets and accompanying tag, tether and identification labels, illustrating the final location(s) of the basket installed. A digital post installation verification file shall be submitted to the County project manager showing installations and notes regarding non-installations. These items shall be submitted as specified, or as negotiated by the County Project Manager.

#### **Storm Drain Labeling:**

28. Orange County will provide the storm drain labels for installation by the Contractor. The surfaces of the inlet and the label shall be clean and dry. The side of the label with no text, writing or other marking is the side that will go onto the inlet. A heavy-duty adhesive, to be provided by the Contractor, that resists moisture and temperature changes shall be used for installation. The adhesive shall be applied approximately ½ to 1 inch from the outer edge of the label all the way around the edge of the label. Then two lines of adhesive shall be placed from corner to corner on the diagonal forming an "X" within the ring of adhesive previously applied. Place the adhesive, unlettered side of label onto the inlet and apply pressure for 1 minute to ensure secure seal. Wipe away any excess adhesive from face of label/plaque.

#### **Method of Measurement**

The quantities measured for payment under this Section shall be the number of inlets (with and without baskets), manholes, junction boxes, yard drains, special end walls, and shallow ditch drains satisfactorily completed and accepted, including drainage structure under drains where required.

#### **Basis of Payment**

Structures included in this Section will be paid for at the contract unit price each, completed and accepted. Payments shall constitute full compensation for furnishing all materials and completing all work described herein or shown on the plans, including all excavation;

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dewatering; subsoil excavation and replacement material; backfilling and compacting around structures; disposal of surplus material; and furnishing and placing of all concrete; reinforcing steel; gratings; frames; covers, and any other necessary fittings as shown in the plans, required for acceptable construction, or as directed by the Engineer. Where required, drainage structure underdrains shall be included in the unit price for inlets and manholes. Any alteration of pipe grades up to one (1) foot to clear utilities shall be made and connections to structures made at no additional cost to the County or utility.

Payment shall be made under:

Item No. 425-1-341	Inlets, Curb, Type P-4, $\leq 10'$	Each
Item No. 425-1-342	Inlets, Curb, Type P-4, $> 10'$	Each
Item No. 425-1-529	Inlets, DT Bot., Type C, Modified	Each
Item No. 425-1-541	Inlets, DT Bot., Type D, $\leq 10'$	Each
Item No. 425-2-41	Manholes, P-7, $\leq 10'$	Each
Item No. 425-2-42	Manholes, P-7, $> 10'$	Each

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**TP 430- Pipe Culverts and Storm Sewers**

**PIPE CULVERTS AND STORM SEWERS**

Construction of Pipe Culverts, Storm Sewers and Mitered End Sections shall conform to the requirements of Section 430 of the Standard Specifications, except as modified herein or as directed by the Engineer. All round and elliptical pipes shall be steel reinforced concrete pipe (SRCP).

Lifting holes in reinforced concrete pipe are prohibited.

Proposed storm sewer pipe to be connected to existing structures shall have openings cut into the existing structure without permanently damaging the structure. All structure openings shall be grouted watertight, with non-shrink grout, after pipe installation, and the structure shall be restored as approved by the Engineer.

The cost of connections to existing structures shall be included in the price bid for the pipe.

Final pipe inspection requirements shall conform to Section 430-4.8 of the Standard Specifications. All culverts and storm sewer pipes shall be videoed by the contractor and inspected and approved by the Engineer prior to final paving.

The only acceptable repair method shall be remove and relay / replace, or as otherwise directed by the Engineer. The repair cost shall be borne solely and completely by the Contractor.

All pipe culvert designated in the plans to be desilted shall be videoed in accordance to Section 430-4.8 of the Standard Specifications and approved by the Engineer prior to payment.

**Concrete Pipe Joints**

Each joint in a concrete pipe culvert or storm sewer shall be wrapped on the exterior of the pipe with a band of filter fabric measuring 3 feet wide centered on the joint and lapped a minimum of 2 feet. The filter fabric shall meet the requirements of Section 985 of the Standard Specifications and shall be secured against the outside of the pipe by stainless metal or plastic strapping or by other methods approved by the Engineer. These costs shall be included in the per linear foot price for the pipe.

**Method of Measurement**

Quantities measured for payment under this Section shall be the length in linear feet of pipe culvert or storm sewer measured in place, completed and accepted. Measurements shall be from the inside face of structure wall to inside face of structure wall.

For mitered end sections the quantity measured for payment shall be the number completed and accepted.

**Basis of Payment**

Pipe Culverts and Storm Sewers will be paid for at the contract unit price completed and accepted. The unit price shall include connection of proposed pipes to existing structures and the replacement of the backfill, base course, and pavement removed for

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**TP 430- Pipe Culverts and Storm Sewers**

pipe trenching. Payment shall be full compensation for all work and materials described herein, including excavation (in whatever material is encountered), dewatering, removing unsuitable material and replacing with select bedding material, backfilling, compaction, furnishing and installing all pipe, disposing of surplus materials, and other work as may be required for an acceptable installation:

Payment shall be made under:

Item No

430-175-118	Steel Reinforced Concrete Pipe, Class III, Round, 18"	LF
430-175-124	Steel Reinforced Concrete Pipe, Class III, Round, 24"	LF
430-175-130	Steel Reinforced Concrete Pipe, Class III, Round, 30"	LF
430-175-215	Steel Reinforced Concrete Pipe, Class III, Elliptical, 12"x18"	LF
430-982-125	Mitered End Section, Concrete, 18"	EA
430-982-129	Mitered End Section, Concrete, 24"	EA
430-982-133	Mitered End Section, Concrete, 30"	EA
430-982-623	Mitered End Section, Elliptical, 12"x18", CD	EA

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**TP 520 - Concrete Gutter, Curb Elements and Traffic Separator**

**CONCRETE GUTTER, CURB ELEMENTS, AND TRAFFIC SEPARATOR**

Construction of concrete curb and gutter, concrete traffic separator, and concrete valley gutter shall conform to the requirements of Section 520 of the Standard Specifications, except as directed by the Engineer.

**Foundation**

Foundation material upon which the concrete is to be placed shall be compacted to meet the specified densities and shall be thoroughly wetted but free of standing water just prior to placing concrete.

**Contraction Joints**

Contraction joints shall be sawed to a minimum depth of 1 1/2 inches. Sawing shall begin as soon as the concrete has hardened to the degree that excessive raveling will not occur. Sawing shall progress in the same direction and sequence as the concrete placement. Every third joint shall be sawed first, then saw intermediate joints.

For concrete placed before noon, all joints shall be sawed the same day of placement. For concrete placed after noon, all third joints shall be sawed the day of placement; all other joints prior to noon the following day.

**Curing**

Concrete shall be cured as provided in Section 520-8, except as modified herein or as approved by the Engineer. Curing material shall be applied to the concrete surfaces after finishing as soon as the concrete has hardened sufficiently to prevent marring the surface or within one hour after finishing is completed, whichever occurs first. Applying curing materials shall not be held up due to other activities on the project. Contractor shall schedule and provide manpower necessary to conform to these requirements.

Spraying equipment, including spray tip and nozzle, shall be as recommended by manufacturer's printed literature, or an acceptable equal. Suggested equivalent spraying equipment is:

Pump Sprayer:           Model No. 1949, Chapin Mfg., (800) 444-3140  
Drum Pump Sprayer: 12 Volt DC # 6061, Chapin Mfg.

Equipment shall be maintained and nozzles replaced as required to provide consistent uniform spray pattern.

A uniform coating meeting the manufacturer's recommended minimum application rate shall be applied. Areas appearing to have insufficient curing compound, as determined solely by the



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**TP 520 - Concrete Gutter, Curb Elements and Traffic Separator**

Engineer, shall be re-coated immediately to provide required uniform coverage.

Storage containers having greater than a five gallon capacity may be utilized only with prior approval by the Engineer. The contractor shall submit the manufacturer's descriptive literature describing the placement, storage and mixing requirements for storage containers exceeding five gallons. The contractor shall provide and utilize mechanical mixers for all containers larger than five gallons. The mixers shall be equivalent to the manufacture's requirements. The contractor shall conform to all storage, mixing and application requirements.

**Repairs**

Where replacement is necessary, complete sections between existing contraction joints shall be removed and replaced.

**Method of Measurement**

For curb or curb and gutter, the quantity to be paid will be plan quantity, in linear feet, measured along the face of the completed and accepted curb or curb and gutter.

For valley gutter or shoulder gutter, the quantity to be paid will be plan quantity, in linear feet, measured along the gutter line of the completed and accepted valley gutter or shoulder gutter.

For concrete traffic separator of constant width, the quantity to be paid will be plan quantity, in linear feet, measured along the center of its width, completed and accepted, including the length of the nose.

For concrete traffic separator of varying width, the quantity to be paid will be plan quantity, in square yards, completed and accepted.

**Basis of Payment**

Items covered by this Section will be paid for at the contract unit price. Payment shall constitute full compensation for all work described herein, including all labor, equipment, materials and incidentals necessary to complete each item of work.

Payment shall be made under:

Pay Item:

520-1-8	Concrete Curb & Gutter, Special, Ribbon	per linear foot
520- 1-10	Concrete Curb and Gutter, Type F	per linear foot
520- 2-4	Concrete Curb, Type D	per linear foot

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**TP 522 – Concrete Sidewalks, 4 inch and 6 inch thickness**

**TP 522**

**CONCRETE SIDEWALKS, 4 INCH AND 6 INCH THICKNESS**

Construction of 4-inch and 6-inch thick concrete sidewalk shall conform to the requirements of Section 522 of the Standard Specifications, and Indexes 304 and 310 of the FDOT Design Standards, except as directed by the Engineer.

**Foundation**

Foundation material shall meet the specified densities and shall be thoroughly wetted but free of standing water just prior to placing concrete.

**Contraction Joints**

Contraction joints shall be sawed. All joints shall be straight lines oriented at 90 degrees to the edge of sidewalk, radially if in a curve, or as directed otherwise. The minimum depth of joints shall be 1 1/2 inches or 1/4 the nominal thickness of concrete placed, whichever is greater.

Joint installation shall proceed in the same direction and sequence as the concrete placement. Sawing shall begin as soon as the concrete has hardened to the degree that excessive raveling will not occur. Every third transverse joint and all longitudinal joints shall be sawcut within 8 hours after finishing. Remaining transverse joints, shall be sawcut by noon the following day.

**Construction Joints**

Construction joints shall be constructed at the end of all pours and at other locations where the concrete placement operations are stopped for as long as 30 minutes. They shall be placed at least 10 feet from any other transverse construction joint or end of pavement section.

Metal keyways shall be installed at all construction joints in sidewalks 6-inches and greater in thickness. Concrete thickness shall be increased by 2-inches for a minimum distance of 6-inches either side of construction joints.

**Curing**

Concrete shall be cured as provided in Section 520-8, except as modified herein. Curing material shall be applied to the concrete surfaces after finishing as soon as the concrete has hardened sufficiently to prevent marring the surface or within one hour after finishing is completed, whichever occurs first. Applying curing materials shall not be held up due to other activities on the project. Contractor shall schedule and provide manpower necessary to conform to these requirements.

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**TP 522 – Concrete Sidewalks, 4 inch and 6 inch thickness**

Spraying equipment, including spray tip and nozzle, shall be as recommended by the manufacturers' printed literature, or an acceptable equal. Suggested equivalent spraying equipment is as follows:

Pump Sprayer:	Model No. 1949, Chapin Mfg., (800) 444-3140
Drum Pump Sprayer:	12 Volt DC # 6061, Chapin Mfg.

Equipment shall be maintained and nozzles replaced as required to provide a consistently uniform spray pattern.

A uniform coating meeting the manufacturer's recommended minimum application rate shall be applied. Areas appearing to have insufficient curing compound, as determined solely by the County, shall be re-coated immediately to provide the required uniform coverage.

Storage containers having greater than a five gallon capacity may be utilized only with prior approval of the Engineer. The Contractor shall submit the manufacturer's descriptive literature describing the placement, storage and mixing requirements for storage exceeding five gallons. The Contractor shall provide and utilize mechanical mixers for all containers larger than five gallons. The mixers shall be equivalent to or exceed the manufacturer's requirements.

The Contractor shall conform to all storage, mixing and application requirements.

**Replacement**

Where 6-inch concrete has to be replaced due to cracks, it shall be replaced with a uniform thickness of 8-inch concrete covering no less than 40 square feet and extending to existing sawed contraction joints. Replacement concrete shall extend at least 3-inches beneath existing concrete at a minimum thickness of 3-inches.

**Method of Measurement**

Quantities measured for payment under this Section shall be the actual area in square yards of concrete constructed in place.

**Basis of Payment**

Concrete Sidewalk including ramps, detectable warning surfaces (armor tiled domes) and driveways will be paid for at the contract unit prices, completed and accepted. Payment shall constitute full compensation for all work described herein, and shall include all labor, equipment, materials, clearing and grubbing, excavation, grading, compaction, expansion material (asphalt impregnated), and all incidentals necessary to complete the work to the lines, grades, and thickness indicated on the plans.

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**TP 522 – Concrete Sidewalks, 4 inch and 6 inch thickness**

Subgrade preparation and additional concrete required for thickened slabs as indicated on the plans or as directed by the Engineer shall be included in the contract unit price for 6-inch Concrete Sidewalk.

Payment shall be made under:

Pay Item:

522-1	Sidewalk Concrete, 4" Thick	Per Square Yard
522-2	Sidewalk Concrete, 6" Thick	Per Square Yard

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**TP 530 - Riprap (Rubble)**

**RIPRAP (RUBBLE)**

Constructing Riprap (Rubble) shall conform to the requirements of Section 530 of the Standard Specifications, except as directed by the Engineer.

**Method of Measurement**

Quantities measured for payment under this Section shall be the in place tons of riprap (rubble). This price shall include the filter fabric and bedding stone placed under the riprap.

**Basis of Payment**

Rubble riprap will be paid for at the contract unit price, completed and accepted. Payment shall be full compensation for all work described herein and shall include all materials, bedding stone, filter fabric, hauling, excavation and backfill.

Payment shall be made under:

Pay Item:

530-3-3	Riprap-Rubble, Bank and Shore	Per Ton
530-3-4	Riprap-Rubble, F&I, Ditch Lining	Per Ton

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**TP 530-4-4 Articulating Concrete Block Revetment System**

**ShoreBlock BD Series (Or Approved Equal)**  
**Product Specification**

**Part 1: General**

**1.1 Scope of Work** - The Contractor shall furnish all labor, materials, equipment, and incidentals required and perform all operations in connection with the installation of cellular concrete erosion control mats in accordance with the lines, grades, design and dimensions shown on the Contract Drawings and as specified herein.

**1.2 Submittal** - The Contractor shall submit to the Engineer all manufacturers' hydraulic testing and calculations in support of the proposed cellular concrete mat system and geotextile. All calculations submitted must be consistent with the details found in Part 2 of this document.

The Contractor shall furnish the manufacturer's certificates of compliance for cellular concrete blocks/mats, revetment cable, and any revetment cable fittings and connectors as specified in this document. The Contractor shall also furnish the manufacturer's specifications, literature, shop drawings for the layout of the mats, and any recommendations, if applicable, that are specifically related to the project.

Alternative materials may be considered. Such materials must be pre-approved in writing by the Engineer prior to bid date. Alternative material packages must be submitted to the Engineer a minimum of fifteen (15) days prior to bid date. Submittal packages must include, at a minimum, the following:

Full-scale laboratory test results and associated engineered calculations quantifying the hydraulic capacity of the proposed cellular concrete mat system in similar conditions to the specific project. The laboratory testing and calculations must comply with all items found in Part 2 of this specification. Submitted calculations must be PE stamped by a duly licensed engineer in the jurisdiction of the project.

**Part 2: Product**

**2.1 CELLULAR CONCRETE BLOCKS** shall be formed by a vibratory block forming machine. Cellular concrete blocks shall be interlocking; and penetrations shall be included for revetment cables as necessary to bind the individual blocks into mattresses in two perpendicular directions. Cable penetrations shall prevent any exposure of cables to potential UV degradation within the dimensions of the individual blocks (i.e., cables shall not pass through open areas within the dimensions of individual blocks). The blocks shall be open (18% - 23% as measured from the top of block) or closed (7% - 12% as measured from the top of block) cell, as shown in the plans, and capable of articulation when formed into mattresses which will not compromise the structural integrity of the

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**TP 530-4-4 Articulating Concrete Block Revetment System**

projections. Any projections from the block shall in no way restrict the articulation of the mattress nor be subject to breakage.

**2.1.1 Design Requirements.** The weight of the block shall have the following minimum requirements:

<b>Product</b>	<b>Nominal Thickness</b>	<b>Weight (lb. / sq. ft.)</b>	<b>% Open Area</b>
ShoreBlock® BD-400-OC (or approved equal)	4"	32 - 35	20 %
ShoreBlock® BD400-CC (or approved equal)	4"	37-40	7%

**2.1.2 CELLULAR CONCRETE MATTRESSES** shall be SHOREBLOCK® BD or approved equal. Cellular concrete mattresses shall be pre-manufactured as an assembly of concrete blocks when connected into mattresses by the use of revetment cables. Two (2) integral longitudinal cables per block are required, as well as one (1) integral transverse cable. No partial or "half" blocks will be allowed without a transverse cable. The final revetment system must be tied continuously throughout with cables in two perpendicular directions.

The cellular concrete mats shall be placed on a filter fabric as specified herein. Under no circumstances shall the filter fabric be affixed (i.e. chemically bonded) to the mattress in a manner in which would jeopardize the functionality of the filter fabric. Specifically, the filter fabric shall be independent of the block system.

Proposed equals must be submitted to the engineer a minimum of fifteen (15) days prior to bid date. The owner or his engineer reserves the right to accept or reject any proposed equal cellular concrete mattress system for reasons including but not limited to previous performance record, appropriate and applicable testing, hydraulic performance characteristics, and qualified technical support. If initial submittal of an alternate cellular concrete mattress system is rejected, additional resubmittals of alternate systems will result in engineering fees, charged to the contractor for submittal review, at the engineer's normal hourly billable rate.

**2.2 Independent Testing** – All ACB systems shall be independently tested by a facility experienced in performing such tests. All testing and the interpretation of the test data shall conform to the following ASTM standards:

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**TP 530-4-4 Articulating Concrete Block Revetment System**

ASTM D7277-08 Standard Test Method for Performance Testing of Articulating Concrete Block (ACB) Revetment Systems for Hydraulic Stability in Open Channel Flow

ASTM D7276-08 Standard Guide for Analysis and Interpretation of Test Data for Articulating Concrete Block (ACB) Revetment Systems

In addition to the above guidance standards, the following shall also be included:

The design of the cellular concrete mats shall be in accordance with the Factor-of-Safety design methodology as per the National Concrete Masonry Association's *Design Manual for Articulating Concrete Block (ACB) Revetment Systems, Second Edition*. The minimum design safety factor shall be 1.5.

The analysis shall be performed based upon the stability of the mat due to gravity forces alone, neglecting conservative forces added by cabling, mechanical anchorage, contact with adjacent blocks, or other restraints not attributable to gravity based forces. The analysis must account for a 0.5-inch block projection and must be based on the smallest block used in the mats.

The design calculations are based on the test results and as such the field installation must match the test set up including but not limited to use of anchors, toe filter drains, TRM's etc.

**2.3 Project Design Parameters** – Following are the project-specific design parameters for which the ACB system must be designed:

For open channel flow the design parameters appearing below must be used

<b>Property</b>	<b>Value</b>
Velocity (ft/sec)	
Shear (lb/ft <sup>2</sup> )	
Side Slope ( H:1V)	1.5:1
Bed Slope (ft/ft)	0ft/0ft

**2.4 ACB Manufacture** – All ACB's will be manufactured in accordance with ASTM 6684-04.

In addition the following specific conditions and properties will be met:



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**TP 530-4-4 Articulating Concrete Block Revetment System**

<b>Compressive Strength Net Area</b>		<b>Water Absorption</b>	
<b>Min. psi (mPa)</b>		<b>Max. lb/ft<sup>3</sup> (kg/m<sup>3</sup>)</b>	
<b>Avg. of 3 units</b>	<b>Individual Unit</b>	<b>Avg. of 3 units</b>	<b>Individual Unit</b>
4,500 (27.6)	4,000 (24.1)	10 (160)	12 (192)

A certificate of compliance with the test results specified above and in ASTM 6684-04 completed in the past 30 months shall be submitted from the manufacturing plant to the Contractor.

**2.5 Sampling and Testing** - The purchaser or their authorized representative shall be accorded proper access to facilities to inspect and sample the units at the place of manufacture from lots ready for delivery. Additional testing, other than that provided by the manufacturer, shall be borne by the purchaser.

**2.6 Geotextile** – FDOT Specification 985, type D2 geotextile – ACF HSP2 woven geotextile

**2.7 Revetment Cables and Fittings** – Shall be polyester cable as specified in ASTM 6884-04. Cable size will be determined by block and mat size and shall provide for a 5.0 or greater factor of safety when lifting.

**Polyester Cable Specific Details –**

Revetment cable shall be constructed of high tenacity, low elongating, and continuous filament polyester fibers. Cable shall consist of a core construction comprised of parallel fibers contained within an outer jacket or cover. The weight of the parallel core shall be between 65% to 70% of the total weight of the cable. The revetment cable shall have the following physical properties:

<b>Polyester Cable</b>				
<b>Nominal Cable</b>	<b>Approximate Average Strength</b>		<b>Weight per Length</b>	
<b>Diameter</b>	<b>Lbs</b>	<b>kN</b>	<b>Lbs/100 ft</b>	<b>Kg/m</b>
(in)				
¼	3,000	13.3	2.2	0.03
5/16	7,000	31.1	4.4	0.07
3/8	10,000	44.5	5.5	0.08
½	15,000	66.7	9.7	0.14

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**TP 530-4-4 Articulating Concrete Block Revetment System**

Elongation requirements specified below are based upon stabilized new, dry cable. Stabilization refers to a process in which the cable is cycled fifty (50) times between a load corresponding to 200D2 and a load equal to 10%, 20% or 30% of the cable's approximate average breaking strength. Relevant elongation values are as shown in the table below. The tolerance on these values is + 5%.

ELASTIC ELONGATION at Percentage of Break Strength		
10%	20%	30%
0.6	1.4	2.2

The revetment cable shall exhibit resistance to most concentrated acids, alkalis and solvents. Cable shall be impervious to rot, mildew and degradation associated with marine organisms. The materials used in the construction of the cable shall not be affected by continuous immersion in fresh or salt water.

Selection of cable and fittings shall be made in a manner that insures a safe design factor for mats being lifted from both ends, thereby forming a catenary. Consideration shall be taken for the bending of the cables around hooks or pins during lifting. Revetment cable splicing fittings shall be selected so that the resultant splice shall provide a minimum of 60% of the minimum rated cable strength. Fittings such as sleeves and stops shall be aluminum and washers shall be galvanized steel unless otherwise shown on the Contract Drawings.

**2.8 Field Installation** – Field installation shall be in accordance with ASTM 6884-03 unless noted below.

Termination trenches shall be backfilled with 4000 psi non shrink grout or a material specifically called out by the design engineer. Gaps in the revetment system, whether end to end, side to side or around a radius greater than 2" shall be filled with 4000 psi non shrink grout.

**2.9 Mat Sizes** – Mat sizes shall be determined during the layout process which is completed once a purchase order for the project has been issued by the owner or contractor. Mat size shall not exceed 8' in width or 40' in length unless special provisions are made ahead of time with the design engineer on a specific project. Mat sizes shall be selected to minimize both freight costs and the amount of grout needed for finishing of the revetment system.

**2.10 System Components** – System components shall be as listed below or an equal approved by the design engineer of record.

**PART H**  
**TECHNICAL PROVISIONS**

**TP 530-4-4 Articulating Concrete Block Revetment System**

<b>Component</b>	<b>Product</b>
ACB	Shoreblock BD 400-OC (or approved equal)
Cable	Polyester
Fittings	Aluminum
Geotextile	HSP2 (FDOT Spec 985, Type D-2)
Geogrid	

**2.11 Inter-mat Connections – Lateral Connections** – At a minimum, every other block shall be crimped to the adjacent in neighboring mats, with the starting blocks and ending blocks at every seam crimped together. **End of Mat Connections** – End loops shall be interlaced with a rebar or with cable clamps and the resulting 6 to 12” seam shall be filled with 4000 psi concrete. (Refer to ACB details)

**2.11 Anchors** – Any mechanical or additional details are to be called out and specified for each project by the design engineer. ShoreTec / ACF offer no guidance or recommendations specific to anchors for revetment systems.

**2.12 Consultation** - The manufacturer of the cellular concrete blocks/mats shall provide design and construction advice during the design and initial installation phases of the project when required.

**2.13 Measurement and Payment** – Each part of the ACB system (ACB’s, geotextile and geogrid) shall be paid for according to the area of coverage in the contract plans (including appropriate termination details) according to the following schedule:

- ShoreBlock BD (or approved equal) – per square yard
- Geotextile – per square yard (area is determined by multiplying ACB coverage area by 1.25 and rounding up to the nearest full roll quantity)
- Geogrid – per square yard (area is determined by multiplying ACB coverage area by 1.1 and rounding up to the nearest full roll quantity)

**Payment shall be made under:**

Pay Item:

- Item No. 530-4-4A    Articulating Concrete Block Revetment System, Thickness 4”, Open Cell - per square yard (SY)
- Item No. 530-4-4B    Articulating Concrete Block Revetment System, Thickness 4”, Closed Cell - per square yard (SY)

**PART H**  
**TECHNICAL PROVISIONS**

**TP 536 GUARDRAIL**

**GUARDRAIL**

The work specified in this section consists of the construction of metal guardrail on posts of concrete, timber, steel, or aluminum, at the Contractor's option, which shall comply with the requirements of Section 536 of the "Standard Specifications", except as directed by the Engineer.

**Method of Measurement**

The quantities to be paid for under this section shall be (1) the plan quantity, in feet, of guardrail subject to the provisions of Section 9-3.2, (2) the number of end anchorage assemblies of each type as designated; all as actually constructed, in place and accepted.

**Basis of Payment**

The quantity of guardrail determined as provided above, shall be paid for at the contract unit price per linear foot. The quantity of end anchorage assembly determined as provided above shall be paid for at the contract unit price per each. The quantity of bridge anchorage assemblies determined as provided above shall be paid for at the contract unit price per each. Such price and payment shall be full compensation for all work described herein and specified in said Section 536 of the "Standard Specifications".

**Payment shall be made under:**

536-1-1	Guardrail, Roadway	LF
536-6	Guardrail, Pipe Rail	LF
536-85-25	End Anchorage Assembly, Type II	EA
536-85-26	End Anchorage Assembly, CRT	EA

**PART H**  
**TECHNICAL PROVISIONS**

**TP 550 FENCING**

**FENCING**

Installation of metal fence shall conform to the requirements of Section 550 of the "Standard Specifications" and Florida Department of Transportation Index No. 801 and 802, except as directed by the Engineer.

**Method of Measurement**

Quantities measured for payment under this Section shall be the length in feet of fence, as measured along the bottom of the fabric and out-to-out of end posts, and the number of fence gates each.

**Basis of Payment**

Fencing and gates will be paid for at the contract unit prices, completed and accepted. Electrical grounds, corner post assemblies, and pull and end post assemblies shall be included in the unit price. Payment shall be full compensation for work specified, including all materials, labor and appurtenances.

**Payment shall be made under:**

Item No. 550-10-220	Fencing Type "B", 6.0' per Linear Foot (LF)	
Item No. 550-60-223	Fence Gate, Type "B", Double, 14' Opening	per each (EA)
Item No. 550-60-234	Fence Gate, Type "B", Slide/Cantilever, 20' opening	per each (EA)

**PART H**  
**TECHNICAL PROVISIONS**

**TP 570 - Performance Turf**

**PERFORMANCE TURF**

The Contractor shall establish a stand of grass in all areas designated on the plans and disturbed by construction in accordance with Chapter 15, Environmental Control, Article XVII, Fertilizer Management Ordinance of the Orange County Code; Sections 162 and 570 of the Standard Specifications, except as directed by the Engineer.

Work under this Section shall include all seeding, mulching, sodding, fertilizing and watering necessary to provide routine maintenance of the grassed area until the work is accepted by the Engineer.

There must be at least 90% coverage of healthy grass prior to acceptance by the Engineer. The Engineer, at any time, may require replanting of any areas in which the establishment of the grass stand does not appear to be developing satisfactorily.

The Contractor shall mow grassed areas twice monthly, or as required by the Engineer, until final acceptance of the work.

**Seeding and Mulching**

Grass seed shall be common Bermuda and Bahia. In addition, brown top-millet will be included during summer months and annual rye in the winter months. All seed shall meet the requirements of the State Department of Agriculture.

**Sodding**

Sodding shall be Bahia. It may be placed in rolls or as individual pieces. In established areas, replacement sod shall be of the same type as the existing sod, unless otherwise approved by the Engineer.

**Fertilizers**

Fertilize as necessary based on soil testing performed in accordance with Section 162. For fertilizer rates and application times follow Chapter 15 Environmental Control, Article XVII Fertilizer Management Ordinance of the Orange County Code.

**Method of Measurement**

Payment shall be calculated based on the quantity in square yards as specified in the completed and accepted plans. The cost of establishing grass in other areas disturbed by construction activities shall be borne by the Contractor.

**PART H**  
**TECHNICAL PROVISIONS**

**TP 570 - Performance Turf**

**Basis of Payment**

Payment shall be paid for at the contract unit price per square yard. Payment shall constitute full compensation for furnishing all materials and completing all the work specified herein, including ground preparation, fertilizing, seeding, mulching, sodding, watering, mowing and complete maintenance of the grassed area until final completion and acceptance by the Engineer.

**Payment shall be made under:**

Pay Item:

570-1-2	Performance Turf, Sod	Per Square Yard
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PART H  
TECHNICAL PROVISIONS

**TP 700 - Highway Signing**

**HIGHWAY SIGNING**

The furnishing and installing of all Highway Signing as shown on the plans shall conform to the requirements of Section 700 of the Standard Specifications, except as amended herein or as directed by the Engineer. All highway signs shall be of the type specified and installed at the locations shown on the plans.

The materials and methods shall comply with Sections 700-3 through 700-6 of the Standard Specifications and shall be accepted by the Orange County Traffic Engineering Division prior to installation.

Sign posts for single column signs shall be a minimum of 14 gauge 2"x2" square welded steel with 3/8" knockouts on 1" centers on all four sides. The posts shall be listed on the FDOT's Qualified Products List and shall be galvanized and sealed with a polymer topcoat.

**Method of Measurement**

The quantities measured for payment under this Section shall be in accordance with Article 700-11 of the Standard Specifications.

**Basis of Payment**

Payment for furnishing and installing highway signs shall be in accordance with Section 700-12 of the Standard Specifications.

Payment shall be made under:

Pay Item:

700-20-11	Single Post Sign, (Furnish & Install) (Less than 12 SF)	AS
700-20-60	Single Post Sign, Remove	AS



PART H  
TECHNICAL PROVISIONS

**TP 705 - Object Markers and Delineators**

**OBJECT MARKERS AND DELINEATORS**

The furnishing and installing of all Object Markers and Delineators as shown on the plans shall conform to the requirements of Section 705 of the Standard Specifications, except as amended herein or as directed by the Engineer.

**Method of Measurement**

The quantities measured for payment under this Section shall be in accordance with Article 705-4 of the Standard Specifications.

**Basis of Payment**

Payment for furnishing and installing object markers and delineators shall be in accordance with Section 705-5 of the Standard Specifications.

Payment shall be made under:

Pay Item:

705-10-1	Object Marker, Type 1	EA
705-10-4	Object Marker, Type 4	EA

PART H  
TECHNICAL PROVISIONS

**TP 710 – Painted Pavement Markings**

**PAINTED PAVEMENT MARKINGS**

The placing of painted traffic stripes and markings as shown on the plans shall conform to the requirements of Section 710 of the Standard Specifications, except as amended herein or as directed by the Engineer.

**Method of Measurement**

Quantities measured for payment shall be the units for each designated item in the proposal. The quantity to be paid for under this Section shall include all labor and material for the placing of all pavement markings as shown on the plans, including the removal of any existing pavement markings.

**Basis of Payment**

All materials, work and incidental costs related to Painted Pavement Markings will be paid for at the contract lump sum price for work completed and accepted. Payment shall be full compensation for all the work specified herein and shall include all equipment, labor and materials required for an acceptable installation. Payment for this section shall include one (1) application of painted pavement markings to be applied to the final pavement surface during the 30day cure period.

Payment shall be made under (TP 710):

Pay Item:

710-90	Painted Pavement Markings Final Surface	LS
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**PART H**  
**TECHNICAL PROVISIONS**

**TP 711 - Thermoplastic Traffic Stripes and Markings**

**THERMOPLASTIC TRAFFIC STRIPES AND MARKINGS**

The placing of thermoplastic traffic stripes and markings as shown on the plans shall conform to the requirements of Section 711 of the Standard Specifications, except as amended herein or as directed by the Engineer.

**Materials**

The materials to be used under this Section shall be in accordance with Article 711-2 of the Standard Specifications.

**Method of Measurement**

The quantities to be paid for under this Section shall be the length measured in linear feet, net miles of Thermoplastic Solid Traffic Stripe or the per each quantity of messages and directional arrows as measured and accepted by the Engineer. The payment shall include all labor and material for the placing of all pavement markings as shown on the plans, including removal of existing pavement markings.

**Basis of Payment**

The quantity for the placing of the thermoplastic pavement markings shall be paid for at the contract unit price.

Payment shall be made under:

Pay Item:

711-11-123	Solid Traffic Stripe (White) (12") (Thermoplastic)	LF
711-11-125	Solid Traffic Stripe (White) (24") (Thermoplastic)	LF

**PART H**

**TECHNICAL PROVISIONS**

**TP 900-1- As Built Plans**

**AS-BUILT PLANS**

The As-Built Plans shall incorporate all the changes made to the red line As-Built plans. They shall show locations and elevations of paving, swales, ditches, pipe inverts and structures constructed and all relocated or reset property corners, section corners and 1/4 section corners.

Upon the completion of the project, the Contractor shall submit to the County one (1) set of 24"x36" paper Full Size Drawings with Statement of Certifications, certifying that the project was constructed according to the Construction Plans and Specifications, and that the AS BUILT PLANS are correct representation of what was constructed. The plans shall delineate all red line information contained on the As-Built Plans.

The Contractor shall include the Statement of Certification on either the cover sheet certifying all of the sheets or certify each individual sheet. The Statement of Certifications shall be signed and sealed by a Professional Engineer and/or a Professional Surveyor and Mapper, both registered in the State of Florida.

**Basis of Payment**

As-Built Plans will be paid for at the contract lump sum price, completed and accepted.

Payment shall be made under:

Pay Item:

900-1	As-Built Plans	Lump Sum
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**PART H**  
**TECHNICAL PROVISIONS**

**TP 900-2 Indemnification**

**INDEMNIFICATION**

The Contractor shall indemnify, defend, and hold harmless the COUNTY and all its officers, agents, and employees, from all claims, losses, damages, costs, charges, or expenses arising out of any acts, action, neglect, or omission by the Contractor during the performance of the Contract, whether direct or indirect, and whether to any person or property to which the COUNTY or said parties may be subject, except that neither the Contractor nor any of its subcontractors are liable under this Section for damages arising out of the injury or damage to persons or property directly caused or resulting from the sole negligence of the COUNTY or any of its officers, agents, or employees.

Payment shall be made under:

Pay Item:

900-2	Indemnification	Lump Sum	\$100.00
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**PART H**  
**TECHNICAL PROVISIONS**

**TP 900-3 – Groundwater Treatment and Disposal**

**GROUNDWATER TREATMENT AND DISPOSAL**

**General**

If concentrations of tested groundwater quality parameters exceed those allowable in the Florida Department of Environmental Protection (FDEP) Generic Permit for the Discharge of Produced Groundwater from any Non-Contaminated Site Activity (62-621.300(2), F.A.C.), treatment may be required under this technical provision.

The term treatment as used in this technical provision means the application of all FDEP approved techniques and/or methods available to remove the exceedances out of dewatering effluent except impounding. Impounding is not considered a treatment method for purposes of compensation under this technical provision.

The CONTRACTOR shall include in his/her bid all applicable costs, including monitoring, resulting from treatment and disposal of contaminated groundwater with concentration levels that exceed the allowable limits of the FDEP generic permit, and shall not be entitled to any adjustment in the Contract Price as a result of any change in the permit fees or unanticipated treatment and disposal costs.

Prior to any work commencing, and for the duration of the work, the CONTRACTOR is responsible for meeting all the conditions of the applicable permits and submitting any required reports to the appropriate agencies.

The CONTRACTOR shall dewater only in relation to the location and relocation of facilities owned by the COUNTY. No compensation shall be provided for dewatering performed for facilities that are not owned by the COUNTY.

**Permitting**

If exceedances are found in the dewatering effluent, the CONTRACTOR will be required to:

1. Immediately notify the COUNTY and report the exceedances that are encountered.
2. Meet with the FDEP to determine any and all alternatives that are acceptable.
3. Obtain prior COUNTY approval of treatment and disposal alternatives.
4. Obtain prior written COUNTY authorization to use pay item TP 900-3-1.
5. Apply and obtain any and all permits and/or treatment approvals that FDEP requires including, but not limited to:
  - a. Generic Permit for Discharges from Petroleum Contaminated Sites (62-621.300(1), F.A.C.). Allows discharges from sites with automotive gasoline, aviation gasoline, jet fuel, or diesel fuel contamination.

**PART H**  
**TECHNICAL PROVISIONS**

**TP 900-3 – Groundwater Treatment and Disposal**

- b. Permit for all Other Contaminated Sites (62-04; 62-302; 62-620 & 62-660, F.A.C.). The coverage is available only through the individual NPDES permit issued by FDEP. Allows discharges from sites with general contaminant issues, i.e. ground water and/or soil contamination other than petroleum fuel contamination.
- c. Generic Permit for the Discharge of Produced Ground Water from Any Non-Contaminated Site Activity (62-621.300(2), F.A.C.).
- d. Generic Permit for Stormwater Discharge from Large or Small Construction Activities (62-621.300(4) (a), F.A.C.).

6. Apply and obtain any and all permits and/or treatment approvals that the Water Management District requires including, but not limited to:

- a. No-Notice Short-Term Dewatering Permit (40E-20.302(3), F.A.C.) If the CONTRACTOR'S proposed work is expected to exceed 90 days in duration, or does not meet any of the other requirements listed with the requirements of Rule 40E-20.302(3), the CONTRACTOR must apply for and obtain a Dewatering General Water Use Permit (40E-20.302(2) F.A.C.)

The CONTRACTOR shall not be entitled to file, or recover under, any delay claim based on preparation of permit applications and the time required for obtaining the applicable permits. 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 consider and anticipate the potential need to obtain the herein discussed permits in developing his schedule, and shall make every effort to avoid or minimize potential impacts to his critical path that might result from delays in dewatering activities due to the time necessary for the CONTRACTOR to obtain the necessary permits. The CONTRACTOR shall make every effort to schedule activities requiring dewatering as late as possible during his schedule, and shall schedule activities not impacted by dewatering as early as possible. For each day, up to a maximum of one hundred eighty (180) days that the CONTRACTOR diligently pursues such permit(s) and is unable to avoid adversely impacting his critical path, a day will be added to the time allotted to the CONTRACTOR to complete performance of the Project.

**PART H**  
**TECHNICAL PROVISIONS**

**TP 900-3 – Groundwater Treatment and Disposal**

**Treatment**

The CONTRACTOR shall implement the appropriate treatment that is acceptable to FDEP, COUNTY, and, if necessary, the Water Management District to attain compliance for all exceedances encountered during dewatering activities. Treatments may include, but are not limited to: chemical treatment, ion exchange treatment, filtration, and disposal of discharged groundwater in a properly permitted facility.

The CONTRACTOR shall:

1. Make every effort to minimize the spread of contamination into uncontaminated areas;
2. Provide for the health and safety of all workers at the job site and make provisions necessary for the health and safety of the public that may be exposed to any potentially hazardous conditions;
3. Ensure such provisions adhere to all applicable laws, rules or regulations covering hazardous conditions in a manner commensurate with the level of severity of the conditions;
4. If necessary, provide contamination assessment and remediation personnel to handle site assessment, determine the course of action necessary for site security, and perform the necessary steps under applicable laws, rules, and regulations for additional assessment and/or remediation work to resolve the contamination issue;
5. Delineate the contamination area(s), any staging or holding area required, and develop a work plan that will provide the schedule of projected completion dates for the final resolution of the contamination issue;
6. Maintain jurisdiction over activities inside any delineated contamination areas and any associated staging or holding areas;
7. Be responsible for the health and safety of workers within the delineated areas; and
8. Provide continuous access to representatives of regulatory or enforcement agencies having jurisdiction.

**Method of Measurement**

Quantities to be paid for under this Section shall be the actual number of calendar days, when Groundwater Treatment & Disposal occurs. This does not include preparation of permit application(s) or time to obtain the permit(s).

**Basis of Payment**

Groundwater Treatment & Disposal will be paid for at the contract unit price per day. The price and payment for groundwater treatment and disposal shall constitute full compensation for cost



**PART H**  
**TECHNICAL PROVISIONS**

**TP 900-3 – Groundwater Treatment and Disposal**

of permitting and providing all labor, materials, tools, equipments, monitoring, reporting, treating and disposing of groundwater produced from dewatering systems.

Item No: 900-3      Groundwater Treatment & Disposal      - Per Day

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IFB NO. Y18-703-CH

INVITATION FOR BIDS  
FOR  
SHERRY DRIVE BRIDGE REPLACEMENT

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VOLUME III  
UTILITIES SPECIFICATIONS

## **DIVISION 1 – GENERAL REQUIREMENTS**

01010 Summary of Work	01010-1-01010-15
01025 Measurement and Payment	01025-1-01025-6
01050 Surveying and Field Engineering	01050-1-01050-7
01340 Submittals	01340-1-01340-12
01310 Progress Schedules	01310-1-01310-8
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01410 Testing and Testing Laboratory Services	01410-1-01410-2
01610 Delivery, Storage, and Handling	01610-1-01610-5
01630 Product Substitution	01630-1-01630-3
01750 Project Closeout	01750-1-01720-5
02140 Dewatering	02140-1-02140-4
02660 Potable Water System	02660-1-02660-8
02670 Pressure Main Sample Collections	02670-1-02670-2
15064 Polyvinyl Chloride (PVC) Pipe and Fittings	15064-1 – 15064-8

## **APPENDICES**

- 1. Orange County Utilities Standards and Construction Specifications Manual, Appendix D – List of Approved Products**
- 2. Orange County Standards Water Section**
- 3. FDEP Permits**
- 4. Orange County Required Forms**

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**SECTION 01010**  
**SUMMARY OF WORK**

**PART 1 - GENERAL**

**A. Section Includes**

Summary of work, other contracts, work sequence, working hours, operation of existing facilities, use of premises, OWNER furnished products, coordination, cutting and patching.

**B. Summary of Work**

- A. The Utility work shown on the drawings prepared by OCU are to be constructed in conjunction with the Orange County Public Works Roadway Project. The project consists of the installation of new water main along Sherry Court between Sherry Drive and Kelvington Drive. Work includes installation of approximately 328 lineal feet of new water main along the Sherry. The remaining utilities are anticipated to require only support during construction.

The work associated with this project involves active water mains that are within the Rights-Of-Way of Orange County. All work activities shall be required to be in accordance with the permits issued by the respective agencies. All work performed will be required to be done while maintaining the functional operation of the utility lines.

- B. All materials, equipment, skills, tools, and labor which is reasonably and properly inferable and necessary for the proper completion of the Work and in compliance with the requirements stated or implied by these Specifications or Drawings shall be furnished and installed by the CONTRACTOR without additional compensation, whether specifically indicated in the Contract Documents or not.

- C. The Orange County Utilities Standards and Construction Specifications Manual (OCU Manual) is incorporated by reference into these specifications. Should any conflicting information exist between these two documents, then the OCU Manual shall apply and take precedence over this document. OCU Manual is available for download at:

“[ftp://ftp.ocfl.net/divisions/Utilities/pub/PlanReview/ManualOfStandardsAndSpecs/Manual\\_Approved2011/Orange%20County%20Utilities%20Standards%20and%20Construction%20Specifications%20Manual.pdf](ftp://ftp.ocfl.net/divisions/Utilities/pub/PlanReview/ManualOfStandardsAndSpecs/Manual_Approved2011/Orange%20County%20Utilities%20Standards%20and%20Construction%20Specifications%20Manual.pdf)”

- D. Repair, replace, or otherwise settle with the OWNER or OWNER'S Representative, if damage to property or existing facilities occurs, including damage to pavements, utilities, lawns, structures, etc.

- E. Construct the Project under a Unit Price Contract.

- F. The CONTRACTOR shall perform the work complete, in place, and ready for continuous service, and shall include repairs, testing, permits, clean up,

replacements, and restoration required as a result of disruptions caused during this construction.

- G. The materials used to complete the Work shall be listed in the latest edition of "Orange County Utilities Standards and Construction Specifications Manual, Appendix D – List of Approved Products".
- H. Any damage that occurs through the fault of the CONTRACTOR shall be completely restored at the expense of the CONTRACTOR, based upon current County standards.
- I. Pipe Manufacturer shall provide training for CONTRACTOR's personnel on the proper methods of handling, installing, joining and backfilling of all mains.
- J. Contractor shall verify location and depth of existing utilities there proposed storm will be installed to determine actual need for utility line transitions. If existing mains are not in conflict with proposed storm lines, then the transitions will not be required.

**C. Work Sequence**

The CONTRACTOR's sequence of work may be of his choosing in order to complete the work in the allowed time frame. The CONTRACTOR shall submit a schedule and work sequence to the OWNER at least five (5) days prior to the Notice to Proceed. Work on all utility lines shall be accomplished so that all facilities will stay in operation.

**D. Orange County Working Hours**

Normal working hours for the project shall be an eight (8) hour period between the hours of 7:00 a.m. – 7:00 p.m., Monday through Friday. Should the CONTRACTOR request, and the County approves the CONTRACTOR to work periods greater than 8 hours a day, he shall make such requests in writing a minimum of 48 hours prior to such work periods. The CONTRACTOR shall pay the cost of \$50.00 per hour for inspection by the County's inspection representatives for any hours worked in excess of 8 hours per day or 40 hours per week worked outside the normal work hours for the project.

The CONTRACTOR may be required to perform certain work at times of the day or night when system flows, vehicular traffic and pedestrian traffic are at diminished levels and at times appropriate to other activities which are occurring that may affect the project. The CONTRACTOR shall comply with requirements to alter his schedule of work as requested or required by Orange County without change to the contract price or time.

**E. Operation of Existing Facilities**

The proposed work for this project involves the installation of new water mains as well as the removal/abandonment and replacement of operating water mains in Rights-Of-Way with both vehicular and pedestrian traffic. The CONTRACTOR shall perform their work taking all proper precautions and safety measures to insure a safe work area. The work shall be so conducted to maintain existing utility systems in operation. All utilities that occupy or are adjacent to the subject construction site are to remain in

operation. The CONTRACTOR shall coordinate all construction activities with the Orange County Resident Inspectors.

**F. CONTRACTOR Use of Premises**

Confine operations at the site to areas permitted by applicable laws, ordinances, permits, and by the Contract Documents. Do not unreasonably encumber the site with materials or equipment. The CONTRACTOR shall assume full responsibility for protection and safekeeping of products stored on the job site.

**G. Coordination**

- A. The CONTRACTOR shall be fully responsible for the coordination of his work and the work of his employees, subcontractors, and suppliers and to assure compliance with schedules.
- B. The coordination requirements of this Section are in addition to the requirements of this Specification Document.
- C. It is the CONTRACTOR's responsibility to coordinate with all the utilities regarding locates, protection of existing facilities, testing, or relocations.

**H. Cutting and Patching**

- A. Cutting and patching for inspection and testing and the payment therefore shall be as specified in the General Conditions and Supplementary Conditions.
- B. The CONTRACTOR shall, at no additional expense to the OWNER, perform cutting and patching necessary for the completion of the Project. Perform cutting and patching in a manner to prevent damage to the facilities or previously completed work.
- C. Refinish surfaces as necessary to provide an even finish. Refinish continuous surfaces to the nearest intersection.

**I. Drawings and Project Manual**

- A. The Utility Work associated with the new water main along the Sherry Court as well as the relocation of the existing County utility lines on Sherry Drive and Kelvington Drive shall be performed in accordance with the Drawings and Specifications prepared by OCU.
- B. The CONTRACTOR shall verify all dimensions, quantities and details shown on the Utility Drawings and Roadway Drawings, Supplementary Drawings, Schedules, Specifications or other data received from the ENGINEER, and shall notify the same, in writing, of all errors, omissions, conflicts and discrepancies found therein with adequate notice. Failure to discover or correct errors, conflicts or discrepancies shall not relieve the CONTRACTOR of full responsibility for unsatisfactory Work, faulty construction or improper operation resulting there from, nor from rectifying such conditions at his own expense.

C. All schedules are given for the convenience of the ENGINEER and the CONTRACTOR and are not guaranteed to be complete. The CONTRACTOR shall assume all responsibility for the making of estimates of the size, kind, and quantity of materials and equipment included in the Work to be done under this Contract.

D. **Intent**

1. All work called for in the Specifications applicable to this Contract, but not shown on the Drawings in their present form, or vice versa, shall be of like effect as if shown or mentioned in both. Work not specified in either the Drawings or in the Specifications, but involved in carrying out their implied intent or in the complete and proper execution of the Work, is required and shall be performed by the CONTRACTOR as though it were specifically delineated or described.
2. Items of material, equipment, machinery, and the like may be specified on the Drawings and not in the Specifications. Such items shall be provided by the CONTRACTOR in accordance with the specification on the Drawings.
3. The apparent silence of the Specifications to any detail, or the apparent omission from them of a detailed description concerning any Work to be done and materials to be furnished, shall 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 these Specifications shall be made upon that basis.

J. **Weather**

During inclement weather, all work which might be damaged or rendered inferior by such weather conditions shall be suspended. The orders and decisions of the ENGINEER as to suspensions shall be final and binding. During suspension of the Work from any cause, the Work shall be suitably covered and protected so as to preserve it from injury by the weather or otherwise; and, if the ENGINEER will so direct, the rubbish and surplus materials shall be removed.

K. **Protection and Restoration**

A. The CONTRACTOR shall be responsible for the preservation of all public and private property, and shall use every means of protection necessary to prevent damage thereto. If any direct or indirect damage is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the Work on the part of the CONTRACTOR, such property shall be restored by the CONTRACTOR, at his expense, to a condition equal to or better than that existing before the damage was done, or he shall make good the damage in other manner acceptable to the ENGINEER.

B. **Protection of Trees and Shrubs**



1. Protect with boxes or other barricades.
  2. Do not place excavated material so as to injure trees or shrubs.
  3. Support trees to prevent root disturbances during nearby excavation.
  4. Ordered tree removal shall be paid for under the appropriate Contract Items.
- C. Trees or shrubs destroyed by negligence of the CONTRACTOR or his employees shall be replaced by him with new stock of similar size and age, at the proper season and at the sole expense of the CONTRACTOR.
- D. Lawn Areas – All lawn areas disturbed by construction shall be replaced with like kind to a condition similar or equal to that existing before construction. Where sod is to be removed, it shall be carefully removed, and the same re-sodded, or the area where sod has been removed shall be restored with new sod in the manner described in the applicable section.
- E. The CONTRACTOR shall be responsible for locating and protecting and/or relocating all utilities lines, including irrigation lines, in the areas of the construction activities. If any existing lines are broken or damaged as a result of construction activities, the CONTRACTOR shall be responsible for repairing the lines at no additional cost to the OWNER.

**L. Delivery and Storage**

**A. General**

1. The CONTRACTOR shall be responsible for all material, equipment and supplies sold and delivered to the OWNER under this Contract until final inspection of the Work and acceptance thereof by the OWNER.
2. All materials and equipment to be incorporated in the Work shall be handled and stored by the CONTRACTOR before, during and after shipment in a manner to prevent warping, twisting, bending, breaking, chipping, rusting, and any injury, theft or damage of any kind whatsoever to the material or equipment.
3. Any materials that, in the opinion of the ENGINEER, become damaged to a point where they are unfit for their intended or specified use shall be promptly removed from the site of the Work, and the CONTRACTOR shall receive no compensation for the damaged material or its removal.
4. In the event any such material, equipment or supplies are lost, stolen, damaged or destroyed prior to final inspection and acceptance, the CONTRACTOR shall replace the same without additional cost to the OWNER.

**B. Delivery – The CONTRACTOR shall**

1. Deliver materials in ample quantities to ensure the most speedy and uninterrupted progress of the Work so as to complete the Work within the allotted time.
2. Coordinate deliveries in order to avoid delay in or impediment of, the progress of the Work of any related CONTRACTOR.
3. Schedule deliveries to the site not more than one month prior to scheduled installation without written authorization from the ENGINEER.
4. Arrange deliveries of products in accordance with construction schedules coordinated to avoid conflict with work and conditions at the site.
5. Deliver products in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.
6. Immediately upon delivery, inspect shipments with the OWNER'S field representative to ensure compliance with requirements of Contract Documents and approved submittals, and that products are properly protected and undamaged.
7. Provide equipment and personnel to handle products by methods recommended by the manufacturer to prevent soiling or damage to products or packaging.
8. Submit operation and maintenance data to the ENGINEER for review prior to shipment of equipment.

C. Storage

1. The CONTRACTOR shall be responsible for securing a location for on-site storage of all material and equipment necessary for completion of this project.
2. All material delivered to the job site shall be protected from dirt, dust, dampness, water and any other condition detrimental to the life of the material from the date of delivery to the time of installation of the material and acceptance by the OWNER.
3. Store products in accord with manufacturer's instructions, with seals and labels intact and legible.
4. When required or recommended by the manufacturer, the CONTRACTOR shall furnish a covered, weather protected storage structure providing a clean, dry, non-corrosive environment for all mechanical equipment, valves, architectural items, electrical and instrumentation equipment, and special equipment to be incorporated into this project.
5. The CONTRACTOR shall arrange the storage area in a manner to provide

easy access for inspection. Periodic inspections of stored products shall be done to assure that products are maintained under specified conditions and free from damage or deterioration.

6. The CONTRACTOR shall carefully review and comply with the manufacturer's storage instructions. These instructions shall be carefully followed and a written record of this kept by the CONTRACTOR.
7. Moving parts shall be rotated a minimum of once weekly to ensure proper lubrication and to avoid metal-to-metal "welding".
8. Mechanical equipment to be used in the Work, if stored for longer than ninety (90) days, shall have the bearings cleaned, flushed and lubricated prior to testing and start-up, at no extra cost to the OWNER.

**D. Specific Material Storage Requirements**

1. Loose Granular Materials: Store in a well-drained area on solid surfaces to prevent mixing with foreign matter.
2. Cement, Sand and Lime: Stored under a roof and off the ground and kept completely dry at all times.
3. Brick, Block and Similar Masonry Products: Handle and store in a manner to reduce breakage, chipping, cracking and spilling to a minimum.
4. All structural and miscellaneous steel and reinforcing steel: Store off the ground or otherwise to prevent accumulations of dirt or grease, and in a position to prevent accumulations of standing water and to minimize rusting.

Should the CONTRACTOR fail to take proper action on storage and handling of equipment supplied under this Contract, within seven days after written notice to correct the deficiencies, the OWNER retains the right to correct all deficiencies noted in previously transmitted written notice and deduct the cost associated with these corrections from the CONTRACTOR's Contract. These costs may be comprised of expenditures for labor, equipment usage, administrative, clerical, and Engineering and any other costs associated with making the necessary corrections. In any event, equipment and materials not properly stored will not be included in a payment estimate. Any materials not suitable for use will be removed from the site and replaced with new materials.

**M. Manufacturer's Instructions for Installation**

- A. Comply with manufacturer's printed instructions, obtain and distribute copies of such instructions to all parties involved in the installation, including two copies for the ENGINEER's use. Maintain one set of complete instructions at the job site during installation and until completion. Copies of all instructions shall also be included in the Operation and Maintenance Manuals, which are provided to the OWNER at the close of the contract.

- B. Contractor shall install all pipes per manufacturer's requirements. The pipe manufacturer will provide at no cost to the Contractor a preconstruction meeting to go over the general assembly requirements and provide certification of training to Contractor's personnel. The Contractor must provide proof of the workers certification to the County that all crews installing pipe have been trained and that all pipe has been installed as instructed by the manufacturer.
- C. Handle, install, connect, clean, condition and adjust products in strict accordance with such instructions and in conformity with specified requirements. Should job conditions or specified requirements conflict with the manufacturer's instructions, consult with the ENGINEER for further instructions. Do not proceed with Work without clear instructions.
- D. Perform Work in strict accordance with manufacturer's instructions. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents.
- E. The CONTRACTOR shall have on hand sufficient proper equipment and machinery of ample capacity to facilitate the installation of the Work and to handle all emergencies normally encountered in Work of this character.
- F. Equipment shall be installed in a neat and workmanlike manner on the foundations at the locations and elevations shown on the Plans, unless directed otherwise in writing by the ENGINEER during installation.
- G. All equipment shall be correctly aligned, leveled and adjusted for satisfactory operation and shall be installed so that proper and necessary connections can be made readily between the various units.
- H. The CONTRACTOR shall furnish, install and protect all necessary anchor and attachment bolts and all other appurtenances needed for the installation of the devices included in the equipment specified. Anchor bolts shall be as approved by the ENGINEER and made of ample size and strength for the purposes intended. The manufacturer shall furnish substantial templates and working drawings for installation.

**N. Construction Field Engineering**

- A. Registered Land Surveyor: The CONTRACTOR shall retain the services of a registered land surveyor licensed in the State of Florida for the following specific services as applicable to the Work:
  - 1. Identify existing rights-of-ways and property lines along or adjacent to the Work;
  - 2. Locate all existing utilities and structures as may be affected by the Work;
  - 3. Locate control points prior to starting the Work;
  - 4. Replace control points or reference points which may be lost or destroyed.

5. CONTRACTOR is to provide a preliminary set of Record Drawings that reflect any changes to the alignment or connections to existing facilities for the purpose of Certification of Construction Completion to FDEP for clearance of the lines. This As-built information is to be provided to the County prior to the pressure testing of the new line.
  6. Prepare a certified survey of the actually constructed facilities based on information concurrent with the construction progress. This site survey shall be in accordance with Section 01720.
- B. CONTRACTOR shall protect control points prior to starting the Work and shall preserve all permanent reference points during construction. Report to the OWNER when any reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.

The CONTRACTOR shall bear the cost of re-establishing project control points if disturbed, and bear the entire expense of rectifying Work improperly installed due to not maintaining or protecting and removing without authorization such established points, stakes, and marks.

#### C. Submittals

1. Certificate signed by a Registered Surveyor certifying that elevations and locations of improvements are in conformance, or non-conformance, with Contract Documents.
2. Certified, signed and sealed drawings, including a PDF file of the signed drawings, showing locations of all structures, piping conduits and other improvements. These drawings are referenced as the Project Record Drawings and shall be included with the Project Record Documents.
3. Completed Record Drawing Tables.
4. Documentation to verify accuracy of field engineering work when requested by the ENGINEER.
5. Electronic version of record drawing survey in the latest version of AutoCAD.

**A. Utilities**

**A. Utility Construction**

1. Public utility installations and structures shall be understood to include all poles, tracks, pipes, wires, conduits, house service connections, vaults, manholes and all other appurtenances and facilities pertaining thereto, whether owned or controlled by governmental bodies or privately owned by individuals, firms or corporations, used to serve the public with transportation, traffic control, gas, electricity, telephone, sewerage, drainage or water. Other public or private property, which may be affected by the work shall be deemed included hereunder.
2. All open excavations shall be adequately safeguarded by providing temporary barricades, caution signs, lights and other means to prevent accidents to persons, and damage to property. The CONTRACTOR shall, at their own expense, provide suitable and safe bridges and other crossings for accommodating travel by pedestrians and workmen. Bridges provided for access to private property during construction shall be removed when no longer required.
3. The length of open trench will be controlled by the particular surrounding conditions, but shall always be no more than 300 feet. If the excavation becomes a hazard, or if it excessively restricts traffic at any point, the OWNER may require special construction procedures. As a minimum, the CONTRACTOR shall conform to the following restoration procedures:
  - a. Interim Restoration: All excavations shall be backfilled and compacted as specified by the end of each working day. For excavations within existing paved areas, concrete base or soil cement base shall be spread and compacted to provide a relatively smooth surface free of loose aggregate material.

All pipe and fittings shall be stored in a location inside the easement area, which will cause the least disturbance to the public. All debris shall be removed and properly disposed of by the end of each working day.
  - b. Maintenance of all restored facilities shall be the CONTRACTOR's responsibility. This maintenance shall be performed on an on-going basis during the course of construction.

The CONTRACTOR's Progress Schedule shall reflect the above restoration requirements.

**B. Existing Utilities**

1. The locations of all existing underground piping, structures and utilities have been taken from information received from the respective OWNER.

The locations are shown without express or implied representation, assurance, or guarantee that they are complete or correct or that they represent a true picture of underground piping to be encountered.

2. The CONTRACTOR shall, at all times in performance of the Work, employ approved methods and exercise reasonable care and skill so as to avoid unnecessary delay, injury, damage or destruction of existing public utility installations and structures; and shall, at all times in the performance of the Work, avoid unnecessary interference with, or interruption of, public utility services; and shall cooperate fully with the Owners thereof to that end.
3. Pipelines shall be located substantially as indicated on the Drawings, but the OWNER reserves the right to make such modifications in locations as may be found desirable to avoid interference with existing structures or for other reasons. When the location of piping is dimensioned on the Drawings, it shall be installed in that location; when the location of piping is shown on a scaled drawing, without dimensions, the piping shall be installed in the scaled location unless the OWNER approves an alternate location for the piping. Where fittings are noted on the Drawings, such notation is for the CONTRACTOR's convenience and does not relieve him from laying and jointing different or additional items where required. The ENGINEER may require detailed pipe laying drawings and schedules for project control.
4. The CONTRACTOR shall exercise care in any excavation to locate all existing piping and utilities. All utilities, which do not interfere with the completed work shall be carefully protected against damage. Any existing utilities damaged in any way by the CONTRACTOR shall be restored or replaced by the CONTRACTOR at his expense as directed by the OWNER. Any existing facilities that require operation to facilitate repairs shall be performed only by the OWNER of the respective utility.
5. It is the responsibility of the CONTRACTOR to ensure that all utility or other poles, the stability of which may be endangered by the proximity of excavation, be temporarily stayed and/or shored in position while Work proceeds in the vicinity of the pole and that the utility or other companies concerned be given reasonable advance notice of any such excavation by the CONTRACTOR.

#### C. Notices

1. All governmental utility departments and other owners of public utilities which, may be affected by the Work will be informed in writing by the CONTRACTOR within two weeks after the execution of the Contract or Contracts covering the Work. Such notice will be sent out in general, and

directed to the attention of the governmental utility departments and other owners of public utilities for such installations and structures as may be affected by the Work.

2. The CONTRACTOR shall also comply with Florida Statute 553.851 regarding notification of existing gas and oil pipeline company owners. Evidence of such notice shall be furnished to the OWNER within two weeks after the execution of the Contract.
3. It shall be the CONTRACTOR's responsibility to contact utility companies at least 48 hours in advance of breaking ground in any area or on any unit of the Work so maintenance personnel can locate and protect facilities, if required by the utility company.
4. The CONTRACTOR shall, not be allowed to interrupt a utility service (water, sewer, etc.) for the purpose of making cut-ins to the existing lines or for any other purposes.

#### D. Exploratory Excavations

Exploratory excavations shall be conducted by the CONTRACTOR for the purpose of locating underground pipelines, other utilities or structures in advance of the construction. Test pits shall be excavated in areas of potential conflicts between existing and proposed facilities and at piping connections to existing facilities a minimum of 48 hours or 1,000 feet in advance of Work. If there is a potential conflict, the CONTRACTOR is to notify the ENGINEER immediately. Information on the obstruction to be furnished by the CONTRACTOR shall include: Location, Elevation, Utility Type, Material and Size. Test pits shall be backfilled immediately after their purpose has been satisfied and the surface restored and maintained in a manner satisfactory to the ENGINEER.

#### E. Utility Crossings

It is intended that whatever existing utilities must be crossed, deflection of the pipe within specified limits and cover shall be used to satisfactorily clear the obstruction unless otherwise indicated on the Drawings. However, when in the opinion of the OWNER this procedure is not feasible, he may direct the use of fittings for a utility crossing or conflict transition as detailed on the Drawings.

#### F. Relocations

1. Relocations shown on the Drawings – Public utility installations or structures, including but not limited to light poles, signs, fences, piping, conduits and drains that interfere with the positioning of the Work which are shown on the Drawings to be removed, relocated, replaced or rebuilt by the CONTRACTOR shall be considered as part of the general cost of



doing the Work and shall be included in the prices bid for the various contract items. No separate payment shall be made therefore.

2. Relocation not shown on the Drawings
  - a. Where public utility installations or structures are encountered during the course of the Work, and are not indicated on the Drawings or in the Specifications, and when, in the opinion of the OWNER, removal, relocation, replacement or rebuilding is necessary to complete the Work under this contract, such Work shall be accomplished by the utility having jurisdiction, or such Work may be ordered, in writing by the OWNER, for the CONTRACTOR to accomplish.
  - b. If such Work is accomplished by the utility having jurisdiction, it will be carried out expeditiously and the CONTRACTOR shall give full cooperation to permit the utility to complete the removal, relocation, replacement or rebuilding as required. If such Work is accomplished by the CONTRACTOR, it will be paid for as a Change Order.
3. All existing utility castings, including valve boxes, junction boxes, manholes, hand holes, pull boxes, inlets and similar structures in the areas of construction that are to remain in service and in areas of trench restoration and pavement replacement, shall be adjusted by the CONTRACTOR to bring them flush with the surface of the finished Work.
4. All existing utility systems which conflict with the construction of the Work herein, which can be temporarily removed and replaced, shall be accomplished at the expense of the CONTRACTOR. Work shall be done by the utility unless the utility approves in writing that the Work may be done by the CONTRACTOR.

#### G. Lines and Grades

1. All Work under this Contract shall be constructed in accordance with the line and grades shown on the Drawings, or as given by the ENGINEER. The full responsibility for keeping alignment and grade shall rest upon the CONTRACTOR.
2. The CONTRACTOR shall, at his own expense, establish all working or construction lines and grades as required from the project control points set by the OWNER, and shall be solely responsible for the accuracy thereof.

3. Water main shall have a minimum of 36-inches of cover over the top of the pipe. Cover shall vary to provide long uniform gradient or slope to pipe to minimize air pockets and air release valves. The stationing shown on the Drawings for air and vacuum release valve assemblies are approximate and the CONTRACTOR shall field adjust these locations to locate these valves at the highest point in the pipeline installed. All locations must be approved by the OWNER.
4. To insure a uniform gradient for gravity pipe and pressure pipe, all lines shall be installed using the following control techniques as a minimum:
  - a. Pressure Lines: control stakes set at 50 ft intervals using surveyors level instrument.

**B. Special Project Procedures**

**A. Construction Phasing**

Construction of the project shall be in accordance with the roadway construction schedule. CONTRACTOR shall adjust the schedule and/or MOT to provide for utility installations at no additional cost to Orange County.

**B. Maintenance of Traffic**

Refer to roadway construction documents for maintenance of traffic requirements.

**C. Operation of existing Utility Systems**

Due to the utility systems providing service to residents and businesses, all Orange County Utility systems shall be required to remain in service and not be shut down to accommodate construction activities. Contractor to sequence all work so that water and sewer service is maintained at all times.

- D.** Contractor to provide a bacteriological sampling plan that is in accordance with the approved FDEP permit for sampling locations for all installed water mains no less than 30 days prior to the first request for clearance. Contractor shall provide all sample points as needed for partial and final water main clearances. Sample points are not paid separately and included the cost of all pipe taps fittings, etc. At a minimum, sample points are required in all straight runs of pipe spaced no greater than 1,000 LF intervals, all service connections over 4", temporary ends of partially cleared lines and any connection to an existing water main.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

**END OF SECTION**

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## SECTION 01025

### MEASUREMENT AND PAYMENT

#### PART 1 GENERAL

##### 1.1 DESCRIPTION

- A. Payment for all Work done in compliance with the Contract Documents, inclusive of furnishing all manpower, equipment, materials, and performance of all operations relative to construction of this project, will be made under Pay Items listed herein. Work for which there is not a Pay Item will be considered incidental to the Contract and no additional compensation will be allowed.
- B. The OWNER reserves the right to alter the Drawings, modify incidental work as may be necessary, and increase or decrease quantities of work to be performed to accord with such changes, including deduction or cancellation of any one or more of the Pay Items. Changes in the work shall not be considered as a waiver of any conditions of the Contract nor invalidate any provisions thereof. When changes result in changes in quantities of Work to be performed, the Contractor will accept payment according to Contract Unit Prices that appear in the original Contract. A supplemental agreement between the CONTRACTOR and the OWNER will be required when such changes involve a net increase or decrease of more than 25 percent of the estimated quantity of a payment item where the item amounts to 10% or more of the Contract Price.
- C. Quantities necessary to complete the work as shown on the Drawings or as specified herein shall govern over those shown in the Proposal. The CONTRACTOR shall take no advantage of any apparent error or omission in the Drawings or Specifications, and the ENGINEER shall be permitted to make corrections and interpretations as may be deemed necessary for fulfillment of the intent of the Contract Documents.
- D. The ENGINEER will make measurements and determinations as necessary to classify the work within pay items and determine the quantities for pay purposes; such decisions will be final after 3 days if the CONTRACTOR does not submit a written notice as defined in the following paragraph.
- E. If the CONTRACTOR differs with the ENGINEER'S classification of the Pay Items or determination of quantities of the Pay Items, he must notify the ENGINEER in writing within 3 days of the time that the CONTRACTOR is informed of the ENGINEER'S decision. Otherwise the OWNER will not consider any such difference as a claim for payment.
- F. Failure on the part of the CONTRACTOR to construct any item to plan or authorized dimensions within the specification tolerances shall result in reconstruction to acceptable tolerances at no additional cost to the OWNER,

acceptance at no pay, or, acceptance at reduced final pay quantity or reduced unit price, all at the discretion of the ENGINEER.

- G. The quantity for a payment item will be revised only in the event that it is determined to be substantially in error. An error shall be deemed substantial if the quantity will increase or decrease in excess of five percent of the original quantity for that item or the amount due for that item will increase or decrease in excess of \$500 (whichever is smaller). In general, such revisions will be determined by final measurement or plan calculations or both as additions to or deduction from plan quantities specified within these Contract Documents.
- H. Work shall not be considered complete until all testing has been satisfactorily completed and the item of work has demonstrated compliance with plans and specifications.
- I. A preliminary monthly application for payment shall be submitted to the OWNER for review five (5) days prior to the submittal for approval of the CONTRACTOR'S monthly payment request.
- J. All materials supplied for this project shall be in accordance with the latest edition of "Orange County Utilities Standards and Construction Specifications Manual, Appendix D – List of Approved Products". Products that are submitted for use on this project that are not on the approved list will not be considered as acceptable for use.

## **1.2 APPLICATION FOR PAYMENT**

- A. Applications for Payment shall be submitted by the CONTRACTOR to the OWNER'S Resident Project Representative (RPR) in accordance with the schedule established by General Conditions and Agreement between the Owner and the Contractor.
- B. Format
  - 1. Submit applications typed on forms provided by the OWNER. The CONTRACTOR shall prepare itemized continuation sheets using the accepted Schedule of Values and attach them to the Application. Each item shall have an assigned dollar value for the current pay period, and a cumulative value for the project to date. Change Orders executed prior to the date of submission shall be listed at the end of the continuation sheets and shall be totaled separately.
  - 2. The following items shall be included with each copy of the application for payment:
    - a. Progress Schedule
    - b. Stored Material Log
    - c. Partial Release of Liens (for payment for stored material)
    - d. Consent of Surety

- e. Invoices for Stored Material
  - f. Updated record drawings
3. The CONTRACTOR shall certify, for each current pay request, that all previous payments received from the OWNER, under his Contract, have been applied by the CONTRACTOR to discharge in full all obligations of the CONTRACTOR in connection with Work covered by prior applications for payment, and all materials and equipment incorporated into the Work are free and clear of all liens, claims, security interest and encumbrances. CONTRACTOR shall attach to each application for payment like affidavits by all Subcontractors and Suppliers. CONTRACTOR shall also attach a "Consent of Surety" to each application for payment. Additionally, a "Partial Release of Lien" for each subcontractor and supplier shall be attached to each application for payment.
4. Submit seven (7) copies of each application to the Resident Project Representative. Each copy shall include original signatures. The Resident Project Representative shall review the application and verify quantities of installed work and stored materials. Upon RPR approval, the CONTRACTOR shall submit the application to the OWNER for review. When the OWNER finds the application properly completed and correct, the OWNER will make payment to the CONTRACTOR.
- C. Work not installed in accordance with the requirements of the Contract Documents or materials not conforming to the Contract Documents will not be approved by the Resident Project Representative, OWNER or OWNER/ENGINEER for payment.
- D. The Application for Final Payment shall be prepared in accordance with Section 01750 Contract Closeout.
- E. Methods of Measurement
- 1. Units of measurement shall be defined in general terms as follows:
    - a. Linear Feet (LF)
    - b. Square Feet (SF)
    - c. Square Yards (SY)
    - d. Cubic Yards (CY)
    - e. Each (EA)
    - f. Sacks (SK)
    - g. Lump Sum (LS)
  - 2. Unit Price Contracts/Items
    - a. Linear Feet (LF) shall be measured along the horizontal length of the centerline of the installed material, unless otherwise specified.

Pipe shall be measured along the length of the completed pipeline, regardless of the type of joint required, without deduction for the length of valves or fittings. Pipe included within the limits of lump sum items will not be measured.

- b. Square Feet (SF), Square Yards (SY), Cubic Yards (CY), Each (EA) and Sacks (SK) shall be measured as the amount of the unit of measure installed within the limits specified and shown in the Specifications and Drawings. Slope angles and elevations shall be measured by land surveying equipment. CONTRACTOR shall provide supporting documentation (i.e., drawings, truck tickets, invoices, etc.) to verify actual installed quantities.
- c. No measurement is required for Lump Sum (LS) items.

3. Lump Sum Contract/Items

The Measurement of Work for lump sum contracts and/or items shall be based on the information provided in the Contract Documents and compiled through the CONTRACTOR'S own field verifications, investigations and testing prior to Bidding.

- F. The following describes the specific work and methods of measurement for the items listed in the Bid Schedule. Measurement and payment for each Bid Item shall include all labor, materials and equipment required to perform the work included for that respective item to provide a complete and operable installation. Related work not specifically listed or identified, but evidently necessary for satisfactory completion of the item, shall be considered to be included.
- G. No separate payment will be made for the following work, and its cost shall be included in the appropriate payment item:
  - Applications and pulling of all utility and construction permits;
  - Shop drawings, working drawings and samples;
  - Field engineering, surveying and layout;
  - Clearing and grubbing;
  - Trench excavation, sheeting, shoring and bracing;
  - Locating and supporting existing utilities;
  - Structural fill, backfill, compaction and grading;
  - Sodding;
  - Cleanup;
  - Testing materials and apparatus, including provisions for water to fill, flush and test mains;
  - Maintenance of utility service;
  - Fittings and pipe restraints;



## **PART 2 PAY ITEMS**

### **2 Mobilization and Demobilization (OCU 1)**

#### **A. Work Includes**

Measurement for mobilization and demobilization will be lump sum.

Amount shall be less than 5% of total of the utility pay OCU 2. Payment shall be based on the Contractor's estimated percentage of completion as approved by Owner with 50% allowed at the beginning of the project and 50% upon completion of the project.

#### **B. Measurement**

The units of measurement for this item will be Lump Sum.

### **2.1 Water Main (OCU 2)**

#### **A. Work Includes**

- a) Furnishing all labor, materials, bonds, MOT, dewatering, equipment and constructing the respective pipeline's complete installation including clearing and grubbing, protection of existing utilities, excavation, sheeting, shoring and bracing, backfill, compaction, grading, temporary erosion control, survey, layout, pipeline identification and warning tape, thrust restraints, sodding, all testing (including pressure and bacteriological), flushing or pigging, disposal of excess material, open cut and restoration of roadway or other areas within the project limits disturbed. This item also includes all necessary pipe fittings including reducers, line stops, bends, tees, wyes, gate valves, sleeves, restraining devices, nuts, bolts, gaskets, line location wires, removal and restraint of existing pipes as required, replacement of sidewalks, removal and replacement of fences, mailboxes, shrubs, irrigation sprinklers, and other obstructions, tree removal or protection, installation of silt fence, connection to (and mechanical restraint of) existing pipes or structures, removal and disposal of existing mains or service lines as called for in the plans and all other items incidental to the construction of the pipelines. Furnish and install fire hydrant including dewatering, excavation, fitting at water main as well as connection to it, installation of gate valve and box, installation of hydrant, all pipe as needed for main line to the location shown per plan, concrete shear pad, and blue reflective pavement marker at hydrant, painting of hydrant, bedding rock, backfill, accessories, thrust restraint, disinfection, bacteriological and leakage testing, hydrant extension if approved by County, restoration and pipe. Furnish and install blow off valve assemblies of the size and type for water mains as specified and shown on the Contract Drawings. This shall include valves with valve boxes, excavation, backfilling, sheeting, shoring, bracing, trench safety, dewatering, installation of blow off valve assembly including piping, gate valve, valve boxes, tapped pipe cap, stone, backfilling, compaction and sodding where required. Contractor shall provide certification that all pipes were properly installed as per the manufacturer's requirements. This pay item also includes Record Drawings as specified in Section 1720 and Survey as specified in Section 1050.

**B. Measurement**

The units of measurement for this item will be Lump Sum, which payment shall be full compensation for water main including all necessary labor, materials, equipment and transportation for a complete and working installation

**END OF SECTION**

**SECTION 01050**  
**SURVEYING AND FIELD ENGINEERING**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

- A. Professional Surveyor: Provide professional surveying and mapping work required for the execution of the Contract, including verification of existing survey data, construction layout, and production of the As-Built Drawings. This Work shall be performed by a Surveyor that is licensed by the State of Florida as a Professional Surveyor and Mapper pursuant to Chapter 472, F.S.
- B. Professional Engineer: The Contractor shall provide the services of a Registered Professional Engineer currently licensed in the State of Florida for the required field engineering services as applicable to the work.

**1.2 REQUIREMENTS**

**A. Survey Services**

- 1. The Contractor shall retain the services of a registered Surveyor and Mapper licensed in the State of Florida to provide professional surveying and mapping services necessary for the construction including a control survey and an as-built survey during construction. The Surveyor will identify control points (monuments and benchmarks noted on the Drawings). The construction layout survey shall be established from the control points shown on the Construction Drawings. The control points shall be confirmed by the contractor prior to start of construction. The accuracy of any method of staking shall be the responsibility of Surveyor. All staking shall be done to provide for easy verification of the work by the County.

**B. Field Engineering Services**

- 1. The Engineer shall be of the discipline required for the work.
- 2. The Engineer shall be responsible for duties during Construction to include, but not limited to:
  - a. Inspections, testing, witnessing requiring a licensed Professional Engineer.
  - b. Design of temporary shoring, bridging, scaffolding or other temporary construction, formwork and protection of existing structures.
  - c. Other requirements as specified herein.
- 3. Engineering related designs and inspections shall be signed by the licensed Professional Engineer as required by the County.

**1.3 SUBMITTALS**

**A. Provide qualifications of the Surveyor or Engineer.**

- 1. A Florida Registered Professional Engineer or Registered Surveyor and Mapper, who is proposed by the Contractor to provide services for the work, shall be acceptable to the County prior to field services being performed.

2. Submit name, address and telephone number of the Surveyor and/or Engineer, as appropriate to the County for acceptance before starting survey or engineering work.
  3. Submit written acknowledgement from the Surveyor stating that he has the hardware, software and adequate scope of services in his agreement with the Contractor to fully comply with the requirements of this specification.
- B. On request, submit documentation verifying accuracy of survey work.
- C. Surveyor shall submit certified Tables 01050 – 2, 3 and 4.

## **PART 2 - PRODUCTS**

### **2.1 SURVEY DOCUMENTS**

- A. Survey documents shall comply with the Minimum Technical Standards of Chapter 5J-17 of the Florida Administrative Code (FAC) and Table 01050-1 Minimum Survey Accuracies, whichever are more stringent. All coordinates shall be geographically registered in the Florida State Plane Coordinate System using the contract Drawings control points for horizontal and vertical controls.
- B. The Surveyor shall not copyright any of their work related to this project.
- C. For ease of calculating pipe deflections in Table 01050-3, begin by providing a unique asset ID for each utility (water, wastewater or reclaimed water) type, numbered sequentially along the pipe run (including changes in direction) from start to finish of the pipe in Table 01050-2 (Pipe Worksheet). Then branches and services of the same utility type can be numbered. It is recommended that each utility numbering format be distinguishable from the other. This will allow organization and convenient sorting after the individual asset table worksheet tabs are combined in the spreadsheet program prior to copying and pasting to the deflection table spreadsheet. The Microsoft Excel spreadsheet template shall be provided by the County. The numbering system shall be approved by the County before commencing with production of the spreadsheet.

**Table 01050-1  
Minimum Survey Accuracies**

Type	Horizontal Accuracy (feet)	Elevation Accuracy (feet)	Location: Horizontal Center and Vertical Top, unless otherwise specified
Bench Marks	0.01	0.01	Point
Baseline Control Locational Accuracy	0.01	N/A	Point
Tract and Easement Corners	*	N/A	Survey Monuments
Pipe, at 100-foot maximum intervals	0.1	0.1	Pipe, Pipe at Valves, Pipe at Bore & Jack Casing
Pipe, (PVC) >16-inch at every pipe joint	0.1	0.1	Pipe, Pipe at Valves, Pipe at Bore & Jack Casing
Fittings, Sleeves, Tapping Saddle, Service Saddles, Cap or Plugs.	0.1	0.1	
Pipe, Restrained	0.1	0.1	Restrained Joint Limits
Connections	0.1	0.1	Pipe
Bore & Jack Casing	0.1	0.1	Top of Casing at the Casing Limits
Directional Drill	0.1	0.1	10-foot intervals during the directional drill operation or intervals not to exceed the drilling rod length
Hydrants	0.1	0.1	Operating Nut
Valves (Operating Nut)	0.1	0.1	Operating Nut
Valve (Pipe Location)	0.1	0.1	Top of Pipe at Valve location
Air Release, Blow off, and Backflow Valves	0.1	0.1	Valve Enclosure
Master Meters, Deduct Meters & Wastewater Meters	0.1	0.1	Register
Meter Box	0.1	0.1	
Clean out -	0.1	0.1	
Manhole Rim	0.1	0.1	Manhole – top of rim
Manhole Inverts	N/A	0.01	Pipe Inverts
Pump Station (Public & Private)	0.1	0.01	Wetwell top of slab and Pipe Inverts
Production Well or Monitoring Well	0.1	0.1	Well – top of casing
Grease Interceptor	0.1	0.1	
Oil / Water Separators	0.1	0.1	
Pipe, abandoned in place or removed	0.1	0.1	Limits of Abandoned or Removed Pipe
Existing Utilities and appurtenant structures**	0.1	0.1	underground feature or structure
<p>* Shall conform to the requirements of the "Chapter 5J-17, 'Minimum Technical Standards', FAC", certified by a SURVEYOR.</p> <p>** Existing utilities including but not limited to water, wastewater, reclaimed water, stormwater, fiber optic cable, electric, gas and structures within the limits of construction.</p> <p>*** Fittings rotated in X,Y,Z plane or vertical shall be shot to maintain flowline for the horizontal and vertical locations of the coordinate</p>			
<p>Note: All survey values to be reported to second decimal point (x.xx)</p>			

**TABLE 01050-2  
Asset Attribute Data Examples**

**Hydrants Worksheet**

A	C	D	E	F	G	H	I
ID Number	Plan Sheet #	Easting	Northing	Elevation	Manufacturer	Model #	Comments
1	PH-1	C-7	518455.40	1483713.63	49.53	Brand B	XJ7-B
2	PH-2	C-9	518477.98	1483758.95	54.23	Brand B	XJ7-B
3							
4							

**Valves Worksheet**

A	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
ID Number	Plan Sheet #	Easting	Northing	Elevation	Valve Type	Main Type	Valve Size	Valve Manufacturer	Valve Model #	# of Turns to Close	Gear Actuator	Gear Ratio	Side Actuator	Actuator Manufacturer	Comments
2	ARV-1	C300	518060.09	1483231.33	81.72	ARV - Combination	Water Main	2	Brand H	100XT					
3	ARV-1	C303	518083.55	1483280.50	81.15	ARV - Vacuum Backflow Preventer	Force Main	4	Brand G	1000					
4	BFP-1	C303	516086.00	1483282.88	79.21	Blowoff	Reclaimed Water Main	8	Brand F	2000 fgs					
5	BO-9	C405	518088.83	1483289.43	79.20	Butterfly	Water Main	2	Brand E	14 turbo					
6	BEV-1	C405	518088.11	1483295.00	81.95	Gate	Water Main	30	Brand D	230 xis	200	Yes	3 to 1	Yes	Brand C
7	GV-3	C405	518132.54	1483372.75	81.23	Line Stop	Water Main	16	Brand C	2225846	300	Yes	3 to 1	NO	
8	LS-W1	C405	578779.38	1539708.97	64.30	Force Main	Water Main	16	Brand B	76r44					
9	PV-22	C405	576880.80	1539718.32	64.52		Force Main	12	Brand A	Z100	200	Yes	3 to 1	Yes	Brand A

**Manhole Worksheet**

A	C	D	E	F	G	H	I	J	K	L	M	N	O	P
ID Number	Plan Sheet #	Easting	Northing	Rim Elevation	Invert Elev N	Invert Elev NE	Invert Elev E	Invert Elev SE	Invert Elev S	Invert Elev SW	Invert Elev W	Invert Elev NW	Manufacturer	Comments
2	SAN-MH01	AT-2	475216.00	1501637.12	115.89								Del Zotto	
3	SAN-MH02	AT-2	474895.63	1501638.02	114.98			110.22					Del Zotto	
4	SAN-MH03	AT-2	474849.33	1501600.22	115.16		109.96		109.86		110.12		Del Zotto	
5	SAN-MH04	AT-2	474850.21	1501418.85	115.91	109.19		110.42		108.58			Del Zotto	
6	SS-1	C1.05A	478117.70	1501622.99	118.13								Del Zotto Products of Florida Inc.	Del Zotto Products of Florida Inc.
7	SS-2	C1.05A	478116.77	1501534.19	117.79	113.41							Del Zotto Products of Florida Inc.	Del Zotto Products of Florida Inc.
8	SS-3	C1.05	478111.28	1501152.49	116.45	111.98							Del Zotto Products of Florida Inc.	Del Zotto Products of Florida Inc.
9	SS-4	C1.05A	478105.19	1500781.07	115.72	110.76		110.75					Del Zotto Products of Florida Inc.	Del Zotto Products of Florida Inc.

**Meter Worksheet**

A	C	D	E	F	G	H
ID Number	Plan Sheet #	Easting	Northing	Elevation	Main Type	Comments
2	MM-1	C-6	576533.84	1539520.08	58.01	Water Main
3	RWMM-1	C-6	576937.42	1539598.78	64.84	Reclaimed Water Main

**Fitting Worksheet**

A	C	D	E	F	G	H	I
ID Number	Plan Sheet #	Easting	Northing	Elevation	Main Type	Fitting Type	Comments
2	FM-1	C-3	572399.28	1539339.13	46.27	Force Main	Bend 11 1/4°
3	FM-2	C-3	574840.74	1539855.91	51.73	Force Main	Bend 22-1/2°
4	RW-1	C-4	574887.22	1539849.64	51.75	Reclaimed Water Main	Cross
5	RW-2	C-4	574904.30	1539849.58	48.98	Reclaimed Water Main	Reducer
6	WM-1	C-5	572532.38	1539848.18	54.42	Water Main	Tapping Saddle
7	WM-2	C-5	572631.00	1539337.10	45.27	Water Main	Tee

**Cleanout Worksheet**

A	C	D	E	F	G	
ID Number	Plan Sheet #	Easting	Northing	Elevation	Comments	
2	CO-1	C-6	576533.84	1539520.08	58.01	
3	CO-2	C-6	576937.42	1539598.42	64.84	Sanitary Service

## Pipes Worksheet

A	C	D	E	F	G	H	I	J	K	L	M
ID Number	Plan Sheet #	Easting	Northing	Elevation	Main Type	Type of Shot	Construction Method	Material	Pressure Class	Manufacturer	Comments
1	CSNG-1	C-4	517827.57	1482195.46	78.83	Force Main	Bore & Jack (Casing)		PVC	DR18	Brand A
2	CSNG-2	C-4	517848.20	1482195.31	78.38	Force Main	Bore & Jack (Casing)		PVC	DR18	Brand A
4	RW-1	C-7	517731.98	1482237.24	80.42	Reclaimed Water Main	Restraint Joint Limit	Open Cut	DIP	Class 250	Brand B
5	RW-2	C-7	517732.85	1482338.10	80.94	Reclaimed Water Main	Restraint Joint Limit	Open Cut	DIP	Class 250	Brand B
6	WM-1	C-9	573309.07	1539372.90	58.10	Water main	Shot on Pipe	Open Cut	PVC	DR18	Brand C
7	WM-2	C-9	573308.75	1539375.00	54.86	Water main	Shot on Pipe	Open Cut	PVC	DR18	Brand C
8	FMDD-1	C-4	504345.94	1488969.20	114.14	Force Main	Shot on Pipe	Directional Drill	HDPE	DR17	Brand X
9	FMDD-2	C-4	504360.86	1488970.50	112.74	Force Main	Shot on Pipe	Directional Drill	HDPE	DR17	Brand X
10	FMDD-3	C-4	504377.19	1488971.20	106.14	Force Main	Shot on Pipe	Directional Drill	HDPE	DR17	Brand X
11	FM-9	C-4	504480.47	1488952.90	105.24	Force Main	Shot on Pipe	Open Cut	PVC	DR18	Brand C
12											

## Pump Station Worksheet

A	C	D	E	F	G
ID Number	Plan Sheet #	Easting	Northing	Elevation	Comments
1					
2	PS-1	C-40	517914.35	1482906.56	83.91
3					

## Well Worksheet

A	C	D	E	F	G	I
ID Number	Plan Sheet #	Easting	Northing	Elevation	Well Type	Comments
1					Well	
2					Monitoring Well	
3						
4						

## Easements Worksheet

A	C	D	E	F	G	H
ID Number	Plan Sheet #	Easting	Northing	Elevation	Boundary Corner Type	Comments
1	Corner-1	C-8	463484.59	1511029.72	Pump Station Tract	N.W. CORNER
2	Corner-2	C-8	463523.24	1511040.01	Pump Station Tract	N.E. CORNER
3	Corner-3	C-8	463480.45	1511015.23	Pump Station Tract	S.W. CORNER
4	Corner-4	C-8	463526.97	1511025.49	Pump Station Tract	S.E. CORNER
5					Easement	
6					Property	
7						
8						
9						

## Existing OC Utility Crossing

A	C	D	E	F	G	H	I
ID Number	Plan Sheet #	Easting	Northing	Existing Pipe Elevation	Proposed Crossing Elevation	Existing Main Type	Comments
1							
2							
3	CR-02	AT-1	474787.95	1500585.09	98.20	106.20	Force Main
4	CR-03	AT-1	475239.63	1500596.35	99.10	113.88	Force Main
5	CR-04	AT-1	475239.61	1500588.49	94.30	112.45	Reclaimed Water Main
6	Conf-1	C-750	463464.47	1511013.75	100.54	104.88	Water main
7	Conf-2	C-750	463163.91	1510893.49	98.32	103.57	Storm Main
8							

## Grease Interceptor

A	C	D	E	F	G	H
ID Number	Plan Sheet #	Easting	Northing	Elevation	Volume (Gallons)	Comments
1						
2	GI-1	C-400	508387.30	1487203.18	89.70	1000.00
3						
4						

**TABLE 01050-3  
Pipe Deflection Data EXAMPLE**

<b>Project</b> <b>Contractor:</b> <b>Progress Mtg Date:</b> <b>Contract #</b> <b>Dwg Sheet #</b> <b>Utility Type</b> <b>Pipe Manufacturer</b> <b>Pipe size &amp; material</b> <b>PVC Manufacturer Deflection</b> <b>County Allowable Deflection</b> 75% <b>Allowable Angle of Offset</b> <b>Allowable Radius of Curvature</b> <b>Laying Length of Pipe</b>	FM National Pipe 16" PVC C905 6 inches 4.5 inches 1.5 degrees 764 feet 20 feet	
--	---	--

ID	Size and Type	Northing	Easting	Elev.	Calculations including Elevation (XYZ)							
					Distance between points AB	Distance between points BC	Distance between points AC	Total Deflection $\theta'$	Radius of Curve**	Average Offset Angle***	Average Offset****	
					Length AB	Length BC	Length AC	XYZ (w elevation)	XYZ (w elevation)	per laying length	per laying length	
					ft	ft	ft	degrees	ft	degrees	inches	
1404	16" FM	1505131.50	468948.53	107.68	-	-	-	-	-	-	-	-
7000	16" FM	1505059.60	468932.08	108.15	73.76	38.93	112.66	5.48	1,178.35	0.97	4.07	
2128	16" FM	1505022.11	468921.80	108.55	38.93	39.61	78.54	2.29	1,961.65	0.58	2.45	
2127	16" FM	1504983.85	468911.35	108.29	39.61	38.35	77.96	1.78	2,505.50	0.46	1.92	
2126	16" FM	1504946.67	468901.98	107.81	38.35	39.13	77.42	8.79	505.16	2.27	9.51	
2125	16" FM	1504908.11	468895.31	107.48								

Data that has been inputted     Values in yellow over spec

\*Uses law of cosines to determine angle ABC and  $\theta$ .  
 $\text{angle } ABC = \arccos((AB^2 + BC^2 - AC^2) / (2 * AB * BC))$   
 $180 - \theta/2 = \text{angle } ABC$   
 Calculate the total deflection  $\theta$ .  
 to the outer point (A or C) is equal in angle to the approach from the next point along the

\*\* Uses law of sines, using the chord length AC and radius R.  
 Since  $\sin((\theta/2) * (PI/180)) = (\text{Chord}/2) / R$  and length AC = Chord  
 $R = AC / (2 * \sin(\theta * PI / 360))$   
 This calculation assumes an average radius over the bend between three points.

\*\*\* Adds the lengths of AB + BC / 20ft to get an approximate number of bends over the span.  
 This value is divided by the total deflection angle to calculate the average bend angle of  
 This assumes that the bend angle consistent across the entire length.

\*\*\*\* Uses average offset angle and laying length of pipe.



## **PART 3 - EXECUTION**

### **3.1 SURVEY FIELD WORK**

- A. Locate, reference, and preserve existing horizontal and vertical control points and property corners shown on the Drawings prior to starting any construction. If the Surveyor performing the work discovers any discrepancies that will affect the Project, the Contractor must immediately report these findings to the County. All survey work shall meet the requirements as defined in Florida Administrative Code 5J-17. Reference and preserve all survey pins/monuments during Construction. If survey pins/monuments are disturbed, it is the responsibility of the Surveyor to reset the pins/monuments at the Contractor's expense. If the monuments are disturbed, any Work that is governed by these monuments shall be held in abeyance until the monuments are reestablished by the Surveyor and approved by the County. The accuracy of all the Contractor's stakes, alignments and grades is the responsibility of the Contractor. However, the County has the discretionary right to check the Contractor's stakes, alignments, and grades at any time. Copies of the Surveyor's field notes and/or electronic files for point replacement shall be provided to the County.
- B. The construction layout shall be established from the reference points shown or listed on the Drawings. The accuracy of any method of staking shall be the responsibility of the Contractor. All construction layout staking shall be done such as to provide for easy verification of the Work.
- C. The Surveyor shall locate all improvements for the project As-Built Asset Attribute Data using State Plane Coordinates as the horizontal datum and the benchmark referenced on the Drawings as the vertical datum. The County will provide electronic files of the Drawings to be used by the Surveyor.
- D. Use survey control points to layout such work tasks including but not limited to:
  - 1. Clearing, grubbing, work limits, right-of-way lines and easements
  - 2. Locations for pipelines and all associated structures and appurtenances
- E. The Surveyor shall reference and replace any project control points, boundary corners, benchmarks, section corners, and right-of-way monuments that may be lost or destroyed, at no additional cost to the County based on the original survey control.

### **3.2 SURVEY DOCUMENTS DELIVERABLES**

- A. All survey documents required under Section 01720 Project Record Documents, Part 2 – Products, paragraphs 2.01 and 2.02.

END OF SECTION

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**SECTION 01340**  
**SUBMITTALS**

**PART 1 - GENERAL**

Work completed without approved Shop Drawings and/or samples shall be considered installed at the Contractor's risk.

**1.1 SHOP DRAWINGS AND DATA**

- A. Shop Drawings defined in the General Conditions, shall complement design and construction Drawings, and shall contain sufficient detail to clearly define all aspects of the Construction. These Drawings shall be complete and detailed.
- B. Contractor and Supplier's catalog sheets, brochures, diagrams, illustrations and other standard descriptive data shall be clearly marked with specification title and numbers to identify pertinent materials, product or models. Delete information which is not applicable to the Work by striking or cross-hatching.
- C. If Shop Drawings show variations from Contract requirements because of standard shop practice or for other reasons, the Contractor shall describe such variations in the letter of transmittal. If acceptable, proper adjustment in the Contract shall be implemented where appropriate. If the Contractor fails to describe such variations, the Contractor shall not be relieved of the responsibility for executing the Work in accordance with the Contract, even though such Drawings have been reviewed.
- D. Data on materials and equipment shall include, without limitation, materials and equipment lists, catalog data sheets, cuts, performance curves, diagrams, verification of conformance with applicable standards or codes, materials of construction and similar descriptive material. Materials and equipment list shall, for each item, give the name and location of the Supplier or manufacturer, trade name, catalog reference, size, finish and all other pertinent data.
- E. For all equipment furnished, the Contractor shall provide a list including the equipment name and address and telephone number of the Supplier's representative and service company so that service and/or spare parts can be readily obtained.
- F. The Contractor will obtain an installation list from suppliers and equipment suppliers who propose to furnish equipment or products for submittal to County/Professional along with the required Shop Drawings. The installation list shall include at least 5 installations where identical equipment has been installed and has been in operation for a period of at least 1-year.

## 1.2 REVIEW OF SHOP DRAWINGS AND SAMPLES

- A. The County /Professional's review of Shop Drawings, Data, and Samples as submitted by the Contractor will be to determine if the items(s) generally conform(s) to the information in the Contract Documents and is/are compatible with the design concept. The County/Professional's review and exceptions, if any, will not constitute an approval of dimensions, connections, quantities, and details of the material, equipment, device, or item shown.
- B. The review of drawings and schedules will be general, and shall not be construed:
  - 1. As permitting any departure from the Contract Documents
  - 2. As relieving the Contractor of responsibility for any errors, including details, dimensions, and materials
  - 3. As approving departures from details furnished by the County/Professional, except as otherwise provided herein
- C. If the drawings or schedules as submitted describe variations and show a departure from the Contract Documents which the County/Professional finds to be in the interest of the County and to be so minor as not to involve a change in Contract Price or Contract Time, the County/Professional may return the reviewed drawings without noting an exception.
- D. "Approved As Noted": Contractor shall incorporate County/Professional's comments into the submittal before release to manufacturer. The Contractor shall send a letter to the County/Professional acknowledging the comments and their incorporation into the Shop Drawing.
- E. "Amend and Resubmit": Contractor shall resubmit the Shop Drawing to the County/Professional. The resubmittal shall incorporate the County/Professional's comments highlighted on the Shop Drawing.
- F. "Rejected": Contractor shall correct, revise and resubmit Shop Drawing for review by County/Professional.
- G. Resubmittals will be handled in the same manner as first submittals. For resubmittals the Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, to revisions other than the corrections requested by County/Professional on previous submissions. The Contractor shall make any corrections required by the County/Professional.
- H. If the Contractor considers any correction indicated on the Drawings to constitute a change to the Drawings or Specifications, the Contractor shall give written notice thereof to the County/Professional.

- I. When the Shop Drawings have been completed to the satisfaction of the County/Professional, the Contractor shall carry out the Construction in accordance therewith and shall make no further changes therein except upon written instructions from the County/Professional.
- J. No partial submittals will be reviewed. Submittals not deemed complete will be stamped "Rejected" and returned to the Contractor for resubmittal. Unless otherwise specifically permitted by the County/Professional, make all submittals in groups containing all associated items for:
  - 1. Systems
  - 2. Processes
  - 3. As indicated in specific Specifications Sections  
All drawings, schematics, manufacturer's product data, certifications, and other Shop Drawing submittals required by a system specification shall be submitted at one time as a package to facilitate interfaces checking.
- K. Only the County/Professional shall utilize the color "red" in marking Shop Drawing submittals.
- L. Failure to comply with any of the above may result in the rejection of Shop Drawings.

### 1.3 PRODUCT DATA

- A. Submit not less than 6-copies, unless approved by the County/Professional. Mark each copy to identify applicable products, models, options and other data. Supplement manufacturers' standard data to provide information unique to the Work.

### 1.4 MANUFACTURERS' INSTRUCTIONS

- A. When required in an individual Specification Section, submit manufacturer's printed instructions for delivery, storage, assembly, installation, start-up, adjusting and finishing, in quantities specified for product data.

### 1.5 SAMPLES

- A. Submit full range of manufacturers' standard colors, textures and patterns for the County's selection. Submit samples for selection of finishes within 30-days after Award of Contract. All color and finish selections must be submitted by the Contractor in a single submission, properly labeled and identified.
- B. Submit samples to illustrate functional characteristics of the product, with integral parts and attachment devices. Coordinate submittal of different categories for interfacing work.

- C. Submit the number of samples specified in the respective Specification section, but no less than two (2). After review one (1) will be retained by the County. Reviewed samples that may be used in the Work are indicated in the Specification Section.
- D. Samples shall be delivered to the County as directed. The Contractor shall prepay shipping charges on samples. Materials or equipment for which samples are required shall not be used in the Work until approved by the County/Professional.
- E. Samples shall be of sufficient size to clearly illustrate:
  - 1. Functional characteristics of the product, with integrally related parts and attachment devices
  - 2. Full range of color, texture and pattern
  - 3. Each sample shall have a label indicating:
    - a. Name of Project
    - b. Name of Contractor and Subcontractor
    - c. Material or equipment represented
    - d. Place of origin
    - e. Name of product and brand (if any)
    - f. Location in Project
    - g. Specification title and number
    - h. Submittal number
    - i. Note: Samples of finished materials shall have additional marking that will identify them under the finished schedules.
- F. The Contractor shall prepare a transmittal letter, in triplicate (3) for each shipment of samples containing the information required in paragraph herein. The Contractor shall enclose a copy of this letter with the shipment and send a copy of this letter to the County/Professional. Approval of a sample shall be only for the characteristics or use named in such approval and shall not be construed to change or modify any Contract requirements.
- G. Approved samples not destroyed in testing shall be sent to the County or stored at the site of the Work. Approved samples of the hardware in good condition may be incorporated in the Work if requested in writing by the Contractor and approved in writing by the County/Professional. Samples that failed testing or were not approved will be returned to the Contractor at the Contractor's expense, if so requested at time of submission.

## 1.6 FIELD SAMPLES

- A. Provide field samples of finishes as required by individual Specifications sections. Install the sample completely and finished. Acceptable samples in place may be retained in completed Work.

## 1.7 DRAWINGS, PRODUCT DATA AND CERTIFICATES

- A. Each letter of transmittal shall identify each and every item transmitted by title, drawing number, revision number and date.

- B. The County generally will not check dimensions, quantities or schedules, except in cases where the information is lacking in the Specifications.
- C. The following is applicable to submitted drawings, data and certificates:
  - 1. Show relation to adjacent structures or materials.
  - 2. Clearly identify field dimensions.
  - 3. Show required dimensions and clearances.
  - 4. Performance characteristic and capabilities shall accompany original Shop Drawing submittals.
  - 5. Wiring diagrams and controls shall accompany original Shop Drawing submittals.
  - 6. Installation instructions shall accompany original Shop Drawing submittals.
  - 7. Each submittal shall identify applicable Standards, such as ASTM number or Federal Specification number.
  - 8. All information not pertinent shall be removed from the submittal, or shall be crossed out.
- D. When resubmission is required, the County/Professional will return only two (2) marked up copies. A third submission from the same manufacturer will not be accepted.

## 1.8 SUBSTITUTIONS

- A. The substitution requirements of this Section are in addition to the requirements of the General Conditions and Supplementary Conditions.
- B. When a particular product is specified or called for, it is intended and shall be understood that the proposal tendered by the Bidder includes those products in his Bid. Substitutions will only be considered in cases where original materials are unavailable or in an instance where substitute can be proven superior in its planned application
- C. The intent of these specifications is to provide the County with a quality facility without discouraging competitive bidding. For products specified only by reference standards, performance and descriptive methods, without naming manufacturer's products, the Contractor may provide the products of any manufacturer complying with the Contract Documents, subject to the review of product data by the County/Professional as specified herein.
- D. The County/Professional's approval is required for substitutions.
- E. The Contract is based on the materials, equipment and methods described in the Contract Documents.
- F. The County/Professional will consider proposals for substitution of materials equipment and methods only when such proposals are accompanied by full and complete technical data and all other information required by the County/Professional to evaluate the proposed substitution.

- G. Do not substitute materials, equipment or methods unless such substitution has been specifically approved for this Work by the County/Professional in writing. The Contractor must provide a submittal per this Section specifically requesting approval of the substitution. Failure to specifically identify the requested substitution may invalidate approval of a submittal.

#### 1.9 AVAILABILITY OF SPECIFIED ITEMS

- A. Verify prior to bidding that all specified items will be available in time for installation during Construction for orderly and timely progress of the Work.
- B. In the event that specified items will not be available, notify the County/Professional prior to receipt of proposals.

#### 1.10 OPERATING MANUALS

- A. Submit all manuals in accordance with requirements of Divisions 2 through 16 of the Contract Specifications and Section 01700 "Project Closeout."

#### 1.11 WARRANTIES, GUARANTEES AND BONDS

- A. Provide as required by Technical Sections of the Specifications and Sections 01700 "Project Closeout" and Section 01740 "Warranties and Bonds."

#### 1.12 CADD FILES

- A. The Professional's CADD files will be available on a limited basis to qualified firms at the County's prerogative. The procedure for requesting such files is noted elsewhere in these documents and there is a cost associated with handling and reproduction. Recipients are cautioned that these files may not accurately show actual conditions as constructed. Users are responsible to verify actual field conditions.
- B. The Professional's Drawings are to be used only for background information. If the Professional's Drawings are just reproduced and resubmitted (e.g. for ductwork drawings) they will be rejected.
- C. Copies of data furnished by the County/Professional to Contractor or Contractor to County/Professional that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.



- D. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60-days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.
- E. When transferring documents in electronic media format, the transferring party makes no representations as to long-term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

### 1.13 PROGRESS PHOTOGRAPHS

- A. Photographs and digital pictures shall be in color. Provide 1 copy of each digital picture on each of three (3) CDs and provide 1 print of each photograph in two (2) separate albums.
- B. Photographs shall be from locations to illustrate the condition of Construction and state of progress adequately.
- C. Provide up to 12 digital photographs of views randomly selected by the County, taken prior to any construction and prior to each scheduled Application for Payment.
- D. Deliver electronic images, prints, and negatives to the County.
- E. Each print shall be single weight paper with glossy finish and the overall dimension shall be 7-1/2-inch x 10-inches (19.05 x 25.4 cm). The print shall be clear, sharp and free of distortion after the enlargement from the negative.
- F. Provide loose-leaf albums for each set of photographs to hold prints with a maximum of 50-leaves per binder.
- G. Each print shall be protected by flexible, transparent acetate or plastic sheet protector leaves with metal reinforced holes. Two (2) extra leaves shall be provided in each binder.
- H. Capture and provide digital, ortho-rectified, true-color, aerial photographs of the complete project site prior to start of Construction and at final completion. A final 6-inch or less ground pixel resolution is required. If using traditional photography, the photos will need to be captured at an appropriate scale and scanned at a high enough dpi to yield a final ground pixel size of 6-inches or less. If captured digitally, a final 6-inches or less ground sample distance is required. The final orthorectified photos shall use a projection of NAD 27, State Plane West and all vertical reference shall be NAVD 88, US feet. All orthophoto mosaics shall meet a final accuracy of plus or minus 5-feet.

- I. Provide a total of four (4) true-color, color balanced orthophoto mosaic prints. Three (3) prints each of the pre and post construction (final completion) orthophoto mosaics, for a total of six (6). Each orthophoto mosaic print shall be on double-weight paper with glossy finish and shall have overall dimensions of 36-inches x 58-inches. Two (2) copies of each of the digital orthophoto mosaics shall be supplied in Geotiff format on disk for each time period (pre and post construction). The final color balanced, true-color orthophoto mosaics will be projected in NAD 27, State Plane West and all vertical reference shall be NAVD 88, US feet and shall meet a final accuracy of plus or minus 5- feet.
- J. The Contractor shall provide before and after photographs of each portion of the site. The below ground facilities shall include all equipment, walls, floor, piping, supports and entrance. At major locations, photographs shall include before, during, and after prints and all prints shall be placed in binders in ascending date order to show the Work as it progresses.
- K. Descriptive Information:
  1. Each photograph shall have a permanent title block on the back and shall contain the typed information and arrangement as follows:
    - a. ORANGE COUNTY, FLORIDA
    - b. (ENTER PROJECT NAME)
    - c. BID No. (Enter Bid Number)
    - d. CONTRACTOR: (Name of Contractor)
    - e. DATE: (When photo was taken)
    - f. PHOTO NO.: (Consecutive Numbers)
    - g. PHOTO BY: (Firm Name of Photographer)
    - h. LOCATION: (Description of Location and View)
  2. The Contractor shall provide the Professional with a written description of each photograph. This description shall be included in the binders and a copy shall be submitted with the CDs.

#### 1.14 PROJECT RECORD DOCUMENTS

Project Record Documents shall be submitted in accordance with Section 01720 "Project Record Documents" of these specifications.

### **PART 2 - PRODUCTS (NOT USED)**

### **PART 3 - EXECUTION**

#### 3.1 SUBMITTAL PROCEDURES

- A. Article 9 of the General Conditions contains additional provisions regarding submittals.

- B. Preliminary Shop Drawing Data: Within 20-days after the Award of the Contract or before the Pre-Construction Meeting, the Contractor shall submit to the County/Professional a complete listing of manufacturers for all items for which Shop Drawings are to be submitted.
- C. Shop Drawing Submittal Schedule: Within 30-days after the Notice to Proceed, the Contractor shall submit to the County/Professional a complete schedule of Shop Drawings submittals with the respective dates for submission, the beginning of manufacture, testing and installation of materials, supplies and equipment, noting those submittals critical to the progress schedule.
- D. Submittal Log: An accurate updated log of submittals will be maintained by the Contractor and subject to review by the County/Professional at each scheduled progress meeting.
- E. If the Contractor considers any correction indicated on the Drawings to constitute a change to the Contract Drawings or specifications, the Contractor shall give written notice thereof to the County/Professional. This does not constitute a change order until accepted by the County.
- F. Shop Drawing and submittal data shall be reviewed by the County/Professional for each original submittal and first resubmittal; thereafter review time for subsequent resubmittals shall be charged to the Contractor. The Contractor shall reimburse the County for services rendered by the County/Professional at the rate multiplied by the County's Professional multiplier based on the fee schedule provided to the County for this Project. If a County engineer is performing any portion of the review, this fee is based upon the hourly rate of the engineer times the County's multiplier for overhead, benefits, and expenses. The Contractor agrees that the County shall deduct such charges from the Contract Amount by a deductive Change Order.
- G. Contractor Shop Drawing and Sample submittals shall include 5 copies in addition to any other copies that the Contractor wants returned. The County will retain 5 copies of approved submittals.
- H. Identify Project, Project Number, date, dates of previous submittals, Contractor, Sub-Contractors, suppliers with their addresses, pertinent Drawings by sheet and detail number, and Specification Section number, as appropriate. Identify all deviations from the Contract Documents. Provide space for Contractor and Professional review stamps.
- I. Contractor's delivery of Shop Drawings for review shall follow a reasonable sequence, as is necessary to support the dates on the Progress Schedule and avoid an overload of Shop Drawings awaiting review at any one time. Coordinate submittal of related items.

- J. Submit Shop Drawings per the schedule of Shop Drawing submittals, inserted in 1 loose- leaf binder, with tabs and index to the County/Professional. All individual submittal sheets inserted in said binder must be clearly marked and referenced to proper paragraph and subparagraph of specifications. Cross out any items on sheets which constitute information not pertaining to equipment specified. Clearly mark all components that are provided as "optional" by manufacturer. Shop Drawings shall be approved by the Contractor prior to submittal to the County/Professional. Shop Drawings will be reviewed by the County/Professional. After County/Professional approval, reproduce and distribute in accordance with requirements herein.
- K. All submissions of Shop Drawings, brochures and catalog cuts shall be accompanied by a transmittal letter listing the Drawings submitted by number and title.
- L. When engineering calculations and/or professional certification of performance criteria of materials, systems, and/or equipment are required, the County is entitled to rely upon the accuracy and completeness of such calculations and certifications submitted by the Contractor. Calculations, when required, shall be submitted in a neat, clear and in an easy to follow format. Such calculations and/or certifications shall be signed and sealed by a Professional Engineer registered in the State of Florida.
- M. Distribute copies of reviewed submittals to concerned parties. Instruct recipients to promptly report any inability to comply with provisions.
- N. Prior to submission of Shop Drawings and samples, the Contractor shall stamp and sign the submittals. Any submission which, upon examination by the County, shows evidence of not having been thoroughly checked, or is not in compliance with the provisions of this Section will be returned to the Contractor for completion before it will be considered for review.
- O. Notify the County of the need for making any changes in the arrangement of piping, connections, wiring, manner of installation, etc., which may be required by the material or equipment Contractor proposes to supply.
- P. On resubmittals, direct specific attention in writing or on the revised Drawings or sample to revisions other than the corrections required by County on previous submissions.
- Q. All drawings, schematics, manufacturer's product data, certifications and other drawing submittals required for a system specification shall be submitted at one time as a package to facilitate interface checking.
- R. The County will distribute Shop Drawings as follows for the indicated action taken:

## SHOP DRAWING SUBMITTAL DISTRIBUTION

Representative Party	No Exception Taken or Make Correction Noted			Rejected or Revise & Resubmit		
	Submittal Transmittal	Shop Drawing	Review Comment Sheet	Submittal Transmittal	Shop Drawing	Review Comment Sheet
Engineer	2 Copies	File Copy	1 Copy	Original	File Copy	1 Copy
Contractor (see Note 1)	2 Copies	1 Copy Each Submittal	1 Copy	1 Copy	All Copies Except Engineers	1 Copy
County	1 Copy	1 Copy Each Submittal	1 Copy	1 Copy	None	1 Copy
Inspector	2 Copies	1 Copy Each Submittal	1 Copy	1 Copy	None	1 Copy
Project Record Data (see Note 2)	1 Copy	1 Copy Each Submittal	1 Copy	1 Copy	None	1 Copy

**NOTES:**

1. Contractor shall distribute additional copies to Subcontractors as required.
2. Stored by Contractor to be furnished to County upon closeout.

- S. All Shop Drawings shall be accompanied with a transmittal letter providing the following information:
1. Project Title and Contract Number
  2. Date
  3. Contractor's name and address
  4. The number of each Shop Drawing, project data, and sample required
  5. Notification of Deviations from Contract Documents
  6. Submittal Log Number conforming to specification section numbers
    - a. Submit each specification section separately.
    - b. Identify each Shop Drawing item required under respective specification section.
    - c. Identify resubmittal using specification section followed by A (first resubmittal), B (second resubmittal)...etc.

### 3.2 CONTRACTOR'S REVIEW

- A. Contractor's Responsibility for Coordination: Where the dimension, size, shape, location, capacity or other characteristic affects another item, and where the Contractor selects, fabricates or installs related or adjacent products to be used, the Contractor shall be responsible for coordination of related items. The Contractor shall insure that a proper exchange of information takes place prior to or during preparation of each submittal and that submittals reflect such coordination. The notation "verify" or "coordinate" on the Drawings indicates the necessity for Contractor coordination in the particular instances used.

- B. Contractor's Checking: When checking submittals from Subcontractors and suppliers, the Contractor shall mark all sets, indicating his corrections and comments in blue or green. Copies marked in red may be returned for revision.
- C. The Contractor is responsible to deliver and pick-up all submittals in a timely manner at the County/Professional's designated office. The Contractor is responsible for all related costs and expenses for the transmittal of such submittals.

### 3.3 COUNTY'S / PROFESSIONAL'S REVIEW

- A. Corrections or comments made on Shop Drawings during review do not relieve the Contractor from compliance with the requirements of Drawings and Specifications. This check is only for review of general conformance with the design concept of this Project and general compliance with information given in Contract Documents. Any substitutions or changes shall be properly noted.
- B. No action will be taken on "rough-in" Shop Drawings for plumbing and electrical connections when the items of equipment are not included in the same submittal.
- C. Review Time:
  - 1. On a normal basis, each submittal will be returned to the Contractor within 15 working days of the date it is received. Some submittals may require additional time.
  - 2. If, for any reason, the above schedule cannot be met, the Contractor will be so informed within a reasonable period and the Schedule of Submittals revised. If the specific submittal affects the critical path, the Contractor shall immediately notify the County/Professional in writing. In the event of separate submittals of individual components of a system, these submittals may be held until all components of the system are submitted, and the Contractor will be so notified.

**END OF SECTION**

## SECTION 01405

### REGULATORY REQUIREMENTS

#### PART 1 GENERAL

##### 1.1 Section Includes

Regulatory requirements, project permits

##### 1.2 Related Sections

General Conditions  
Supplementary Conditions

##### 1.3 Requirements of Regulatory Agencies

- A. All piping installed within the right-of-way of any city, county, state, or federal highway or railroad shall be in accordance with a permit to construct issued by the controlling agency and obtained by the OWNER. In no case shall an open trench be constructed within a railroad right-of-way unless otherwise indicated.
- B. Whenever the Drawings and Specifications conflict with the requirements of the permit, then the requirements of the permit shall govern and the cost of abiding by the provisions of the permit shall be considered incidental to the Contract.
- C. All electrical apparatus and wiring pertaining to a piece of equipment or an appliance furnished and installed under this Contract shall comply with the National Electrical Code and shall be listed by Underwriters Laboratories or bear the approval of a recognized Testing Laboratory approved by the ENGINEER.

##### 1.4 Project Permits

- A. The following permits are being obtained from the permitting agencies for the construction of the project, and will be provided to the selected CONTRACTOR prior to award of the contract:
  - 1. FDEP Water Permit
  - 2. FDEP Sewer Permit
- B. The CONTRACTOR shall review and become familiar with all permits for the Project, complete with all conditions, attachments, exhibits and permit modifications. A copy of all permits for the Project shall be maintained by the CONTRACTOR at the project site, and shall be available for review upon request.

- C. Any permits not referenced here but that are required for the project will be obtained by the Contractor. The CONTRACTOR shall be fully responsible to abide by all provisions of the permits. The CONTRACTOR is responsible for the selection, implementation and operation of all measures required by the permits, including the maintenance of said measures as necessary during construction. No additional compensation will be allowed for any work associated with permit requirements.

**PART 2 PRODUCTS - Not Used**

**PART 3 EXECUTION - Not Used**

**END OF SECTION**



**SECTION 01410**  
**TESTING AND TESTING LABORATORY SERVICES**

**PART 1 - GENERAL**

1.1 DESCRIPTION

A. Scope of Work:

1. County will employ and pay for services of an Independent Testing Laboratory to perform Testing specifically indicated on the Contract Documents or specified in the Specifications and may at any other time elect to have materials and equipment tested for conformity with the Contract Documents.
2. Contractor shall cooperate with the laboratory to facilitate the execution of its required services.
3. Employment of laboratory by County shall in no way relieve Contractor's obligations to perform the Work.

B. Related Requirements Described Elsewhere:

1. Conditions of the Contract.
2. Respective section of Specifications: Certification of products.
3. Each Specification section listed: Laboratory tests required and standards for testing.

1.2 CONTRACTOR'S RESPONSIBILITIES

A. Cooperate with County's personnel; provide access to work and manufacturer's operations.

B. Secure and deliver to the County adequate representational samples of materials proposed to be used and which require testing.

C. Provide to the County the preliminary design mix proposed to be used for concrete, and other materials mixes which require control by the testing laboratory.

D. Materials and equipment used in the performance of work under this Contract are subject to inspection and testing at the point of manufacture or fabrication. The County may require the Contractor to provide statements or certificates from the manufacturers and fabricators that the materials and equipment provided by them are manufactured or fabricated in full accordance with the standard specifications indicated in the Contract Documents. All costs of this testing and providing statements and certificates shall be a subsidiary obligation of the Contractor, and no extra charge to the County shall be allowed on account of such testing and certification.

E. Contractor shall not have direct contact with laboratory or laboratory personnel.

All

testing shall be coordinated through County.

F. Furnish incidental labor and facilities:

1. To provide access to work to be tested.
  2. To obtain and handle samples at the Project site or at the source of the product to be tested.
  3. To facilitate inspections and tests.
  4. For storage and curing of test samples.
- G. Notify County sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests. When tests or inspections cannot be performed after such notice, reimburse County for laboratory personnel and travel expenses incurred. The following field testing schedule summarizes the responsibilities of various tests that may be required by the Contract Documents.

<b>TEST</b>	<b>NOTES</b>	<b>PAID FOR</b>
Soil Compaction	A. Pipe Work: Every 300 ft. at each lift of compaction B. Structures: As a minimum one test per 2000 SF of fill area per lift, or at least 2 tests per structure, per lift. As specified in material specifications sections	County
Low Pressure Air Exfiltration	Each section of gravity sewer pipe between manholes or lift station	Contractor
Hydrostatic Pressure	All segments of pressure piping (24-hour test).	Contractor
Hydrostatic Leakage	All segments of pressure piping (2-hour test).	Contractor
Bacteriological	As required by local and state agencies	County
Asphaltic Concrete Paving	As required by County	County
LBR	Each 600 SY of pavement	County
Concrete	Slump test each delivery, cylinders every 20 CY	County
Asbestos	Environmental testing of materials	County
All Other Testing	As specified in various sections of the Project Manual	As Indicated

- H. Employ and pay for the services of the same or a separate, equally qualified independent testing laboratory to perform additional inspections, sampling and testing required for the Contractor's convenience.
- I. If the test results indicate the material or equipment complies with the Contract Documents, the County shall pay for the cost of the testing laboratory. If the tests and any subsequent retests indicate the materials and equipment fail to meet the requirements of the Contract Documents, the Contractor shall pay for the laboratory costs directly to the County or the total costs shall be deducted from any payments due to the Contractor.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION**

**(NOTUSED)**

**END OF SECTION**

**SECTION 01610**  
**DELIVERY, STORAGE AND HANDLING**

**PART 1 - GENERAL**

1.1 DESCRIPTION

- A. This Section specifies the general requirements for the delivery, handling, storage and protection for all items required in the construction of the Work.
- B. Deliver, handle and store products in accordance with manufacturer's recommendations and by methods and means that will prevent damage, deterioration, and loss including theft and protect against damage from climatic conditions. Control delivery schedules to minimize long-term storage of products at the site and overcrowding of construction spaces. In particular, provide delivery/installation coordination to ensure minimum holding or storage times for products recognized to be flammable, hazardous, easily damaged, or sensitive to deterioration, theft and other sources of loss. Damaged or defective items, in the opinion of the County, will be replaced at no cost to the County.

1.2 REQUIREMENTS

- A. The Contractor is responsible for all material, equipment and supplies sold and delivered to the County under this Contract until final inspection of the Work and acceptance thereof by the County.
- B. All materials and equipment to be incorporated in the Work will be handled and stored by the Contractor before, during and after shipment in a manner to prevent warping, twisting, bending, breaking, chipping, rusting, and any injury, theft or damage of any kind whatsoever to the material or equipment.
- C. All materials and equipment, which in the opinion of the County, have become so damaged as to be unfit for the use intended or specified, will be promptly removed from the site of the Work, and the Contractor will receive no compensation for the damaged materials or equipment or for its removal.
- D. In the event any such material, equipment and supplies are lost, stolen, damaged or destroyed prior to final inspection and acceptance, the Contractor will replace same without additional cost to the County.

1.3 DELIVERY

- A. Transport and handle items in accordance with manufacturer's instructions.

- B. The County and the Contractor's project superintendent must be on-site to accept all deliveries shipped directly to the job site. If the project superintendent is not present for a delivery, that delivery may be rejected by the County. If any delivery is rejected due to non-availability of the Contractor's project superintendent, delivery shall be rescheduled at no additional cost to the County.
- C. Schedule delivery to reduce long-term on-site storage prior to installation and/or operation. Under no circumstances will materials or equipment be delivered to the site more than 1-month prior to installation without written authorization from the County.
- D. Coordinate deliveries in order to avoid delay in, or impediment of, the progress of the Work.
- E. Schedule deliveries to the site not more than 1-month prior to scheduled installation without written authorization from the County.
- F. Coordinate delivery with installation to ensure minimum holding time for items that are hazardous, flammable, easily damaged or sensitive to deterioration.
- G. All items delivered to the site will be unloaded and placed in a manner that will not hamper the Contractor's normal construction operation or those of Subcontractors and other Contractors and will not interfere with the flow of necessary traffic.
- H. Deliver products in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible. Maintain packaged materials with seals unbroken and labels intact until time of use.
- I. Immediately on delivery, inspect shipments with the County to ensure compliance with requirements of Contract Documents and accepted submittals, and that products are properly protected and undamaged. If the Contractor does not notify the County regarding the delivery and the County rejects any part of the delivery, there will be no additional cost to the County for the material to be returned. For items furnished by others (i.e. County), perform inspection in the presence of the County. Provide written notification to the County of any problems.
- J. Promptly remove damaged material and unsuitable items from the job site, and promptly replace with material meeting the specified requirements, at no additional cost to the County.

#### 1.4 STORAGE AND HANDLING

- A. Provide equipment and personnel to handle products by methods recommended by the manufacturer to prevent soiling or damage to products or packaging, with seals and labels intact and legible.
- B. The Contractor is responsible for securing a location for on-site storage of all material and equipment necessary for completion of the Work. The location and storage layout will be submitted to the County at the Pre-Construction conference.

- C. Manufacturer's storage instructions will be carefully studied by the Contractor and reviewed with the County. These instructions will be carefully followed and a written record of this kept by the Contractor.
- D. All material delivered to the job site will be protected from dirt, dust, dampness, water, and any other condition detrimental to the life of the material from the date of delivery to the time of installation of the material and acceptance by the County.
- E. When required or recommended by the manufacturer, the Contractor will furnish a covered, weather protected storage structure providing a clean, dry, non-corrosive environment for all mechanical equipment valves, architectural items, electrical and instrumentation equipment, and special equipment to be incorporated into this Project.
- F. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored products to assure that products are maintained under specified conditions and free from damage or deterioration.
- G. Should the Contractor fail to take proper action on storage and handling of equipment supplied under this Contract within 7-days after written notice to do so has been given, the County retains the right to correct all deficiencies noted in previously transmitted written notice and deduct the cost associated with these corrections from the Contract Amount. These costs may be comprised of expenditures for labor, equipment usage, administrative, clerical, engineering, and any other costs associated with making the necessary corrections.

## 1.5 SPECIFIC STORAGE AND HANDLING

(Additional specific storage and handling requirements may be found in the specification sections addressing the material requirements.)

- A. All mechanical and electrical equipment and instruments subject to corrosive damage by the atmosphere if stored outdoors (even though covered by canvas) will be stored in a weather tight building to prevent damage. The building may be a temporary structure on the site or elsewhere, but it must be satisfactory to the County. The building will be provided with adequate ventilation to prevent condensation. Maintain temperature and humidity within range required by manufacturer.
  - 1. All equipment will be stored fully lubricated with oil, grease and other lubricants unless otherwise instructed by the manufacturer. Mechanical equipment to be used in the Work, if stored for longer than 90-days, will have the bearings cleaned, flushed and lubricated prior to testing and startup, at no extra cost to the County.
  - 2. Moving parts will be rotated a minimum of once weekly to ensure proper lubrication and to avoid metal-to-metal "welding." Upon installation of the equipment, the Contractor will start the equipment, at least half load, once weekly for an adequate period of time to ensure that the equipment does not deteriorate from lack of use.

3. Lubricants will be changed upon completion of installation and as frequently as required thereafter during the period between installation and acceptance. New lubricants will be put into the equipment at the time of acceptance. Prior to acceptance of the equipment, the Contractor will have the manufacturer inspect the equipment and certify that its condition has not been detrimentally affected by the long storage period. Such certifications by the manufacturer will be deemed to mean that the equipment is judged by the manufacturer to be in a condition equal to that of equipment that has been shipped, installed, tested and accepted in a minimum time period. As such, the manufacturer will guaranty the equipment equally in both instances. If such a certification is not given, the equipment will be judged to be defective. It will be removed and replaced at the Contractor's expense.
  4. Electric motors provided with heaters will be temporarily wired for continuous heating during storage. Upon installation of the equipment, the Contractor will start the equipment, at least half load, and once weekly for an adequate period of time to insure that the equipment does not deteriorate from lack of use.
- B. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
  - C. Cement and lime will be stored under a roof and off the ground and will be kept completely dry at all times.
  - D. Brick, block and similar masonry products will be handled and stored in a manner to minimize breakage, chipping, cracking and spilling to a minimum.
  - E. Precast Concrete will be handled and stored in a manner to prevent accumulations of dirt, standing water, staining, chipping or cracking.
  - F. All structural and miscellaneous steel and reinforcing steel will be stored off the ground or otherwise to prevent accumulations of dirt or grease, and in a position to prevent accumulations of standing water and to minimize rusting. Beams will be stored with the webs vertical.
  - G. Metals will be stored dry, all under cover and vented to prevent build-up of humidity, all off ground to provide air circulation.
  - H. Lumber will be stacked to provide air circulation. Store materials for which maximum moisture content is specified in an area where moisture content can be maintained.
  - I. Gypsum wallboard systems will be stored to protect all metal studs, furring, insulation boards, batts, accessories and gypsum board to prevent any type of damage to these materials. Rusted material components, damp or wet insulation or gypsum boards will not be accepted.

- J. Acoustical materials will be delivered to the job site in unbroken containers labeled and clearly marked. Materials will not be removed from containers until ready to install, but will be stored in dry area with cartons neatly stacked. Before installation, acoustical board will be stored for not less than 24-hours in the Work area at the same temperature and relative humidity.
- K. Linear items will be stored in dry area with spacers to provide ventilation. Stack linear items to prevent warping, complying with manufacturer's instructions.
- L. Paints and other volatile materials will be stored within approved safety containers. No glass jugs will be permitted. Storage areas will be equipped with not less than 2 fire extinguishers (C02 type) sufficient to discharge a distance of 25-feet when fully charged and have current tags. No other building materials will be stored in this area. Used rags will be removed daily. Clean rags will be stored in metal closed containers.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

**END OF SECTION**

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**SECTION 1630**  
**PRODUCT SUBSTITUTIONS**

**PART 1 - GENERAL**

1.1 SUMMARY

A. General

1. Base all bids on materials and equipment specified in the Appendix D Orange County Utilities List of Approved Products.
2. Certain types of equipment and kinds of material are described in specifications by means of references to names of manufacturers and vendors, trade names, or catalog numbers.
  - a. When this method of specifying is used, it is not intended to exclude from consideration other products bearing other manufacturer's or vendor's names, trade names, or catalog numbers, provided said products are "or-equals," as determined by County/Professional.
3. Other types of equipment and kinds of material may be acceptable substitutions under the following conditions:
  - a. Or-equals are unavailable due to strike, discontinued production of products meeting specified requirements, or other factors beyond control of Contractor; or,
  - b. Contractor proposes a cost and/or time reduction incentive to the Owner.

1.2 QUALITY ASSURANCE

A. In making request for substitution or in using an approved product, Contractor:

1. Has investigated proposed product, and has determined that it is adequate or superior in all respects to that specified, and that it will perform the function for which it is intended.
2. Will provide same guarantee for substitute item as for product specified.
3. Waives all claims for additional costs related to substitution which subsequently arise.

1.3 DEFINITIONS

- A. Product: Manufactured material or equipment.

1.4 PROCEDURE FOR REQUESTING SUBSTITUTION

A. Substitution shall be considered only:

1. After award of Contract
2. Under the conditions stated herein

- B. Written request through Contractor only.

C. Transmittal Mechanics

1. Follow the transmittal mechanics prescribed for Shop Drawings in Specification Section 01300 "Submittals."
  - a. Product substitution will include in the transmittal letter, either directly or as a clearly marked attachment, the items listed in Paragraph D below.

D. Transmittal Contents

1. Product identification:
  - a. Manufacturer's name
  - b. Telephone number and representative contact name
  - c. Specification Section or Drawing reference of originally specified product, including discrete name or tag number assigned to original product in the Contract Documents.
2. Manufacturer's literature clearly marked to show compliance of proposed product with Contract Documents.
3. Itemized comparison of original and proposed product addressing product characteristics including but not necessarily limited to:
  - a. Size
  - b. Composition or materials of construction
  - c. Weight
  - d. Electrical or mechanical requirements
4. Product experience
  - a. Location of past projects utilizing product.
  - b. Name and telephone number of persons associated with referenced projects knowledgeable concerning proposed product.
  - c. Available field data and reports associated with proposed product.
5. Data relating to changes in construction schedule.
6. Data relating to changes in cost.
7. Samples
  - a. At request of County/Professional.
  - b. Full size if requested by County/Professional.
  - c. Held until substantial completion.
  - d. County/Professional is not responsible for loss or damage to samples.

1.5 APPROVAL OR REJECTION

- A. Written approval or rejection of substitution to be given by the Engineer.
- B. Engineer reserves the right to require proposed product to comply with color and pattern of specified product if necessary to secure design intent.
- C. In the event the substitution is approved, the resulting cost and/or time reduction will be documented by Change Order in accordance with the General Conditions.
- D. Substitution will be rejected if:
  1. Submittal is not through the Contractor with his stamp of approval.
  2. Request is not made in accordance with this Specification Section.

3. In the County/Professional's opinion, acceptance will require substantial revision of the original design.
  4. In the County/Professional's opinion, substitution will not perform adequately the function consistent with the design intent.
- E. Contractor shall reimburse the County for the cost of the evaluation whether or not substitution is approved.

**PART 2 - PRODUCTS - (NOT USED)**

**PART 3 - EXECUTION - (NOT USED)**

**END OF SECTION**

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**SECTION 01720**  
**PROJECT RECORD DOCUMENTS**

**PART 1 - GENERAL**

1.1 DESCRIPTION

- A. The purpose of the Project Record Documents is to provide the County with factual information regarding all aspects of the Work, both concealed and visible.
- B. To insure the Work was constructed in conformance with the Contract Drawings, the following survey documents are required to be prepared and certified by a Surveyor as per Spec Section 01050 "Surveying and Field Engineering":
  - 1. Asset Attribute Data Form
  - 2. Pipe Deflection Table
  - 3. Gravity Main Data
  - 4. Boundary Survey and Survey Map Report for pump stations and easements with constructed improvements

The Asset Attribute Data and Pipe Deflection Table forms can be found on the County's web site:

<http://www.orangecountyfl.net/WaterGarbageRecycling/UtilitiesCapitalImprovementProgram.aspx>

1.2 DEFINITIONS

- A. Boundary Survey: Boundary survey, map and report certified by a Surveyor shall be provided that meets the requirements of Chapter 5J-17 'Minimum Technical Standards', FAC.
- B. Surveyor: Contractor's Surveyor that is licensed by the State of Florida as a Professional Surveyor and Mapper pursuant to Chapter 472, F.S.

1.3 QUALITY ASSURANCE

- A. Delegate the responsibility for maintenance of the Record Documents to one person on the Contractor's staff as approved by the County.
- B. Thoroughly coordinate changes within the Record Documents, making adequate and proper entries on each page of specifications and each sheet of Drawings and other documents where such entry is required to show progress and changes properly.
- C. Make entries within 24-hours after receipt of information has occurred.

## 1.4 RECORD DOCUMENTS AT SITE

- A. Maintain at the site and always available for County's use one (1) record copy of:
  - 1. Construction Contract, Drawings, Specifications, General Conditions, Supplemental Conditions, Bid Proposal, Instruction to Bidders, Addenda, and all other Contract Documents
  - 2. Change Orders, Verbal Orders, and other modifications to Contract
  - 3. Written instructions by the County as well as correspondence related to Requests for Information (RFIs)
  - 4. Accepted Shop Drawings, Samples, product data, substitution and "or-equal" requests
  - 5. Field test records, inspection certificates, manufacturer certificates and construction photographs
  - 6. Paper copies of the Progressive As-Built Drawings
  - 7. Current Surveyor's tables for the Assets Attribute Data, Pipe Deflection Data, and Gravity Main Data
- B. Maintain the documents in an organized, clean, dry, legible condition and protected from deterioration, loss and damage until completion of the Work, transfer of all record data to the final As-built Drawings for submittal to the County.
- C. Store As-Built Documents and samples in Contractor's office apart from documents used for construction. Do not use As-Built document for construction purposes. Label each document "AS-BUILT" in neat large printed letters. File documents and samples in accordance with CSI/CSC format.
- D. Record information concurrently with construction progress. Do not conceal any Work until required information is recorded.

## PART 2 - PRODUCTS

### 2.1 AS-BUILT SURVEY DRAWINGS

- A. Maintain the electronic As-Built Drawings to accurately record progress of Work and change orders throughout the duration of the Contract.
- B. Date all entries. Enter RFI No., Change Order No., etc. when applicable.
- C. Call attention to the entry by highlighting with a "cloud" drawn around the area affected or other means. In the event of overlapping changes, use different colors for entries of the overlapping changes.
- D. Design call-outs shall have a thin strike line through the design call-out and all As-Built information must be labeled (or abbreviated "AB") and be shown in a bolder text that is completely legible.
- E. Entries shall consist of graphical representations, plan view and profiles, written comments, dimensions, State Plane Coordinates, details and any other information as required to document field and other changes of the actual Work completed. As required minimum, make entries to also record:
  - 1. Depths of various elements of foundation in relation to finish floor datum and

- State Plane Coordinates and elevations.
2. As-Built Asset Attribute Data tables shall be completed in the Drawings.
  3. When electrical boxes, or underground conduits and plumbing are involved as part of the Work, record true elevations and locations, dimensions between boxes.
  4. Actually installed pipe or other work materials, class, pressure-rating, diameter, size, specifications, etc. Similar information for other encountered underground utilities, not installed by Contractor, their owner and actual location if different than shown in the Contract Documents.
  5. Details, not on original Contract Drawings, as needed to show the actual location of the Work completed in a manner that allows the County to find it in the future.
  6. The Contractor shall mark all arrangements of conduits, circuits, piping, ducts and similar items shown schematically on the construction documents and show on the As-Built Drawings the actual horizontal and vertical alignments and locations.
  7. Major architectural and structural changes including relocation of doors, windows, etc. Architectural schedule changes according to Contractor's records and Shop Drawings.

## 2.2 RECORD DOCUMENTS

- A. Three (3) paper copy sets and three (3) digital media sets of the following final Record Documents below.
  1. The following documents shall be signed and sealed by the Surveyor:
    - a. As-built survey drawings as previously described in paragraph 2.01.
    - b. As-built Asset Attribute Data (see Specification Section 01050 "Surveying and Field Engineering," Table 01050-2 for an example)
    - c. Boundary Survey on an 8 1/2"x11" format of fee simple and/or permanent easement sites for pump stations, treatment facilities, etc. As a minimum the Boundary Survey shall show all above ground and underground structures or equipment, pipe, and conduit. All property or easement corners and the center of wetwell shall be shown with GPS coordinates. The Boundary Survey field work shall be dated after the Work has been completed.
    - d. Boundary Survey on an 8 1/2"x11" format for Work related to constructed pipes within any permanent easements. As a minimum the Boundary Survey shall show the location of the pipe centerline and property corners with GPS coordinates. The Boundary Survey field work shall be dated after the Work has been completed within the easements.
    - e. Gravity Main Table (see Specification Section 01050 "Surveying and Field Engineering", Table 01050-4 for an example)
    - f. Pipe Deflection Table (see Specification Section 01050 "Surveying and Field Engineering" Table 01050-3 for an example). An electronic blank table will be supplied by the County.
    - g. Provide an encompassing digital AutoCAD file in the Engineer's current version of AutoCAD and the file shall be saved under in the format dwg. The file includes all the information of the As-Built Survey and any other graphical information in the As-Built Drawings. It shall include the overall Work, utility system layout and associated parcel boundaries

and easements. Feature point, line and polygon information for new or altered Work and all accompanying geodetic control and survey data shall be included. The Surveyor's certified As-Built Asset Attribute Data shall be added to the As-Built Drawings.

2. Provide Scanned "As-Built" Drawing sets complete and include the title sheet, plan/profile sheets, cross-sections, and details. Each individual sheet contained in the printed set of the As-Built Drawings shall be included in the electronic drawings, with each sheet being converted into an individual tif (tagged image file). The plan sheets shall be scanned in tif format Group 4 at minimum of 400 dpi resolution to maintain legibility of each drawing. Then, the tif images shall be embedded into a single pdf (Adobe Acrobat) file representing the complete plan set.
3. Provide Scanned Record Documents reflecting changes from the Contract Documents.

### **PART 3 - EXECUTION**

#### **3.1 FINAL RECORD DOCUMENTS SUBMITTAL**

- A. Submit the Final Record Documents within 20-days after Substantial Completion.
  1. Participate in review meetings as required and make required changes and promptly deliver the Final Record Documents to the County.

**END OF SECTION**



**SECTION 01750**  
**PROJECT CLOSEOUT**

**PART 1 - GENERAL**

1.1 DESCRIPTION

The term "Project Closeout" is defined to include requirements near the end of the Contract Time, in preparation for Substantial Completion acceptance, occupancy by the County, release of retainage, final acceptance, final payment, and similar actions evidencing completion of the Work. Time of closeout is directly related to "Substantial Completion"; therefore, the time of closeout may be either a single period for the entire Work or a series of time periods for individual elements of Work that has been certified as substantially complete at different dates. This time variation, if any, will be applicable to the other provisions of this section.

1.2 SCOPE OF WORK

- A. This Section specifies administrative and procedural requirements for project closeout, including but not limited to:
  - 1. Final Cleaning
  - 2. Substantial Completion
  - 3. Final Acceptance

1.3 RELATED WORK

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.
- B. Closeout requirements for specific construction activities are included in the appropriate Sections in Divisions 2 through 16.
- C. Section 01720 "Project Record Documents"
- D. Section 01740 "Warranties and Bonds"

1.4 PREREQUISITES FOR SUBSTANTIAL COMPLETION.

When the Contractor considers the Work as substantially complete, submit to the County a written notice stating so and requesting an inspection to determine the status of completion. The Contractor will attach to the notice a list of items known to be incomplete or yet to be corrected. Complete the following before requesting the County's inspection for certification of substantial completion.

- A. In the progress payment request that coincides with or is the first request following, the date substantial completion is claimed, show 100% completion or list incomplete items, the value of incomplete Work, and reasons for the Work being incomplete. Inspection procedures include supporting documentation for completion as indicated in these Contract Documents.
- B. Submit a statement showing an accounting of changes to the Contract Sum.
- C. Submit specific warranties, workmanship/maintenance bonds, maintenance agreements, final certifications and similar documents in accordance with Section 01740 "Warranties and Bonds."
- D. Obtain and submit lien releases enabling the County's full, unrestricted use of the Work and access to services and utilities.
- E. Consult with County before submitting Record Documents in accordance with Section 01720 "Project Record Documents."
- F. Submit Operation and Maintenance Manuals.
- G. Make final changeover of permanent locks. Submit keys and keying schedule.
- H. Deliver tools, spare parts, extra stock, and similar items.
- I. Complete final cleaning requirements necessary for Substantial Completion.

#### 1.5 FINAL CLEANING.

Complete the following cleaning operations prior to Substantial Completion or Owner occupancy.

- A. Remove from job site all tools, surplus materials, construction equipment, storage sheds, debris, waste and temporary services.
- B. Clean the site, including landscape development areas, of rubbish, litter and other foreign substances. Sweep paved areas broom clean; remove stains, spills and other foreign deposits. Rake grounds that are neither paved nor planted, to a smooth even-textured surface.
- C. Structures:
  - 1. Visually inspect exterior surfaces and remove all traces of soil, waste materials, smudges and other foreign matter.
  - 2. Remove all traces of splashed materials from adjacent surfaces.
  - 3. Ensure exterior surfaces have a uniform degree of cleanliness.
  - 4. Visually inspect interior surfaces and remove all traces of soil, waste materials, smudges and other foreign matter.
  - 5. Remove paint droppings, spots, stains and dirt from finished surfaces.
  - 6. Remove labels that are not permanent labels.
  - 7. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compound and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.

8. Clean exposed exterior and interior hard-surfaced finishes to a dust-free condition, free of stains, films and similar foreign substances. Leave concrete floors broom clean.
9. Wipe surface of mechanical and electrical equipment. Remove excess lubrication and other substances. Clean light fixtures and lamps.
10. Clean permanent filters of ventilating systems and replace disposable filters if units were operated during construction. Clean ducts, blowers and coils if units were operated without filters during construction.

## 1.6 OPERATION AND MAINTENANCE MANUALS

- A. The Contractor will submit the proposed format, content and tab structure for all Operating and Maintenance Manuals for the County's review and approval. The tab structure for Operating and Maintenance Manuals will follow specification division format as accepted by the Construction Specification Institute. After the County approves the proposed format, content, and tab structure for the Operating and Maintenance Manuals, the Contractor will create and deliver 5 complete sets.
- B. Operation and Maintenance documentation is required for each piece of mechanical, electrical, communications, instrumentation and controls, pneumatic, hydraulic, conveyance, and special construction. If required by the technical specifications, provide Operation and Maintenance documentation for any other product not listed in the foregoing.
- C. The requirements of this Section are separate, distinct and in addition to product submittal requirements that may be established by other Sections of the Specifications. Owner's manuals, manufacturer's printed instructions, parts lists, test data and other submittals required by other Sections of the Specifications may be included in the Operating and Maintenance Manuals provided that they are approved and are formatted in a manner consistent with the requirements of this Section.
- D. Deliver Operation and Maintenance Manuals directly to the County.
- E. Operating and Maintenance Manual documents must include, but are not limited to, table of contents, approved submittals, manufacturer's operating and maintenance instructions, brochures, Shop Drawings, performance curves and data sheets annotated to indicate equipment actually furnished (e.g. identifying impeller size, model, horsepower, etc), procedures, wiring and control diagrams, records of factory and field tests and device/controller settings and calibration, program lists or data compact discs, maintenance and warranty terms and contact information, spare parts listings, inspection procedures, emergency instructions, and other Operating and Maintenance documentation that may be useful to the County. The material and equipment data required by this Section must include all data necessary for the proper installation, removal, normal operation, emergency operation, startup, shutdown, maintenance, cleaning, adjustment, calibration, lubrication, assembly, disassembly, repair, inspection, trouble-shooting, and warranty service of the equipment or materials.

- F. The Contractor must bind the Operating and Maintenance Manual documents in heavy-duty, 3-ring vinyl-covered binders including pocket folders for folded sheet information. Mark binder identification on both the front and spine of each binder. Binder information must list the project title, identify separate structures or locations as applicable, identify the general subject matter covered in the manual and must include the words "OPERATING AND MAINTENANCE INSTRUCTIONS".
1. The Contractor must submit the Operating and Maintenance documents on three-hole punched, 8-1/2-inch x 11-inch sheets or on three-hole punched sheets that are foldable in multiples of 8-1/2-inch x 11-inch. The three-hole punched edge will be the left 11-inch edge.
  2. The Contractor may request waivers to the size requirement for specific instances. The Contractor's waiver request must be in writing to the County. The Contractor's waiver request must include a justification for seeking the waiver.
- G. The Contractor must provide an electronic version of the complete and final Operating and Maintenance Manuals in original electronic file format on compact disc or DVD. The Contractor must also provide one (1) electronic pdf file of each bound Operating and Maintenance Manual that represents each Manual's content. The electronic pdf file must match the Operating and Maintenance Manual content and organizational structure.

#### 1.7 SUBSTANTIAL COMPLETION INSPECTION PROCEDURES

- A. Upon receipt of the Contractor's request for inspection, the County will either proceed with inspection or advise the Contractor of incomplete prerequisites.
- B. Following the initial inspection, the County will either prepare the certificate of Substantial Completion, or advise the Contractor of Work which must be performed before the certificate will be issued. The County will repeat the inspection when requested in writing and when assured that the Work has been substantially completed.
- C. Results of the completed inspection will form the initial "punch list" for final acceptance.

#### 1.8 PREREQUISITES FOR FINAL ACCEPTANCE.

Complete the following before requesting the County's final inspection for certification of final acceptance, and final payment. List known exceptions, if any, in the request.

- A. Submit the final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates for insurance for products and completed operations where required.
- B. Submit written certification that:
1. The County's final punch list of itemized Work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance.
  2. The Contract Documents have been reviewed and Work has been completed in accordance with Contract Documents.

3. Equipment and systems have been tested in the presence of the County and are operational.
4. Work is completed and ready for final inspection.

C. Submit consent of surety.

D. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

#### 1.9 FINAL ACCEPTANCE INSPECTION PROCEDURES

A. The County will re-inspect the Work upon receipt of the Contractor's written notice that the Work, including punch list items resulting from earlier inspections, has been completed, except for those items for which completion has been delayed because of circumstances that are acceptable to the County.

B. Upon completion of re-inspection, the County will either prepare a certificate of final acceptance or advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled, which are required for final acceptance.

C. If necessary, the re-inspection procedure will be repeated.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

**END OF SECTION**

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**SECTION 02140  
DEWATERING**

1.01 DESCRIPTION

Scope of Work: This Section specifies the furnishing of equipment; labor and materials necessary to remove storm or subsurface waters from excavation areas in accordance with the requirements set forth, as shown on the Drawings, and/or geotechnical report.

1.02 QUALITY ASSURANCE

- A. Qualifications: The Contractor shall engage a Geotechnical Engineer registered in the State of Florida, to design the temporary dewatering system. The Contractor shall submit conceptual plan for the dewatering system prior to commencing work. The dewatering system installed shall be in conformity with the overall construction plan and certification of this shall be provided by the Geotechnical Engineer. The dewatering system shall be designed by a firm who regularly engages in the design of dewatering systems and who is fully experienced, reputable and qualified in the design of such dewatering systems.
- B. The dewatering of any excavation areas and the disposal of the water shall be in strict accordance with the latest revision of all local and state government rules and regulations.
- C. Permits: The Contractor shall obtain and pay respective fees for all local, state, and federal permits (including the Orange County, St. Johns River Water Management District, and/or South Florida Management District discharge permits) required for the withdrawal, treatment and disposal/discharge of water from the dewatering operation, prior to start of work.
- D. Comply with Florida Administrative Code, Chapter 62-621.300 (2).

1.03 SHOP DRAWINGS AND SUBMITTALS

- A. Submittals shall be submitted to the County for review and acceptance prior to construction in accordance with the General Conditions and specifications Section 01300 "Submittals."
- B. In accordance with FAC 62-621.300(2), submit analytical test results from a certified laboratory for the parameters listed in the FDEP "Generic Permit for the Discharge of Produced Ground Water from Any Non-Contaminated Site Activity" to the FDEP and the County. The submitted information shall show the location of the work, where the water will be going to, as well as an estimate for the amount, rate and duration of discharge being proposed.
- C. Provide notification to all jurisdictional permitting agencies in accordance with the requirements of the respective agency.
- D. Provide a detailed plan and operation schedule for dewatering of excavations.
  - 1. Provide descriptive literature of the dewatering system.
  - 2. Provide a plan for erosion and sedimentation control during dewatering.
  - 3. Provide copies of all permits/approvals for disposal/discharge of water during dewatering.

## 2.01 GENERAL

- A. The Contractor shall have on-site and available the analytical test results performed in accordance with the FDEP "Generic Permit for the Discharge of Produced Ground Water from Any Non-Contaminated Site Activity" (FAC 62-621.300(2)).
- B. The Contractor shall provide adequate equipment for the removal of storm or subsurface waters which may accumulate within the excavation.
- C. The Contractor's attention is directed to the water surface elevations discussed in the report(s) on subsurface investigations. Water levels will normally vary from season to season.
- D. The Contractor shall be required to monitor the performance of the dewatering system during the progress of the Work and make such modifications as may be required to assure that the systems will perform satisfactorily. The dewatering system shall be designed in such a manner as to preserve the undisturbed bearing capacity of the subgrade soils at the bottom of the trench or excavation.
- E. Prior to excavation, the Contractor shall submit his proposed method of dewatering and maintaining dry conditions to the County. Approval of the dewatering plan shall not relieve the Contractor of the responsibility for the satisfactory performance of the system. The Contractor shall be responsible for correcting any disturbance of natural bearing soils or damage to structures caused by an inadequate dewatering system or by interruption of the continuous operation of the system as specified.
- F. If subsurface water is encountered, the Contractor shall utilize suitable equipment to adequately dewater the excavation. A well point system or other County acceptable dewatering method shall be utilized if necessary to maintain the excavation in a dry condition for preparation of the trench bottom and for pipe laying. Within and adjacent to residential areas and other areas as required by the County, engines driving dewatering pumps shall be equipped with residential type mufflers and the noise shall not exceed 55 decibels within 50-feet.

## 2.02 DEWATERING AND DISPOSAL

- A. The Contractor shall construct and place all pipelines, structures, concrete work, structural fill, backfill and bedding material in-the-dry. In addition, the Contractor shall make the final 24-inches of excavation in-the-dry and not until the water level is a minimum of 2-foot below proposed bottom of excavation. For purposes of this Contract, in-the-dry is defined as  $\pm 2\%$  of the optimum moisture content of the soil.
- B. The Contractor shall, at all times during construction, provide and maintain proper equipment and facilities to remove promptly and dispose of all water entering excavations. Contractor shall keep excavations dry so as to obtain a satisfactory undisturbed subgrade foundation condition until the fill, structure, or pipes have been completed to such extent that they will not be floated or otherwise damaged by allowing water levels to return to natural elevations.
- C. Dewatering shall at all times be conducted in such a manner as to preserve the natural undisturbed bearing capacity of the subgrade soils at proposed bottom of excavation.
- D. It is expected that dewatering will be required for pre-drainage of the soils prior to final excavation for most of the in-ground structures or piping and for maintaining the



- lowered groundwater level until construction has been completed so that the structure, pipeline or fill will not be floated or otherwise damaged.
- E. If well points are used, Contractor shall adequately space well points to maintain the necessary dewatering. Provide suitable filter sand and/or other means to prevent pumping of fine sands and silts. A continual check shall be maintained by the Contractor to ensure that the subsurface soil is not being removed by the dewatering operations. Pumping from well points shall be continuous and standby pumps shall be provided.
  - F. The Contractor's proposed method of dewatering shall include groundwater observation wells to determine the water level during construction. Observation wells shall be installed along pipelines as required to verify depth to water level and at locations approved by the County.
  - G. At all times, site grading shall promote drainage. Surface runoff shall be diverted from excavations. Water entering the excavation from the surface shall be collected in shallow
  - H. ditches around the perimeter of the excavation, drained to sumps, and pumped or drained by gravity to maintain an excavation bottom free from standing water.
  - I. Flotation shall be prevented by the Contractor by maintaining a positive and continuous removal of water. The Contractor shall be fully responsible for all damages which may result from failure to adequately keep excavations dewatered.
  - J. The Contractor shall dispose of water from the Work in a suitable manner without damage to adjacent properties or facilities. No water shall be discharged without appropriate treatment for adverse contaminants. No water shall be drained in work built or under construction without prior consent from the County. Water shall be filtered to remove sand and fine soil particles before disposal into any drainage system.
  - K. Dewatering of excavations shall be considered incidental to the construction of the Work and all costs shall be included in the various Contract prices in the Bid Form, unless a separate bid item has been established for dewatering.

### 3.03 GROUNDWATER TREATMENT (IF REQUIRED)

- A. If concentrations of tested groundwater quality parameters exceed those allowable in the FDEP Generic Permit for the Discharge of Produced Groundwater from any Non-Contaminated Site Activity (62-621.300(2), F.A.C.), the Contractor shall treat the effluent.
- B. The Contractor shall immediately notify the County and discuss the parameters that exceed allowable limits.
- C. The Contractor shall meet with the FDEP to determine alternatives that are acceptable to the FDEP.
- D. The Contractor shall apply for and obtain any and all permits and/or treatment approvals that FDEP requires including but not limited to:
  - 1. Generic Permit for Discharges from Petroleum Contaminated Sites (62-621.300(1)). Allows discharges from sites with automotive gasoline, aviation gasoline, jet fuel, or diesel fuel contamination; or
  - 2. Permit for all Other Contaminated Sites (62-04; 62-302; 62-620 & 62-660). The coverage is available only through the individual NPDES permit issued by FDEP, allows discharges from sites with general contaminant issues i.e. ground water and/or soil contamination other than petroleum fuel contamination; or

3. Generic Permit for the Discharge of Produced Ground Water from Any Non-Contaminated Site Activity (62-621.300(2), F.A.C.); or
  4. Generic Permit for Stormwater Discharge from Large or Small Construction Activities (62-621.300(4)(a), F.A.C.); or
  5. An Individual Wastewater Permit (62-604.300(8) (a)
- E. The Contractor shall implement the appropriate treatment that is acceptable to FDEP and County to attain compliance for all excess limits encountered during dewatering activities. Treatment may include, but is not limited to: Chemical, Biological, Electrolysis or any combination of the three.
  - F. The Contractor shall make every effort to minimize the spread of contamination into uncontaminated areas. Provide for the health and safety of all workers at the job site and make provisions necessary for the health and safety of the public that may be exposed to any potentially hazardous conditions. Ensure provision adhere to all applicable laws, rules or regulations covering hazardous conditions and will be in a manner commensurate with the level of severity of the conditions.
  - G. If necessary, provide contamination assessment and remediation personnel to handle site assessment, determine the course of action necessary for site security and perform the necessary steps under applicable laws, rules and regulations for additional assessment and/or remediation work to resolve the contaminations issue.
  - H. Delineate the contamination area(s) and any staging or holding area required and develop a work plan that will provide the schedule of projected completion dates for the final resolution of the contamination issue.
  - I. Maintain jurisdiction over activities inside any delineated contamination areas and any associated staging or holding areas. Be responsible for the health and safety of workers within the delineated areas. Provide continuous access to representatives of regulatory or enforcement agencies having jurisdiction.

#### 2.04 REMOVAL

Immediately upon completion of the dewatering system, the Contractor shall remove all of his equipment, materials, and supplies from the site of the Work, remove all surplus materials and debris, fill in all holes or excavations, and grade the site to elevations of the surface levels which existed before work started. The site shall be thoroughly cleaned and approved by the County.

**END OF SECTION**

**SECTION 02660**  
**POTABLE WATER SYSTEM**

**PART 1 - GENERAL**

1.1 DESCRIPTION

- A. Scope of Work: Provide a complete system for water transmission/distribution pressure piping and appurtenant items.

1.2 QUALITY ASSURANCE

A. Design Requirements

1. Piping shall be laid with a minimum cover of 36-inches below finished grade for mains sized 12-inch and below and a minimum cover of 48-inches for mains sized 16-inch and greater. Pipe located within Local roadways (subdivisions) or within an easement, shall be laid with a minimum cover of 30-inches.
2. Pipelines shall be constructed of the materials indicated in this specification and on the Drawings.

B. Pipe Inspection:

1. The Contractor shall obtain a certificate of inspection from the pipe manufacturer stating that the pipe and fittings supplied for this Contract have been inspected at the plant and that they meet the requirements of these specifications.
2. The entire product of any plant may be rejected when, in the opinion of the County, the methods of manufacture fail to secure uniform results, or where the materials used are such as to produce inferior pipe or fittings.
3. All pipe and fittings shall be subjected to a visual inspection at the time of delivery and before being lowered into the trench. Joints or fittings that do not conform to these specifications will be rejected and must be removed immediately by the Contractor.
4. The County reserves the right to sample and test any pipe or fitting after delivery and to reject all pipe and fittings represented by any sample which fails to comply with the specified requirements.

- C. Prevention of electrolysis is required in accordance with AWWA C105 and when crossing, or adjacent to, a power easement, gas easements, any location where induced currents may be present, in areas where aggressive soils exist, and where shown on Drawings. Electrolytic action through the contact of dissimilar metals shall be prevented by either:

1. The separation of one material from the other by means of an insulating or dielectric coupling (polyethylene wrap), or
2. The use of alternative materials, as directed by the County.

### 1.3 SHOP DRAWINGS AND SUBMITTALS

- A. Submittals shall be submitted to the County for review and acceptance prior to construction in accordance with the General Conditions and specifications Section 01300 "Submittals."
1. Mill test certificates or certified test reports on pipe
  2. Details of restrained and flexible joints
  3. Detailed laying schedule for pipe
  4. Valves and valve boxes

### 1.4 JOB CONDITIONS

- A. Water in Excavation
1. Dewatering shall be in accordance with Section 02140 "Dewatering." Water shall not be allowed in the trenches while the pipes are being laid and/or tested. The Contractor shall not open more trench than the available pumping facilities are able to dewater to the satisfaction of the County. The Contractor shall assume responsibility for disposing of all water so as not to injure or interfere with the normal drainage of the territory in which he is working.
  2. In no case shall the pipelines being installed be used as drains. The ends of the pipe shall be kept properly and adequately blocked during construction by the use of approved stoppers and not by improvised equipment.
  3. All necessary precautions shall be taken to prevent the entrance of mud, sand, or other obstructing matter into the pipelines. If on completion of the Work any such material has entered the pipelines, it must be cleaned as directed by the County so that the entire system will be left clean and unobstructed.

## **PART 2 - PRODUCTS**

### 2.1 GENERAL

- A. All material supplied shall be one of the products specified in Appendix D "List of Approved Products" appended to these technical specifications.

### 2.2 MATERIALS

- A. Pipe, Fittings, Valves, and Ancillary Equipment shall be installed as shown on the Drawings and as specified in Division 15.
- B. Additional Work: Additional items of construction, necessary for the complete installation of the systems, shall conform to specific details shown on the Drawings and shall be constructed of first-class materials conforming to the applicable portions of these specifications.

## PART 3 - EXECUTION

### 3.1 PREPARATION

#### A. Bedding:

1. Pipe Cradle: Upon satisfactory installation of the pipe bedding material as specified in Section 02220 "Excavating, Backfilling and Compacting", a continuous trough for the pipe barrel and recesses for the pipe bells or couplings shall be excavated by hand digging. When the pipe is laid in the prepared trench, true to line and grade, the pipe barrel shall receive continuous, uniform support and no pressure will be exerted on the pipe joints from the trench bottom.
2. Cleanliness: The interior of the pipes shall be thoroughly cleaned of all foreign matter before being gently lowered into the trench and shall be kept clean during laying operations by means of plugs or other methods approved by the County. During suspension of work for any reason at any time, a suitable stopper shall be placed in the end of the pipe last laid to prevent mud or other foreign material from entering the pipe.

### 3.2 INSTALLATION

#### A. Pipe Identification/Location

1. All PVC water mains shall be solid blue. All lettering shall appear legibly on the pipe and shall run the entire length of the pipe. Lettering shall read as is acceptable for the intended use.
2. All ductile iron water mains shall be color coded blue with tape. The tape (minimum 2- inches) shall be permanently affixed to the top and each side of the pipe (3 locations parallel to the axis of the pipe). For pipes less than 24-inches in diameter, a single tape may be used along the top of the pipe.
3. All HDPE water mains shall be a solid blue or black with 4 co-extruded equally spaced blue stripes of the same material as the pipe. Stripes painted on the pipe outside surface shall not be acceptable.
4. If main is located over 30-feet from the edge of the pavement or in an easement, the Contractor shall install 4-inch diameter schedule 80 PVC utility pipe line markers over the pipe alignment at 1,000-foot intervals, at all valves, and at all locations where fittings deflect the pipe alignment in the horizontal plane. Utility pipeline markers shall include a decal and shall be colored blue for water service.
5. All mains (PVC, HDPE, and DI) shall be installed with a continuous, insulated 10- gauge copper wire installed directly above the pipe for location purposes. Locate wire shall terminate in a test station box and be capable of extending 12-inches above the top of the box. Directionally drilled pipe shall be installed with 2 insulated 10-gauge copper wires.

- B. Pipe: The color stripe and pipe text shall be located on the top of the pipe when installed. When installing PVC pipe, no additional joints will be installed until the preceding pipe joint has been completed and the pipe carefully embedded and secured in place.
1. Gradient: Pipe shall be laid straight and depth of cover shall vary to provide uniform gradient or slope to pipe, whether grading is completed or proposed at time of pipe installation. When a grade or slope is shown on the Drawings, batter boards with string line paralleling design grade, or other previously approved means, shall be used by the Contractor to assure conformance to required grade.
  2. Pipe Joint Deflection
    - a. Ductile Iron Pipe: Whenever it is desirable to deflect pipe, the amount of deflection shall not exceed 75% of the maximum limits as shown in AWWA Standard C600 for ductile iron pipe.
    - b. PVC Pipe: Joint deflection or pipe bending shall not be permitted. The maximum allowable tolerance in the joint due to variances in installation is 0.75° (degrees) (3-inches per joint per 20-foot stick of pipe). No bending tolerance in the pipe barrel shall be acceptable. Alignment change shall be made only with sleeves and fittings.
  3. Rejects: Any pipe found defective shall be immediately removed and replaced with sound pipe at the Contractor's expense.
  4. Joint Compounds: No sulfur base joint compound shall be used.
  5. Thrust restraints shall be accomplished by the use of mechanical restraining devices unless specifically identified otherwise on the Drawings or herein. Restraining devices shall be specified in Sections 15062 "Ductile Iron Pipe and Fittings" and 15064 "Polyvinyl Chlorine (PVC) Pipe and Fittings", respectfully.
- C. Installing Valves and Boxes
1. Valves: Valves shall be carefully inspected, fully opened, and then tightly closed and the various nuts and bolts shall be tested for tightness. Any valve that does not operate correctly shall be removed and replaced.
  2. Valve Boxes: Valve boxes shall be carefully centered over the operating nuts of the valves so as to permit a valve key to be fitted easily to the operating nut. In unpaved areas, valve boxes shall be set to conform to the level of the finished surface and held in position by a concrete collar placed under the support flange as shown on the Drawings. The letter "V" shall be etched in the curb at each valve location. The valve box shall not transmit surface loads to the pipe or valve but be supported by bedding rock as shown on the Drawings. Extensions or risers for valve boxes shall be an integral part of the box. No cut sections of D.I. or PVC pipe shall be used in extending the box to its proper height. Care shall be taken to prevent earth and other material from entering the valve box. Any valve box which is out of alignment or whose top does not conform to the finished ground surface shall be dug out and reset. Before final acceptance of the Work all valve boxes shall be adjusted to finish grade.
  3. Concrete Collar: Each valve installed in an unimproved area (outside of pavement, driveways or sidewalks) shall require a 24-inch by 24-inch by 6-inch concrete pad or collar as shown in the Drawings.

4. Identification Disc: Each 16-inch or larger valve (unless otherwise shown on the Drawings) installed shall be identified by a 3-inch diameter bronze disc anchored in the concrete pad or collar in unimproved areas and/or anchored on a 4-inch by 4-inch by 18-inch long concrete post set flush with the pavement surface in improved areas. The disc shall be stamped with the following information as shown on the Drawings:
  - a. Size of the valve
  - b. Type of valve
  - c. Service
  - d. Direction and number of turns to open
- D. Concrete Encasement
  1. Concrete encasement shall be constructed in accordance with details shown on the Drawings and shall be constructed of Class C concrete. Encasement shall be constructed where;
    - a. Indicated on the Drawings
    - b. The County orders the pipe encased
  2. The points of beginning and ending of pipe encasement shall be not more than 6- inches from a pipe joint to protect the pipe from cracking due to uneven settlement of its foundation or the effects of superimposed live loads.
- E. Flush Out Connections: Flush out connections shall be installed at the locations as determined by the County and be full pipe size.
- F. Service Connections: Service connections shall be installed at the locations determined by the County and in the manner shown on the Drawings. No service line shall terminate under a driveway.
- G. Backfilling: Backfilling shall be in accordance with Section 02220 "Excavating, Backfilling and Compacting" of these specifications.

### 3.3 CLEANING

- A. General: At the conclusion of the Work, the Contractor shall thoroughly clean the new pipelines by flushing with water or other means to remove all dirt, stones, or other material which may have entered the line during the construction period. Flushing is permitted for pipes less than or equal to 12-inch diameter.
- B. Correction of Non-Conforming Work: All non-conforming work shall be repaired or replaced by the Contractor at no additional expense to the County. Non-conforming work shall be defined as failure to adhere to any specific or implied directive of this Project Manual and/or the Drawings, including but not limited to pipe not laid straight, true to the lines and grades as shown on the Drawings, damaged or unacceptable materials, misalignment or diameter ring deflection in pipe due to bedding or backfilling, visible or detectable leakage, or failure to pass any specified test or inspection.

### 3.4 FIELD QUALITY CONTROL

#### A. Flushing

1. All pipelines less than or equal to 12-inches shall be flushed to remove all sand and other foreign matter. After initial slow-fill, pipe shall sit full for 24-hours to facilitate cleaning and collection of debris from interior of pipe. Flushing shall be accomplished through full pipe size connections at full pipe depth. The velocity of the flushing water shall be at least 2.5-feet per second. Flushing shall be terminated at the direction of the County. The Contractor shall dispose of the flushing water without causing a nuisance or property damage. The Contractor shall arrange with the County and pay for the source of flushing water.
2. In lieu of flushing, new water mains may be hydraulically or pneumatically cleaned with a polypropylene swabbing device in accordance with "Orange County Utilities Standards and Construction Specifications Manual."
  - a. The Contractor is responsible to provide temporary access and egress points.
  - b. Passage of the cleaning swabs through the system shall be constantly monitored, controlled, and all poly swabs entered into the system shall be individually marked and identified.
  - c. Cleaning of the system shall be done in conjunction with the initial filling of the system for its hydrostatic test.
  - d. The Contractor is responsible for collection of debris, water, and the swab. Considerations shall be made for protecting surrounding property and personnel.
  - e. Swabbing speed shall range between 2 and 5-feet per second.

#### B. Pressure and Leakage Tests of Pressure Piping

1. General: The Contractor shall perform hydrostatic pressure and leakage tests on all pressure piping. Tests shall be made between valves and shall not exceed 2,000-feet. Each side of all valves shall be pressure tested. Multiple sections of main may be tested simultaneously providing there are non-pressurized sections in between each pressure-tested section.
2. Standard: AWWA C600, Section 4, with the exceptions required herein and the exception that the Contractor shall furnish all gauges, meters, pressure pumps, and other equipment needed to test the lines.
3. Hydrostatic Pressure Test
  - a. Test Pressure: Pressure test at 50% above the normal working pressure, but not less than 150-psi, unless otherwise noted on the Drawings.
  - b. Test Duration: Duration is 2-hours. If during the test, the integrity of the tested line is in question, the County may require a 6-hour pressure test.
  - c. Air Release: Corporation cocks at least 3/4-inch in diameter, pipe riser, and angle globe valves shall be provided at each dead-end to bleed air from the line.
4. Hydrostatic Leakage Test
  - a. General: Following the pressure test, the Contractor shall perform the leakage test. The line shall be filled with water and all air removed for the test. The Contractor shall provide a pump to maintain the test pressure for the entire test period.
  - b. Test Pressure: Maximum operating pressure as determined by the County but not less than 150-psi unless otherwise noted.
  - c. Test duration: 2-hours.



d. Allowable leakage:  $L = \frac{SD(P)0.5}{148,000}$

L = Allowable leakage (gallons per hour)

S = Length of pipe tested (feet)

D = Nominal diameter of pipe (inches)

P = Average test pressure maintained (psig)

- e. Visible Leakage: All leaks evident at the surface shall be repaired and leakage eliminated regardless of the measured total leakage.
- f. Leakage Measurement: The amount of water required to maintain the test pressure is the leakage.

C. Wire Continuity Check: The Contractor shall perform a continuity check of the 10-gauge locating wire for the entire length of the main by performing a continuity test at each valve test station box.

### 3.5 DISINFECTING POTABLE WATER PIPELINES

A. General: Before being placed in service, all potable water pipelines shall be disinfected by chlorination. Taps for chlorination and sampling shall be uncovered and backfilled by the Contractor as required. The disinfection procedure shall be approved by the County.

B. Standard: AWWA 651, "Standard Procedures for Disinfecting Water Mains."

C. Procedure

1. Flush all dirty or discolored water from the line and introduce chlorine in approved dosages through a tap at one end while water is being withdrawn at the other end of the line.
2. The chlorine solution shall remain in the pipeline for 24-hours.
3. Following the chlorination period, all treated water shall be flushed from the line and replaced with water from the distribution system.
4. Bacteriological sampling and analysis shall be made in full accordance with AWWA Manual C651 and the appropriate FDEP permit. If necessary, the Contractor will be required to re-chlorinate.
5. Sampling and analysis shall be done by the County.

D. Approval: The line shall not be placed in service until the requirements of the State and County Public Health Department are met and the bacteriological test results are approved by the Department of Environmental Protection.

### 3.6 CONNECTION TO EXISTING SYSTEM

A. All connections to existing mains shall be made after complete disinfection of the proposed system and shall be made under the direction of the County. Valves separating the mains being installed from existing mains shall be operated by or under the direction of the County. The cost of the Work in making the connections shall be paid for by the Contractor.

- B. In the event the proposed main is to be connected to a main which has one or more active services between the point of connection and the first existing line valve, a temporary plug or cap shall be installed on the new main until the pressure tests and disinfecting are completed. Upon satisfactory completion, the cap or plug shall be removed from both mains and the connection made with pipe which has been swabbed out with a solution of chlorine and water. The connection shall be made as swiftly as possible and any water in the ditch shall be kept below the level of the pipe. The pipeline shall then be placed in service by the County's personnel.
- C. In the event any existing users will be without water while a connection is being made, the Contractor shall notify the County 72-hours prior to disconnection. The County shall notify the affected user(s) when the water will be turned off and when the service is estimated to be resumed. In some instances, these connections may have to be made at night. No user shall be without water service for more than 3-hours.

3.7 SUPPLIER'S FIELD SERVICE:

- A. The Contractor shall, at no additional cost to the County, arrange for a pipe supplier's field representative to be on-site to provide instruction to each crew working on the installation for a minimum of 4 push-on joints (PVC, DIP). The supplier's field representative shall certify that the installations observed were satisfactorily completed and all pipe installation crews were familiar with the proper methods and procedures for the pipeline installations.

3.8 WATER FOR USE IN FLUSHING, TESTING, AND DISINFECTION:

- A. The Contractor shall arrange with the County for water required for pressure testing, flushing, and disinfection required by the Contractor. The Contractor shall provide meter and backflow preventer.

**END OF SECTION**

## SECTION 02670

### PRESSURE MAIN SAMPLE COLLECTION

#### PART 1 - GENERAL

##### 1.1 DESCRIPTION

###### A. SCOPE:

Where an existing pressure main is being tapped, connected to a new constructed main, or being prepared for abandonment, a pipe sample shall be collected in order for the County to perform a condition assessment of the pipe. This section specifies the procedures for collecting pipe samples and does not address the work involved in the tapping, the repair, or the actual abandonment of the pipeline.

###### B. GENERAL SAMPLE REQUIREMENTS:

The pipe samples shall be taken from all existing pipe connections or abandoned pipe that is ductile iron pipe, cast iron pipe, asbestos cement pipe, and prestressed concrete cylinder pipe.

#### PART 2 - MATERIALS (Not Used)

#### PART 3 - EXECUTION

##### 3.1 PIPE SAMPLE COLLECTION

Contractor shall be responsible for obtaining coupons or sections from pressure mains being tapped, removed, or abandoned, digital photos, and completing the Pressure Main Sample Collection Submittal Form (see Appendix B). As indicated on the drawings, the Contractor shall collect coupons taken from line-stop operations, line taps, dry connection, or from any other operations such as where the pipe will be disconnected, removed or abandoned.

- A. The submittal requirements are not considered complete unless all of the requirements described below are complete for each sample of pipe.
  1. Complete the Pressure Main Sample Collection Submittal Form (see Appendix B)
  2. If applicable, note in the comments section of the form:
    - a. The condition of the DIP external polyethylene wrap.
    - b. Site observations relevant to work site of the sample (e.g. gas main in close proximity, AC pipe with areas of softness, etc.)
    - c. Visually inspect the exposed asbestos cement pipe and note if there are areas of softness
  3. Pipe sample unique identification number as shown on the drawings:
    - a. Shall be printed on a sturdy waxed tag affixed to each whole piece of pipe sample or legibly marked on the pipe sample with permanent marking pen.

- b. Wet-tap samples shall have a legibly written ID number on the exterior side and top of the sample.
  - c. An additional digit will be added at the end to indicate where multiple samples were taken from a pipe with the same ID number.
  - 4. Pipe sample requirements:
    - a. Wet-taps from a tapping sleeve - the complete tapping coupon
    - b. Dry connection – 12” length of pipe
    - c. Abandoned pipe – 12” length of pipe at the beginning and the end if applicable
    - d. Pipe repair – 12” length of pipe that was cut from the existing pipe representative of damage or typical conditions.
  - 5. GPS coordinates of where the sample was taken shall be noted on the Submittal Form
  - 6. Provide digital photographs for the following views:
    - a. Overall Work site
    - b. Exposed pipe before tap or abandonment
    - c. Sample exterior
    - d. Close-up of the edge (thickness of pipe)
    - e. All photos shall bear the unique sample ID number shown on the drawings, date, and time.
- B. Prior to submitting a monthly pay request that includes payment for taps, connections, replacement or abandonment of pipe, the Contractor’s requirements as specified herein shall be acceptable to the County.

**END OF SECTION**

**SECTION 15064**  
**POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS**  
**PART 1 – GENERAL**

1.01 DESCRIPTION

- D. Scope of Work: Furnish all labor, materials, equipment and incidentals required and install and test all polyvinyl chloride (PVC) piping, fittings and appurtenances as shown on the Drawings and specified herein.
  
- E. General Design: The equipment and materials specified herein are intended to be standard types of PVC pipe and ductile iron fittings for use in transporting wastewater, reclaimed water, and water.

1.02 QUALITY ASSURANCE

- A. Qualifications: All of the PVC pipe and ductile iron fittings shall be furnished by manufacturers who are fully experienced, reputable, and qualified in the manufacture of the materials to be furnished. The pipe and fittings shall be designed, constructed, installed in accordance with the best practices and methods and shall comply with these specifications as applicable.
- B. Standards:
  - 1. AWWA C900/C905
  - 2. ASTM D1784 / D1785 / D2241 / D2466 / D2564 / D2729 / D2774 /
  - 3. D3034 / D3139 /D3212
  - 4. NSF I4
  - 5. UNI-B-1 through 5
- C. Factory Tests: The manufacturer shall perform the factory tests described in Section 3 - AWWA C900/C905.
- D. Quality Control:
  - 1. The manufacturer shall establish the necessary quality control and inspection practice to ensure compliance with the referenced standards.
  - 2. In addition to the manufacturer's quality control procedures, the County may select an independent testing laboratory to inspect the material at the production facility for compliance with these specifications. The County will pay for the cost of facility inspection requested by the County.

1.03 SHOP DRAWINGS AND SUBMITTALS

- A. Submittals shall be submitted to the County/Professional for review and acceptance prior to construction in accordance with the General Conditions and specifications Section 01300 "Submittals."
- B. Materials and Shop Drawings
- C. Manufacturer's Certification
  - 1. Submit sworn certification of factory tests and their results.

#### 1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Delivery and Storage: Delivery and storage of the materials shall be in accordance with the manufacturer's recommendations. PVC pipe shall be covered with black plastic with a minimum thickness of 15-mil. Joint gaskets shall be stored in a clean, dark and dry location until use.
- B. Handling: Care shall be taken in loading, transporting and unloading to prevent damage to the pipe or fittings and their respective coatings. Pipe or fittings shall not be rolled off the carrier or dropped. Pipe shall be unloaded by lifting with a forklift or crane. All pipe or fittings shall be examined before installation and no piece shall be installed which is found to be defective. Pipe shall be handled to prevent damage to the pipe or coating. Accidental damage to pipe or coating shall be repaired to the satisfaction of County or it shall be removed from the job. When not being handled, the pipe shall be supported on timber cradles or on level ground, graded to eliminate all rock points and to provide uniform support along the full pipe length. When being transported, the pipe shall be supported at all times in a manner to prevent distortion or damage to the lining or coating. Any unit of pipe that, in the opinion of the County, is damaged beyond repair by the Contractor shall be removed from the site.
- C. The Contractor shall be responsible for all materials furnished and stored until the date of project completion. The Contractor shall replace, at his expense, all materials found to be defective or damaged in handling or storage. The Contractor shall, if requested by the County, furnish certificates, affidavits of compliance, test reports, samples or check analysis for any of the materials specified herein. All pipe delivered to project site for installation is subject to random testing for compliance with the designated specifications.

### **PART 2 – PRODUCTS**

#### 2.01 GENERAL

- A. All material supplied shall be one of the products specified in Appendix D "List of Approved Products" appended to these technical specifications.

#### 2.02 MATERIALS

- A. Polyvinyl Chloride (PVC) Pipe
  1. Standards: AWWA C900/C905 and ASTM D1784/D3034/F679 (Gravity Sewer)
  2. Compounds: Class 12454-A or Class 12454-B

3. PVC Gravity Pipe and Fittings: PVC gravity pipe (6-inch to 15-inch), shall conform to ASTM D3034, maximum SDR 35. PVC gravity pipe (18-inch to 36-inch), shall conform to ASTM F679 and uniform minimum "pipe stiffness" at 5% (percent) deflection shall be 46-psi. The joints shall be integral bell elastomeric gasket joints manufactured in accordance with ASTM D3212 and ASTM F477. Applicable UNI Bell Plastic Pipe Association standard is UNI B.
4. PVC Pressure Pipe and Fittings: All PVC pipe of nominal diameter 4 to 12-inches shall be manufactured in accordance with AWWA Standard C900 and greater than 12-inches shall be manufactured in accordance with AWWA Standard C905. The PVC pipe shall have a minimum working pressure rating of 100-psi and shall have a maximum dimension ratio of 18. Pipe shall be the same outside diameter as ductile iron pipe.
5. Dimension Ratio/Thickness: (unless otherwise shown on the Drawings)
  - a. Raw Wastewater:
    - (1) Pressure Systems: DR 18
    - (2) Gravity Systems: DR 35 (ASTM D3034) or PS 46 (ASTM F679)
  - b. Treated Wastewater: DR 18
  - c. Reclaimed Water: DR 18
  - d. Raw Water: DR 18
  - e. Potable Water: DR 18
  - f. Irrigation Piping: Schedule 40 or SDR 21
6. Joints:
  - a. Push-on integral bell elastomeric gasket joints:
    - (1) Standards: ASTM D3212/D3139/F477 and UNI-B-1
    - (2) Gaskets:
      - (1) Potable and Reclaimed Water Service: Styrene Butadiene Rubber (SBR) rieber type.
      - (3) Pipe Markings: Pipes shall have a manufacturer's home-mark on the spigot. On field cut pipe, the Contractor shall provide home-mark on the spigot in accordance with manufacturer's recommendations. Solvent weld (nominal diameter less than 4-inches):
        - (1) Standards: ASTM D2466/D2564
        - (2) Type: Slip Fitting Socket (tapered)
        - (3) Exclusions: Plastic saddle and flange joints will not be used.
  - b. Restrained Joints:
    - (1) Restrained joint devices shall be made specifically for PVC pipe and meet or exceed the requirements in ASTM F-1674.

- (2) Manufacturers: Uni-flange mechanical joint restraints and bell restraints (for all sizes); Meg-a-lug system as manufactured by EBBA Iron (sizes 12-inches or less), or acceptable equal.
    - (3) Design pressure rating equal to or above test pressure as specified herein.
  - c. Pipe Length:
    - (1) Pressure systems: 20-feet maximum nominal length
    - (2) Gravity systems: 13-feet minimum nominal length
- B. Fittings - Pressure Systems (nominal diameter 4-inches and greater):
  - a. Materials: Ductile iron
  - b. Joints: Mechanical Joint, Minimum 350-psi pressure rating
  - c. Gaskets:
    - a. Water and Reclaimed Water Service: Styrene Butadiene Rubber (SBR) ring type
    - b. Wastewater Service: Neoprene rubber ring type
  - d. Exclusions: Standard double bell couplings will not be acceptable where the pipe will slip completely through the coupling.
  - e. All fittings shall conform to either ANSI/AWWA C110/A21.10 and/or C153/A21.53, latest revision, and shall be ductile iron.
  - f. All fittings shall have a date code cast (not printed or labeled), with identification of the date, factory and unit at which it was cast and machined. Fittings shall have distinctly cast on them the pressure rating, nominal diameter of openings, manufacturer's name, the country where cast, and deflection angle. Ductile iron fittings shall have the letters "DI" or "Ductile" cast on them.
  - g. All potable water main fittings shall have NSF certification and ISO 9001 certification for both the foundry and manufacturer. The NSF 61 certification shall be issued on all coatings and linings, from the said manufacturers that are used for potable water applications.
  - h. All ductile iron fittings shall have exterior coatings, including markings and colors, and interior linings.
- C. Fittings - Pressure Systems (nominal diameter less than 4-inches)
  - 1. Material: Polyvinyl Chloride (PVC)
  - 2. Joints: Slip fitting tapered socket with solvent weld
  - 3. Solvent: Sure Guard 12 or acceptable equal
  - 4. Exclusions: Plastic saddle and flange joint fittings shall not be used

2.03 LOCATION MARKERS, LOCATION WIRE AND IDENTIFICATION MARKINGS



- A. Electronic Markers and Locator System (for reclaimed water and wastewater ONLY)
1. Markers: Markers shall consist of a passive device capable of reflecting a specifically designated repulse frequency tuned to the utility (service) being installed. Markers shall be color coded in accordance with the American Public Works Association's "Utility Locating and Coordinating Council Standards." Colors shall be: Wastewater and Reclaimed Water - #1404 Green. Markers shall be full range. Markers shall be installed directly above the centerline of the respective pipeline at intervals not to exceed 100-feet, at each fitting (tees, wyes, crosses, reducers, plugs, caps and bends) or change in horizontal direction and at each valve along the pipeline. Markers shall be hand backfilled to 1-foot above the pad and have a finished depth of burial of not less than 2-feet or more than 6-feet. No separate payment shall be made for furnishing and installing the respective frequency and color-coded electronic pad type marker.
  2. Locator System: Marker locator set shall be the 3M Dynatel 1420 or 3M Dynatel 1420E Electronic Marker System Marker Locator, or acceptable equal. The Contractor shall furnish 1 locator set for each type of service piping installed on the Project (i.e.: reclaimed water, wastewater.) to the County. Each unit shall incorporate the following features and accessories:
    - a. Unit(s) shall be tuned to the proper frequency for each type (service) of piping.
    - b. Field strength meter that provides visual indication of the return signal
    - c. Function switch for selection of operation mode
    - d. Sensitivity control to adjust the receiver gain
    - e. Audio speaker for signal response
    - f. Battery access panel containing condensed operating instructions
    - g. Auxiliary headset and heads set jack
    - h. Permanently attached shoulder straps
    - i. Rugged shockproof and weatherproof storage/carrying case
  3. Manufacturer: System shall be Scotch Mark Locator System, or acceptable equal.
- B. Location Detection Wire
1. Materials: Continuous, insulated 10-gauge copper wire (color to match pipe identification).
  2. Installation: Directly above (1-inch maximum) centerline of pipe terminating at top of each valve box collar and be capable of extending 18-inches above top of box (stored inside the 2-inch brass pipe through the valve box collar) in a manner so as not to interfere with valve operation. For direction drilling installations, a minimum of 2 (two) 10-gauge wires shall be pulled along with the pipe.
- C. Identification Markings:
1. Pipe furnished in solid color or white with color lettering as indicated below.

- f. Locating Wire: Locating wire, for electronically locating pipe after it is buried, or installed by trenchless technology shall be attached along the length of and installed with the pipe. This is applicable to all sizes and types of pressure mains. At a minimum, the tracing wire is to be attached to the pipe with nylon wire ties. The wire itself shall be 10-gauge single strand solid core copper wire with nonmetallic insulation. The insulation shall be color coded for the type of pipe being installed. Continuous continuity must be maintained in the wire along the entire length of the pipe run. Permanent splices must be made in the length of the wire using wire connectors approved for underground applications as listed in the uniform electric code handbook. The coiled wire shall extend to a minimum of 12-inches above the surface and be connected to a test station box at valve locations.
- g. PVC Pressure Pipe Installation and Training: PVC pipe shall be installed in accordance with standards set forth in the UNI-BELL "Handbook of PVC Pipe", AWWA C605, and AWWA Manual M-23. The pipe shall be laid by inserting the spigot end into the bell flush with the insertion line or as recommended by the manufacturer. At no time shall the bell spigot end be allowed to go past the "insertion line" or "homing mark" for pressure pipe applications and homing mark shall be visible.
- h. Field Cutting: PVC pipe can be cut with a handsaw or power driven abrasive disc making a square cut. The end shall be beveled with a beveling tool, wood rasp or power sander to the same angle as provided on the factory-finished pipe. The insertion line on the spigot shall be remarked to the same dimensions as the factory-marked spigot.
- i. All Contractor pipe crews utilizing PVC pressure pipe shall be trained on an annual basis by Uni-Bell in coordination with the County and attended by the manufacturer's representative of the respective approved Manufacturers in Appendix D "List of Approved Products." The Uni-Bell PVC training session will consist of proper handling, storage, installation, and compaction as well as County requirements regarding PVC pipe and deflection. Every person handling, installing or backfilling PVC pipe shall not be permitted to install County owned and / or maintained pipe without training.
- j. Approved manufacturers representatives (Appendix D "List of Approved Products"), not present at the hosted Uni-Bell training session or individuals of pipe crews not in attendance shall be trained on every project site. On-site project training shall be for each manufacturer of pipe utilized on-site, per crew and per project. Specifically each crewmember shall be trained on every project by every pipe manufactures representative regardless of previous on-site training. Every person handling, installing or backfilling PVC pipe

shall not be permitted to install County owned and / or maintained pipe without training.

- k. PVC Gravity Pipe Installation: Gravity sewer pipe shall be installed to the homing mark, no tolerance. Any noticeable separation shall be removed and reinstalled. The homing mark may be disregarded to meet the maximum of 1-inch separation between bell and spigot requirement.
- l. Joint Placement
  - (1) Push on joints: Pipe shall be laid with the bell ends facing upstream. The gasket shall be inserted and the joint surfaces cleaned and lubricated prior to placement of the pipe. After joining the pipe, a metal feeler shall be used to verify that the gasket is correctly located.
  - (2) Mechanical Joints: Pipe and fittings shall be installed in accordance with the "Notes on Method of Installation" under ANSI A21.11/AWWA C111. The gasket shall be inserted and the joint surfaces cleaned and lubricated with soapy water before tightening the bolts to the specified torque.

C. Thrust Restraint

- 1. Thrust restraint shall be accomplished by the use of mechanical restraining devices unless specifically identified otherwise on the Drawings or herein.
- 2. Length of restrained joints shall be in accordance with the lengths listed in the table as shown on the Drawings.

D. Installation of Pipes on Curves:

- 1. No joint deflection or pipe bending is allowed in PVC pipe. The maximum allowable tolerance in the joint due to variances in installation is  $0.75^\circ$  (degrees) (3-inches per joint per 20-foot stick of pipe). No bending tolerance in the pipe barrel shall be acceptable. Alignment change shall be made only with sleeves and fittings.

3.02 CLEANING AND FIELD TESTING

- A. At the conclusion of the Work, the Contractor shall provide all associated cleaning and field testing as specified in associated sections of these specifications.

**END OF SECTION**

**APPENDIX 1**

**ORANGE COUNTY UTILITIES STANDARDS AND CONSTRUCTION  
SPECIFICATIONS MANUAL, APPENDIX D – LIST OF APPROVED PRODUCTS**

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APPENDIX D LIST OF APPROVED PRODUCTS - TRANSMISSION SYSTEMS

FEBRUARY 11, 2011

Cat.	Desc	Manufacturer	Model #	Water	Comments	Model #	Reclaimed Water	Comments	
Air Release	ARV Enclosure	<b>All ARV above ground enclosures shall be vented with tamper proof locking device</b>							
		Water Plus Polyethylene Enclosure	131632 H30-B	Blue 44" Tall		131632 H30-P	Pantone 44"		
			171730 H40-B	Blue 30" Tall		171730 H40-P	Pantone 30"		
		Hot Box Vent Guard	AVG2036 Encl. GP3232 Base	Blue 36" Tall		AVG2036 Encl. GP3232 Base	Pantone 36" Tall		
		Fiberglass Enclosure	AVG2041 Encl. GP3232 Base	Blue 41" Tall		AVG2041 Encl. GP3232 Base	Pantone 41" Tall		
	Safety-Guard/Hydro Guard	15100 Encl	Blue 34" Tall		15100 Encl	Pantone 34" Tall			
Air Release Valves	<b>Air Release Valves shall be Combination Type, 316 SS</b>								
	ARI	D-040SS	Combination		D-040SS	Combination			
	H-TEC	NA	NA		NA	NA			
	Vent-O-Mat	Series RBX DN50	2"		Series RBX DN50	2"			
ARV Vault	<b>Air Release Valve Frame and Cover</b>								
	US Foundry	NA	NA		NA	NA			
Auto Blow Off	<b>Automatic Blow Off Valve</b>								
	Hydro Guard	HG-1 Standard Unit	Automatic		NA	NA			
Blow Off Valve	<b>Blow Off Valve - Fits standard 5-1/4 inch Valve Box</b>								
	Kupferle Foundry Co	TruFlo Series TF #550			TruFlo Series TF #550				
	Water Plus Corp	The Hydrant Plus Series VB 2000B			The Hydrant Plus Series VB 2000B				
Casing Seals / Spacers	<b>Casing End Seals. Annular space between pipe and steel casing shall be brick and mortar with end seals to secure ends.</b>								
	Advance Products	Model AC and AW			Model AC and AW				
	BWM Company	Model WR and PO			Model WR and PO				
	Cascade Water Works	Model CCES			Model CCES				
	CCI Pipeline	Model ESW and ESC			Model ESW and ESC				
	Pipeline Seal & Insulator, Inc (PSI)	Model C and W			Model C and W				
Power Seal	Model 4810ES			Model 4810ES					

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Cat.	Desc	Manufacturer	Water Model #	Comments	Reclaimed Water Model #	Comments
Casing Seals / Spacers	Casing spacer	Advance Products	SSI8 / SSI12		SSI8 / SSI12	
		BWM Company	BWM-SS-8 / SS-12		BWM-SS-8 / SS-12	
		Cascade Water Works	Series CCS 8" / 12"		Series CCS 8" / 12"	
		CCI Pipeline	Model CCS8 / CSS12		Model CCS8 / CSS12	
		Pipeline Seal & Insulator, Inc (PSI)	Series S8G-2 / S12G-2		Series S8G-2 / S12G-2	
		Casing spacers shall be a min. 8-inches wide for pipe 12" Dia or less or min. 12-inches wide for pipe 16 or greater, shall have a minimum 14 gauge 304 stainless steel shell/hand, minimum 10 gauge 304 reinforced risers; minimum thickness of 0.090 EPDM or PVC interior liners, glass reinforces polymer or ultra high molecular weight polyethylene and 304 stainless bolts, nuts and washers.				
Coatings	Exterior Coatings for Exposed Metal Assets	Coatings: Aerial pipe, hydrants, above ground piping, fittings, valves and Appurtenances - System 1 Zinc / Urethane / Fluoropolymer application and color code per Section 3119 Coatings & Linings. Coating shall not be in contact with Potable water unless NSF 61 approved.				
		Carboline	Carbozinc 621	3.0 - 8.0 mils	Carbozinc 621	3.0 - 8.0 mils
			Carbothane 133 HB	3.0 - 5.0 mils	Carbothane 133 HB	3.0 - 5.0 mils
			Carboxane 950	2.0 - 3.0 mils	Carboxane 950	2.0 - 3.0 mils
			Zinc Series 90-97	2.5 - 3.5 mils	Zinc Series 90-97	2.5 - 3.5 mils
			Typoxy Series 27WB	4.0 - 14.0 mils	Typoxy Series 27WB	4.0 - 14.0 mils
Coatings	Exterior Coatings for Exposed Metal Assets	Coatings: Aerial pipe, hydrants, above ground piping, fittings, valves and Appurtenances - System 2 Zinc / Epoxy / Urethane application and color code per Section 3119 Coatings & Linings. Coating shall not be in contact with Potable water unless NSF 61 approved.				
			EnduraShield Series73	2.0 - 3.0 mils	EnduraShield Series73	2.0 - 3.0 mils
			Hydroflon Series 700	2.0 - 3.0 mils	Hydroflon Series 700	2.0 - 3.0 mils
			Carbozinc 621	3.0 - 8.0 mils	Carbozinc 621	3.0 - 8.0 mils
			Carboguard 60	4.0 - 6.0 mils	Carboguard 60	4.0 - 6.0 mils
			Carboxane 950	2.0 - 3.0 mils	Carboxane 950	2.0 - 3.0 mils
Coatings	Exterior Coatings for Exposed Metal Assets	Coatings: Aerial pipe, hydrants, above ground piping, fittings, valves and Appurtenances - System 2 Zinc / Epoxy / Urethane application and color code per Section 3119 Coatings & Linings. Coating shall not be in contact with Potable water unless NSF 61 approved.				
			Zinc Series 90-97	2.5 - 3.5 mils	Zinc Series 90-97	2.5 - 3.5 mils
			Typoxy Series 27WB	4.0 - 14.0 mils	Typoxy Series 27WB	4.0 - 14.0 mils
			Hi-Build Epoxoline II	4.0 - 10.0 mils	Hi-Build Epoxoline II	4.0 - 10.0 mils
			Series N69		Series N69	
			EnduraShield Series73	2.0 - 3.0 mils	EnduraShield Series73	2.0 - 3.0 mils
Coatings	Exterior Coatings for Exposed Metal Assets	Coatings: Aerial pipe, hydrants, above ground piping, fittings, valves and Appurtenances - System 2 Zinc / Epoxy / Urethane application and color code per Section 3119 Coatings & Linings. Coating shall not be in contact with Potable water unless NSF 61 approved.				
			Amercoat 68HS	Min 3.0 mils	Amercoat 68HS	Min 3.0 mils
			Amercoat 385	4.0 - 6.0 mils	Amercoat 385	4.0 - 6.0 mils
			Amercoat 450H	2.0 - 3.0 mils	Amercoat 450H	2.0 - 3.0 mils

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Cat.	Desc	Manufacturer	Model #	Water	Comments	Reclaimed Water	Model #	Comments
Fittings	Ductile Iron Fittings C153 SSB / C110 FLG: (Water & Reclaimed Water fittings shall cement lined or holiday free fusion bonded epoxy lined) (Wastewater fittings interior shall be Protecto 401 and holiday free)	American	30" & up	FBE / Cement			30" & up	FBE / Cement
		Sigma		FBE / Cement				FBE / Cement
		Star		FBE / Cement				FBE / Cement
		Tyler Union & Clow		FBE / Cement				FBE / Cement
Flow	Flow Meters With Replaceable Sensors	EMCO	NA	NA			NA	NA
		Hydrants Shall open left, 1-1/2 Pentagon operating nut, NST hose & pumper thread, rotate 360 degrees, closed drains, epoxy on shoe in & out and 304 SS nuts & bolts below ground.						
Hydrants	Hydrants	American Flow Control	B-84-B (6 inch)				NA	NA
		Clow	Medallion 2545				NA	NA
		Mueller	Super Centurion 250				NA	NA
		Mechanical Joint Wedge-action Restraining Gland, Epoxy Coated Restraining ductile iron pipe to mechanical joint fittings, pipe and appurtenances.						
Joint Restraints	Ductile iron pipe MJ Restraints	EBAA Iron Inc	Megalug Series 1100				Megalug Series 1100	
		Ford / Uni-Flange	UFR-1400				UFR-1400	
		Sigma	OneLok Series SLD/SLDE				OneLok Series SLD/SLDE	
		Smith Blair	Cam Lok Series 111				Cam Lok Series 111	
		Star	Star Grip Series 3000				Star Grip Series 3000	
		Tyler Union	TufGrip Series TLD				TufGrip Series TLD	
		Bell Joint Restraints for Ductile Iron Pipe (4"-12") (New & Existing) - All restraints split serrated on bell and spigot ends. Pipe 16" and greater shall have restraint gaskets or locking bells. (Wastewater only for restraint of existing DIP FM)						
Joint Restraints	DIP Bell Joint Restraints (4"-12") (New & Existing)	EBAA Iron Inc	Tru-Dual Series 1500TD				Tru-Dual Series 1500TD	
		Ford / Uni-Flange	Uni-Flange Series 1390C				Uni-Flange Series 1390C	
		Sigma	PV-Lok Series PWP-C				PV-Lok Series PWP-C	
		Smith Blair	Bell-Lock Series 165				Bell-Lock Series 165	
		Star	StarGrip Series 3100S				StarGrip Series 3100S	
		Tyler Union	TufGrip-Series 300C				TufGrip-Series 300C	
DIP Bell Joint Restraints (16" & Greater)	Ductile Iron Pipe Bell Joint Restraints for Ductile Iron Pipe (16" & Greater) - All restraints shall have a split back-up ring for the bell and a serrated or wedge action gland for the spigot end. New installation for water & reclaimed water piping 16" and greater shall have restraint gaskets or locking bells.	EBAA Iron Inc	Series 1100HD	Existing Only			Series 1100HD	Existing Only
		Sigma	Series SSLDH	Existing Only			Series SSLDH	Existing Only
		Star	Series 3100S	Existing Only			Series 3100S	Existing Only



LIST OF APPROVED PRODUCTS - TRANSMISSION SYSTEMS

Desc	Manufacturer	Water	Reclaimed Water	Comments				
Model #	Model #	Comments	Model #	Comments				
Ductile iron pipe Bell Joint Restraint Gaskets and Locking Bell (4" & Above)	American	Fast Grip Gasket	Fast Grip Gasket	Gasket				
		Flex-Ring Joint	Bell Lock	Bell Lock				
		Lok-Ring Joint	Bell Lock	Bell Lock				
		Talon RJ Gasket	Gasket	Gasket				
		Snap-Lok	Bell Lock	Bell Lock				
		Sure Stop 350 Gasket	Gasket	Gasket				
		Thrust-Lock	Bell Lock	Bell Lock				
		TR-Flex	Bell Lock	Bell Lock				
		Super-Lock	Bell Lock	Bell Lock				
		Field Lok 350 Gasket	Gasket	Gasket				
Griffin	Griffin	Field Lok Gasket	Field Lok Gasket	Gasket				
		TR-Flex	Bell Lock	Bell Lock				
		HP Lok Restraint Joint	Bell Lock	Bell Lock				
		McWane Inc. DI Pipe Group	McWane Inc. DI Pipe Group	Fast Grip Gasket	Fast Grip Gasket	Gasket		
				Flex-Ring Joint	Bell Lock	Bell Lock		
				Lok-Ring Joint	Bell Lock	Bell Lock		
				Talon RJ Gasket	Gasket	Gasket		
				Snap-Lok	Bell Lock	Bell Lock		
				Sure Stop 350 Gasket	Gasket	Gasket		
				Thrust-Lock	Bell Lock	Bell Lock		
TR-Flex	Bell Lock			Bell Lock				
Super-Lock	Bell Lock			Bell Lock				
Field Lok 350 Gasket	Gasket			Gasket				
US Pipe	US Pipe	Field Lok Gasket	Field Lok Gasket	Gasket				
		TR-Flex	Bell Lock	Bell Lock				
		HP Lok Restraint Joint	Bell Lock	Bell Lock				
		SS to DIP Transition Restraint	EBAA Iron Inc	NA	NA	NA		
				NA	NA	NA		
				NA	NA	NA		
				SS to DIP Transition Restraint - Flanged stainless steel pipe from Wetwell to Valve box restrained joint transition (epoxy coated, SS hardware) Fig x PE R.J.	Smith Blair	NA	NA	NA
						NA	NA	NA
						NA	NA	NA
						Mechanical Joint Wedge-action Restraining Gland, Epoxy Coated Restraint	EBAA Iron Inc	Mega-lug Series 2000PV
NA	NA							NA
UFR 1500 Series	UFR 1500 Series							NA
One Lok Series SLC/SLCE	One Lok Series SLC/SLCE							NA
Cam Lok Series 120	Cam Lok Series 120	NA						
Star Grip Series 4000	Star Grip Series 4000	NA						
TufGrip Series TLP	TufGrip Series TLP	NA						
PVC Bell Joint Restraints	EBAA Iron Inc	PVC pipe Split Serrated on Bell End and Spigot End. (4" - 12") (New & Existing)	PVC pipe Split Serrated on Bell End and Spigot End. (4" - 12") (New & Existing)	NA				
		Tru-Dual Series 1500TD	Tru-Dual Series 1500TD	NA				
		Uni-Flange Series 1390	Uni-Flange Series 1390	NA				
		PV-Lok Series PWP	PV-Lok Series PWP	NA				
		Bell-Lock Series 165	Bell-Lock Series 165	NA				
		Series 1100C	Series 1100C	NA				
		TufGrip 300C	TufGrip 300C	NA				
		PVC Bell Joint Restraints (4" - 12") (New & Existing)	Ford / Uni-Flange	Tru-Dual Series 1500TD	Tru-Dual Series 1500TD	NA		
				Uni-Flange Series 1390	Uni-Flange Series 1390	NA		
				PV-Lok Series PWP	PV-Lok Series PWP	NA		
Bell-Lock Series 165	Bell-Lock Series 165			NA				
Series 1100C	Series 1100C			NA				
TufGrip 300C	TufGrip 300C			NA				
PVC Bell Joint Restraints	Sigma			Tru-Dual Series 1500TD	Tru-Dual Series 1500TD	NA		
				Uni-Flange Series 1390	Uni-Flange Series 1390	NA		
				PV-Lok Series PWP	PV-Lok Series PWP	NA		
				Bell-Lock Series 165	Bell-Lock Series 165	NA		
		Series 1100C	Series 1100C	NA				
		TufGrip 300C	TufGrip 300C	NA				
		PVC Bell Joint Restraints	Smith Blair	Tru-Dual Series 1500TD	Tru-Dual Series 1500TD	NA		
				Uni-Flange Series 1390	Uni-Flange Series 1390	NA		
				PV-Lok Series PWP	PV-Lok Series PWP	NA		
				Bell-Lock Series 165	Bell-Lock Series 165	NA		
Series 1100C	Series 1100C			NA				
TufGrip 300C	TufGrip 300C			NA				
PVC Bell Joint Restraints	Star			Tru-Dual Series 1500TD	Tru-Dual Series 1500TD	NA		
				Uni-Flange Series 1390	Uni-Flange Series 1390	NA		
				PV-Lok Series PWP	PV-Lok Series PWP	NA		
				Bell-Lock Series 165	Bell-Lock Series 165	NA		
		Series 1100C	Series 1100C	NA				
		TufGrip 300C	TufGrip 300C	NA				
		PVC Bell Joint Restraints	Tyler Union	Tru-Dual Series 1500TD	Tru-Dual Series 1500TD	NA		
				Uni-Flange Series 1390	Uni-Flange Series 1390	NA		
				PV-Lok Series PWP	PV-Lok Series PWP	NA		
				Bell-Lock Series 165	Bell-Lock Series 165	NA		
Series 1100C	Series 1100C			NA				
TufGrip 300C	TufGrip 300C			NA				

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Cat.	Desc	Manufacturer	Model #	Water	Comments	Reclaimed Water	Model #	Comments		
Joint Restraints	PVC Bell Joint Restraints (16" & Greater)	Ford / Uni-Flange	Series 1390	Existing Only		Series 1390	Existing Only			
			JCM	Sur-Grip Series 621	Existing Only		Sur-Grip Series 621	Existing Only		
			Sigma	PV-Lok PWP	Existing Only		PV-Lok PWP	Existing Only		
			Smith Blair	Bell-Lock Series 165	Existing Only		Bell-Lock Series 165	Existing Only		
			Star	Series 1100C	Existing Only		Series 1100C	Existing Only		
Pipe	PVC C900 DR 18 Bell & Spigot (4" - 12")	Certa-Lok C900/RJ		Blue		Certa-Lok C900/RJ	Pantone Purple			
			Diamond Plastics Corp	Blue		C-900	Pantone Purple			
			Ipex Inc	Blue		C-900 Blue Brute	Pantone Purple			
			JM Eagle	Blue		C-900	Pantone Purple			
			National Pipe & Plastics Inc	Blue		C-900 Dura-Blue	Pantone Purple			
			North American Pipe Corp (NAPCO)	Blue		C-900	Pantone Purple			
			Sanderson Pipe Corp	Blue		C-900	Pantone Purple			
Pipe	PVC C905 DR 18 Bell & Spigot (16" and Larger)	Certa-Lok C905/RJ		Blue		Certa-Lok C905/RJ	Pantone Purple			
			Diamond Plastics Corp	Blue		C-905	Pantone Purple			
			Ipex Inc	Blue		C-905 Blue Brute	Pantone Purple			
			JM Eagle	Blue		C-905	Pantone Purple			
			National Pipe & Plastics Inc	Blue		C-905 Dura-Blue	Pantone Purple			
			North American Pipe Corp (NAPCO)	Blue		C-905	Pantone Purple			
			Sanderson Pipe Corp	Blue		C-905	Pantone Purple			
Pipe	HDPE C906 DR 11	JM Eagle		Blue		Certa-Lok C906/RJ	Pantone Purple			
			Performance Pipe(Chevron)	Blue		C-906	Pantone Purple			
			PolyPipe, Inc.	Blue		C-906 Blue Brute	Pantone Purple			
				Blue		C-906	Pantone Purple			
				Blue		C-906 Dura-Blue	Pantone Purple			
				Blue		C-906	Pantone Purple			
				Blue		C-906	Pantone Purple			

Cat.	Desc	Manufacturer	Water Model #	Water Comments	Reclaimed Water Model #	Reclaimed Water Comments	
Pipe	Ductile Iron Pipe	Ductile iron/Cast iron: (4" to 12" = Class 350, 16" to 24" - Class 250, 30" to 64" = Class 200). Water and Reclaimed water shall be cement lined. Wastewater Piping shall be Protecto 401 and Holiday Free. Exterior coatings as specified. Wastewater DIP piping shall be for pump station piping only. Manufacturers shall be members in good standing with DIPRA to maintain approval status.					
		American	Cement Lined	Blue		Cement Lined	Pantone Purple
		Griffin	Cement Lined	Blue		Cement Lined	Pantone Purple
		McWane Inc. DI Pipe Group	Cement Lined	Blue		Cement Lined	Pantone Purple
		US Pipe	Cement Lined	Blue		Cement Lined	Pantone Purple
Sample	Sample Station	Sample Stations - Bacteriological Sample Station with built in flush system, all internal piping to be 2", brass and includes lockable green enclosures.					
		Safety-Guard	SG-BSS-05 pedestal #77	green enclosure	NA	NA	
		Water Plus Corp	Model 5000	green	NA	NA	
Services	Brass Service Saddles	Brass Service Saddles for 1" & 2" water & reclaimed water services on 4" through 12" Mains - Service saddles can be hinge or bolt controlled OD saddles to be used on C-900 and existing IPS OD PVC pipe.					
		Ford	Series S-70, S-90	4"-12"		Series S-70, S-90	4"-12"
		AY McDonald	Model 3891 / 3895, 3801 / 3805	4"-12"		Model 3891 / 3895, 3801 / 3805	4"-12"
		Mueller	Series S-13000/H-13000	4"-12"		Series S-13000/H-13000	4"-12"
Services	Service Saddles	Service Saddles for 1" (CC) & 2" (Iron pipe threads) Water & Reclaimed Water services on mains greater than 12". Service saddles for 2" taps (iron pipe threads) on 4" mains and greater for Waste Water. : Epoxy or nylon coated stainless steel 18-8-type 304 double straps, controlled O.D. saddles to be used on C-900 / C905 or DI for all 1-in and -2in taps on pipes over 12in.					
		Ford	Series FCP202	16" & greater		Series FCP202	16" & greater
		JCM	Series 406	16" & greater		Series 406	16" & greater
		Mueller	DR2S	16" & greater		DR2S	16" & greater
		Romac	Series 202NS	16" & greater		Series 202NS	16" & greater
		Smith Blair	Series 317	16" & greater		Series 317	16" & greater
Services	Service Saddles for HDPE	Service Saddles for 1" (CC) & 2" (Iron Pipe threads) Water and Reclaimed Water Services: Epoxy or nylon coated stainless steel 18-8-type 304 double straps, controlled O.D. saddles to be used on HDPE for all 1-in and -2in taps. Taps to HDPE pipe shall be approved on a case by case basis.					
		Ford	Series FCP202			Series FCP202	
		Romac	Series 202N-H			Series 202N-H	
		Smith Blair	Series 317-1 for HDPE		Series 317-1 for HDPE		
Corporation	Stops Ball Type	Corporation Stops Ball Type (1-inch with AWWA taper C threads only/pack joint outlet for CTS) 2" Corporation Stop Ball Type shall be 2" MIP X FIP threads.					
		Ford	FB1000, FB1700-7			FB1000, FB1700-7	
		AY McDonald	4701B-22, 3149B2			4701B-22, 3149B2	
		Mueller	P25008, B-20046			P25008, B-20046	

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Cat.	Desc	Manufacturer	Model #	Water	Comments	Reclaimed Water	Model #	Comments
Services	Curb Stops	Curb Stops - Straight Valves: Ball type compression 2" cts O.D. tubing by 2" FIP						
		Ford	B41-777W				B41-777W	
		AY McDonald	6102W-22				6102W-22	
		Mueller	P25172				P25172	
	Curb Stops	Curb Stops - Straight Valves: ball type compression x compression						
		Ford	B44-444W				B44-444W	
		AY McDonald	6100W-22				6100W-22	
		Mueller	P25146				P25146	
	PE tubing	Polyethylene tubing: AWWA C901. UV protection (SDR-9) 1-inch and 2-inch only. PE 3408 / PE 4710						
		Charter Plastics	Blue Ice				Blue Ice	
Endot		Endopure Blue				Endocore Lavender		
JM Eagle		Pure-Core				NA	NA	
Line Stops	Line Stops							
	JCM							
	Romac							
	Smith Blair							
Tapping Sleeves and Valves	Tapping Sleeves: (Mechanical joint for taps on cast iron, ductile iron, PVC & AC pipe, including size on size) with stainless steel nuts and bolts.							
	Tapping Sleeves	American Flow Control	Series 2800				Series 2800	
			Series 1004				Series 1004	
		Clow	Series F-5205	DIP/PVC			Series F-5205	DIP/PVC
			Series F-5207	A/C Pipe			Series F-5207	A/C Pipe
		JCM	Series 414	FBE			Series 414	FBE
		Mueller	Series H-615	DIP/PVC			Series H-615	DIP/PVC
		Series H-619	A/C Pipe			Series H-619	A/C Pipe	
		Smith Blair	Style 623	FBE			Style 623	FBE
	Tapping Valves: 12" and smaller	Tapping Valves: 12" and smaller - Tapping Valves shall be furnished with an alignment lip and installed in the vertical position for Water and Reclaim Water. Wastewater shall be installed horizontally and abandoned in the open position. Tapping valves shall be resilient seated only and meet the requirements of AWWA C509 or C515						
American Flow Control		Series 2500	Alignment Lip			Series 2500	Alignment Lip	
Clow		Series F-6114	Alignment Lip			Series F-6114	Alignment Lip	
	Mueller	Series T2360 (4"-12")	Alignment Lip			Series T2360 (4"-12")	Alignment Lip	

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Cat.	Desc	Manufacturer	Model #	Water	Comments	Reclaimed Water	Model #	Comments
Tapping Sleeves and Valves	Tapping Valves: 16" and Larger	American Flow Control	Series 2500	Alignment Lip & flushing port		Series 2500	Alignment Lip & flushing port	
		Clow	Series F-6114	Alignment Lip & flushing port		Series F-6114	Alignment Lip & flushing port	
		Mueller	Series T2361 (14" & up)	Alignment Lip & flushing port		Series T2361 (14" & up)	Alignment Lip & flushing port	
Butterfly Valve	42" and Above	Butterfly Valves 42" and above. AWWA C504. Actuators input torques based on 150 psi valve pressure and 16 fps velocity with a maximum input of 80 ft-lb on 2" nuts and shall withstand 250 ft-lbs. Valve seats shall be leak-tight in both directions at 150 psi.						
		Clow	Style #1450			Style #1450		
		Dezurik	BAW			BAW		
Check Valves	Valves (Check) 4-inch and Larger (8 mil epoxy lined)	Mueller / Pratt	LINSEAL III / Groundhog			LINSEAL III / Groundhog		
		American Flow Control	NA			NA		
		Clow / M&H / Kennedy	NA			NA		
Gate Valves	4" - 12"	Mueller	NA			NA		
		American Flow Control	Series 2500			Series 2500		
		Clow	Series F-6100			Series F-6100		
Gate Valves (Vertical) 16" and Up	Gate Valves 16" and larger (Vertical Installation) AWWA C515 resilient seated only (16" and 24" no gearing required) above 24" shall be installed vertically with a gear actuator unless noted by the engineer. Valve seat shall be leak-tight in both directions at 150 psi.	Mueller	Series A-2360			Series A-2360		
		American Flow Control	Series 2500			Series 2500		
		Clow	Series F-6100			Series F-6100		
Gate Valves	16" and Up	Mueller	Series A-2361			Series A-2361		
		American Flow Control	Series 2500			Series 2500		
		Clow	Series F-6100			Series F-6100		

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Desc	Manufacturer	Model #	Water	Comments	Reclaimed Water	Comments
Plug Valves	Clow	NA	NA		NA	NA
		NA	NA		NA	NA
		NA	NA		NA	NA
		NA	NA		NA	NA
		NA	NA		NA	NA
		NA	NA		NA	NA
Plug Valves	Dezurik	NA	NA		NA	NA
		NA	NA		NA	NA
		NA	NA		NA	NA
		NA	NA		NA	NA
		NA	NA		NA	NA
		NA	NA		NA	NA
Plug Valves	Millikan / Pratt	NA	NA		NA	NA
		NA	NA		NA	NA
		NA	NA		NA	NA
		NA	NA		NA	NA
		NA	NA		NA	NA
		NA	NA		NA	NA
Plug Valves	Val-Matic	NA	NA		NA	NA
		NA	NA		NA	NA
		NA	NA		NA	NA
		NA	NA		NA	NA
		NA	NA		NA	NA
		NA	NA		NA	NA
Two piece standard screw type Heavy Duty Valve Boxes with Locking Lids (Cast Iron) and type of service cast in heavy duty traffic lid (H20 loading) ASTM A48						
Valve Boxes	Bingham/Taylor	Series 4905	Box		NA	NA
		4905-X	Extension		NA	NA
		4904-L	Blue Water Locking Lid		NA	NA
		Series VB 261X-267X	Box		VB-25031LK-VB-2612	Box
		VB 6302	Extension		VB-6302	Extension
		VB 4650W	Blue Water Locking Lid		VB2503LK	Purple Square Locking Lid
		Series VB-0002	Box		NA	NA
		VBEX 12-24S	Extension		NA	NA
		VBLIDLOCK	Blue Water Locking Lid		NA	NA
		Series 6850	Box		NA	NA
		58, 59, 60	Extension		NA	NA
		Locking Lid	Blue Water Locking Lid		NA	NA
Valve Boxes	Tyler Union	Series 6850	Box		NA	NA
		58, 59, 60	Extension		NA	NA
		Locking Lid	Blue Water Locking Lid		NA	NA
		Series 6850	Box		NA	NA
		58, 59, 60	Extension		NA	NA
		Locking Lid	Blue Water Locking Lid		NA	NA
For mains equal to, or greater than, 16" diameter or equal to greater than 6' feet deep						
Valve Box	American Flow Control	# 2A - 9A	Retrofit Valve Fit inside std valve boxes		NA	NA
		Box Insert	valve boxes		NA	NA
		MVB050C thru	Blue Water Locking Lid		MVB050CR thru	Purple Square Locking Reclaim Lid
		MVB130C with Extension Stem	Locking Lid		MVB130CR with Extension Stem	Locking Reclaim Lid
		MVB875 Guide Plate	Guide Plate		MVB875 Guide Plate	Guide Plate

APPENDIX D LIST OF APPROVED PRODUCTS - GRAVITY SYSTEMS

FEBRUARY 11, 2011

Cat	Desc	Manufacturer	Water Model #	Comments	Reclaimed Water Model #	Comments
Coatings	Block Walls-Anti-Graffiti Paint	American Building Restoration Products	NA	NA	NA	NA
	Anti-Graffiti Paint	Tnemec / Chemprobe	NA	NA	NA	NA
		Professional Products of Kansas, Inc	NA	NA	NA	NA
	Coatings for Existing Manholes	Rehabilitation corrosion protection system per Section 3119 Coatings & Linings. Interior coating for force main connections to existing concrete manholes only. New precast structures and existing pump stations shall be lined.	CCI Spectrum, Inc	NA	NA	NA
		CCl Spectrum, Inc	NA	NA	NA	NA
		Kerneos Aluminate Technologies	NA	NA	NA	NA
		Raven Lining System	NA	NA	NA	NA
		Sauereisen	NA	NA	NA	NA
		Tnemec	NA	NA	NA	NA
		PVC Pipe for Gravity SDR26/SDR 35 (Green in color) ASTM-D034. Manufacturers shall be members in good standing with Uni-Bell to maintain approval status.	Certainfeed	NA	NA	NA
PVC Pipe and fittings	Mains	Diamond Plastics Corp	NA	NA	NA	NA
		JM Eagle	NA	NA	NA	NA
		National Pipe & Plastics, Inc.	NA	NA	NA	NA
		North American Pipe Corp (NAPCO)	NA	NA	NA	NA
		Sanderson Pipe Corp	NA	NA	NA	NA
	Locate Balls	Locating Marker Systems - Wastewater Locator balls placed at all sanitary sewer cleanouts	3M	NA	NA	NA
		Fittings, Adapters and Plugs - Gravity PVC ASTM-D3034, Min SDR26/ SDR 35	GPK Products, Inc.	NA	NA	NA
		Harrington Corporation (HARCO)	NA	NA	NA	NA
		Multi Fittings Corp.	NA	NA	NA	NA
		JM Eagle	NA	NA	NA	NA
	Plastic Trends Inc	NA	NA	NA	NA	
	TIGRE USA, Inc.	NA	NA	NA	NA	

APPENDIX D LIST OF APPROVED PRODUCTS - GRAVITY SYSTEMS

FEBRUARY 11, 2011

Cat.	Desc	Manufacturer	Water Model #	Comments	Reclaimed Water Model #	Comments
PVC Pipe	Flexible Pipe Connectors	Flexible Pipe Connectors and Transitions	NA	NA	NA	NA
		Fernco	NA	NA	NA	NA
		Indiana Seal	NA	NA	NA	NA
MH Lids	MH Lids	Mission Rubber	NA	NA	NA	NA
		Frame and Cover	NA	NA	NA	NA
Adj Rings	Adj Rings	USF Fabrication Inc.	NA	NA	NA	NA
		Top Adjusting Rings - HDPE with heavy duty loading (H-20)	NA	NA	NA	NA
Hatches	Hatches	Ladtech, Inc	NA	NA	NA	NA
		Wet Well and Valve Vault Access Frames and Covers (Include the term "Confined Space" etched or cast into the cover with recessed lock & hasp. Frames and covers per manufacturers specifications.	NA	NA	NA	NA
Precast Concrete Structures	Precast Concrete Structures	Halliday Products	NA	NA	NA	NA
		USF Fabrication Inc.	NA	NA	NA	NA
		Precast Manhole and Wetwell Structures ASTM C478. Precast concrete shall be batched with concrete dyed crystalline waterproofing admixture with corrosion protection. Concrete with out admixture or without color tint /tracer shall be rejected.	NA	NA	NA	NA
		Allied Precast	NA	NA	NA	NA
		Atlantic Concrete Products, Inc.	NA	NA	NA	NA
		Delzotto Products, Inc.	NA	NA	NA	NA
		Dura Stress Underground Inc.	NA	NA	NA	NA
		Hanson Pipe & Product	NA	NA	NA	NA
		Mack Concrete	NA	NA	NA	NA
		Oldcastle Precast	NA	NA	NA	NA
Concrete Admix	Concrete Admix	Standard Precast Inc.	NA	NA	NA	NA
		Crystalline Waterproofing Concrete Admix with color dye shall be added to all concrete structures (precast and cast-in-place) to provide waterproofing and corrosion resistance. Concrete without admixture or without color tint / tracer shall be rejected. % concentration of admix with colored dye added to the mix shall be based on weight of cement.	NA	NA	NA	NA
Liners	Liners	Kryton International	NA	NA	NA	NA
		Xypex Chemical Corp	NA	NA	NA	NA
		Interior Liner for New or existing Precast Manhole and Precast Wetwell Structures per Section 3119 Coatings & Linings	NA	NA	NA	NA
		AFE	NA	NA	NA	NA
		AGRU Liner	NA	NA	NA	NA
		Containment Solutions Inc. (Flowtite)	NA	NA	NA	NA
		GSE Studliner	NA	NA	NA	NA
		GU Liner	NA	NA	NA	NA
		L & F Manufacturing	NA	NA	NA	NA



APPENDIX D LIST OF APPROVED PRODUCTS - GRAVITY SYSTEMS

FEBRUARY 11, 2011

Cat.	Desc	Manufacturer	Water Model # Comments	Reclaimed Water Model # Comments	
Heat Shrink Seal	Heat Shrink Seal - Precast structures shall be primed with manufacturer approved primer prior to application of heat shrink encapsulation.				
		Canusa-CPS	NA NA	NA NA	
		Pipeline Seal & Insulator, Inc (PSI)	NA NA	NA NA	
	Joining Material	Joining Material Min. 2" width for all products to ensure squeeze out with manufacturer approved primer.			
			Henry Company	NA NA	NA NA
			Martin Asphalt Company	NA NA	NA NA
			Trelleborg Pipe Seals	NA NA	NA NA
	Pipe Seals Gravity	Resilient Connector Pipe Seals, Manhole - Gravity less than 12-inch and less than 15-ft deep			
			Atlantic Concrete	NA NA	NA NA
			Hail Mary Rubber	NA NA	NA NA
		IPS	NA NA	NA NA	
		NPC	NA NA	NA NA	
		Press seal gasket	NA NA	NA NA	
Pipe Seals Gravity		Cast in Place Pipe Seals, Manhole - Gravity Greater Than or Equal to 12-inch and all pipe sizes greater than 15-ft deep			
			Atlantic Concrete	NA NA	NA NA
			Hail Mary Rubber	NA NA	NA NA
FM Pipe Seals		Modular Pipe Seals for Wet Well and Valve Box penetrations and all forcemain connections to existing and new precast concrete structures. EPDM Rubber with 316 SS Hardware			
		CCI Pipeline Systems	NA NA	NA NA	
		Pipeline Seal & Insulator, Inc / Link Seal	NA NA	NA NA	
		Proco Products, Inc	NA NA	NA NA	

Cat.	Desc	Manufacturer	Water Model #	Comments	Reclaimed Water Model #	Comments
Generator	Generator Systems, Fixed Shall be UL 2200 Certified.					
	Gen	Caterpillar	NA	NA	NA	NA
		Cummins Power Generation	NA	NA	NA	NA
	Fuel Tanks	Generator Fuel Tanks. Shall be UL2085 certified.				
		Convault	NA	NA	NA	NA
		Phoenix	NA	NA	NA	NA
	GR	Generator Receptacle (GR)				
		Cooper Crouse-Hinds	NA	NA	NA	NA
		Cooper Crouse-Hinds	NA	NA	NA	NA
		Pyle National	NA	NA	NA	NA
ATS	Generator Transfer Switch					
	Russelectric	NA	NA	NA	NA	
Odor Control Units	Biotrickling Filters	Biotrickling filters				
		BioAir	NA	NA	NA	NA
		Biorem	NA	NA	NA	NA
		Envirogen	NA	NA	NA	NA
		Siemens	NA	NA	NA	NA
Carbon Adsorption Units	Carbon Adsorption Units					
		Calgon	NA	NA	NA	NA
		Pure Air Filtration	NA	NA	NA	NA
		Siemens	NA	NA	NA	NA
Pressure Gauges	Pressure Gauges shall have Diaphragm Seals. Oil filled.					
		Ashcroft	NA	NA	NA	NA
		Terice	NA	NA	NA	NA
		Winter Gauges	NA	NA	NA	NA
Pumps	Submersible Pumps					
		ABS	NA	NA	NA	NA
		Flygt	NA	NA	NA	NA

APPENDIX D LIST OF APPROVED PRODUCTS - PUMP STATION SYSTEMS

FEBRUARY 11, 2011

Cat	Desc	Manufacturer	Water Model #	Comments	Reclaimed Water Model #	Comments
Pumps	Floats	Atlantic Scientific	NA	NA	NA	NA
	Radar	Magmetrol	NA	NA	NA	NA
	Main Svc	Square D	NA	NA	NA	NA
Pump Station Main Ser	Surge Protector Device	Surge Protector - UL 1449, 3rd Edition listed and labeled, minimum 10 year warranty, NEMA LS-1 and IEEE C62, 41/45 tested with NEMA 4X enclosure, internal fusing, voltage and phase to match service. Rated 80,000 amps per mode for Duplex & Triplex stations and 150,000 Amperes per mode for Master Stations. All devices shall be provided with a NEMA 4X Plastic enclosure which is approved in lieu of stainless steel.	NA	NA	NA	NA
		Current Technology (Power & Systems)	NA	NA	NA	NA
		Joslyn AKA (Total Protection Solutions)	NA	NA	NA	NA
Sub Panel	Sub Panel	Universal enclosure systems	NA	NA	NA	NA
		Control Panel Supplier	NA	NA	NA	NA
		ECS	NA	NA	NA	NA
Control Panel	Control Panel	Sta-Con Inc	NA	NA	NA	NA
		Enclosure - NEMA 12/3R Enclosure 316SS, white polyester Powder coated finish inside and out, With 3 Point Pad lockable Handle, and Door Stop	NA	NA	NA	NA
		Hoffman	NA	NA	NA	NA
Enclosure	Enclosure	Schaefer	NA	NA	NA	NA
		Universal enclosure systems	NA	NA	NA	NA
		Mounting Channel for Enclosures	NA	NA	NA	NA
Pump Station Control Panel	Mnts	Unistrut Stainless Steel	NA	NA	NA	NA
		Explosion-Proof Sealoff	NA	NA	NA	NA
		Cooper Crouse-Hinds	NA	NA	NA	NA
Pump Station Seal-off	Seal-off	Flasher (FL)	NA	NA	NA	NA
		MPE	NA	NA	NA	NA
		SSAC	NA	NA	NA	NA

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APPENDIX D LIST OF APPROVED PRODUCTS - PUMP STATION SYSTEMS

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Desc	Manufacturer	Water Model #	Comments	Reclaimed Water Model #	Comments
AL	<b>Alarm Light / With Base and Globe (AL)</b>				
	American Electric	NA	NA	NA	NA
	Red Dot Globe	NA	NA	NA	NA
	Red Dot Base				
AH	<b>Alarm Horn (AH)</b>				
	Wheelock	NA	NA	NA	NA
Fuse	<b>Fuses (F)</b>				
	Bussmann	NA	NA	NA	NA
HOA	<b>Hand-Auto-Off Selector (HOA)</b>				
	Square D	NA	NA	NA	NA
HSS	<b>Horn Silence Button (HSS)</b>				
	Square D	NA	NA	NA	NA
Interlock	<b>Mechanical Interlock</b>				
	Square D	NA	NA	NA	NA
Breakers	<b>Control Panel Main Circuit Breaker (MCB) With S29450 Circuit Breaker Auxiliary Switch</b>				
	Square D	NA	NA	NA	NA
	<b>Emergency Circuit Breaker (ECB) With S29450 Circuit Breaker Auxiliary Switch</b>				
	Square D	NA	NA	NA	NA
MS	<b>Motor Circuit Breaker (MB)</b>				
	Square D	NA	NA	NA	NA
	<b>Control Circuit Breaker/GFCI Receptacle Breaker/SCADA Breaker</b>				
	Square D	NA	NA	NA	NA
OL	<b>Motor Starter (MS)</b>				
	Square D	NA	NA	NA	NA
OR	<b>Overload Heater (OL)</b>				
	Square D	NA	NA	NA	NA
Transformer <sub>1</sub>	<b>Overload Reset</b>				
	Square D	NA	NA	NA	NA
SPB	<b>Control Circuit Transformer (XMFR)</b>				
	Square D	NA	NA	NA	NA
	<b>Main Circuit Transformer (MCT)</b>				
	Square D	NA	NA	NA	NA
	<b>Supplemental Protector Breaker - 3 pole, 1-amp for Phase Monitor</b>				
	Square D	NA	NA	NA	NA

Pump Station Control Panel

APPENDIX D LIST OF APPROVED PRODUCTS - PUMP STATION SYSTEMS

FEBRUARY 11, 2011

Cat.	Desc	Manufacturer	Water Model #	Comments	Reclaimed Water Model #	Comments
PM	<b>Phase Monitor (PM)</b>					
	MPE 240 V.		NA	NA	NA	NA
	MPE 480 V.		NA	NA	NA	NA
Pump Alternator	<b>Pump Automatic Alternator (PAA)</b>					
	Diversified Duplex		NA	NA	NA	NA
	Diversified Triplex		NA	NA	NA	NA
	MPE Duplex		NA	NA	NA	NA
	MPE Triplex		NA	NA	NA	NA
Alt. Test Switch	<b>MPE Triplex Socket</b>					
	MPE Triplex Socket		NA	NA	NA	NA
	<b>Alt. Test Switch</b>		NA	NA	NA	NA
Relay	<b>Carling Technologies</b>					
	Carling Technologies		NA	NA	NA	NA
	Honeywell		NA	NA	NA	NA
	<b>Relay</b>					
	Potter Brumfield 24 Volt		NA	NA	NA	NA
Relay Base	<b>Potter Brumfield 120 Volt</b>					
	Potter Brumfield 120 Volt		NA	NA	NA	NA
	Square D 24 Volt		NA	NA	NA	NA
	Square D 120 Volt		NA	NA	NA	NA
Duplex Receptacle / GFI	<b>Relay Base</b>					
	IEDC 8 Pin Relay Base 600 Volt		NA	NA	NA	NA
	<b>Duplex Receptacle/GFCI (DR) Upgraded to 20 Amp</b>					
ETM	<b>Hubbell</b>					
	Hubbell		NA	NA	NA	NA
Grounding	<b>Pass &amp; Seymour</b>					
	Pass & Seymour		NA	NA	NA	NA
	<b>Elapse Time Meter (ETM)</b>					
TS	<b>Reddington</b>					
	Reddington		NA	NA	NA	NA
	<b>Grounding System</b>					
	Marathon		NA	NA	NA	NA
TS	<b>Panduit</b>					
	Panduit		NA	NA	NA	NA
	Square D		NA	NA	NA	NA
TS	<b>Terminal Strip (TS)</b>					
	Marathon		NA	NA	NA	NA
	Square D		NA	NA	NA	NA
TS	<b>Terminal Strip End Blocks and End Clamps</b>					
	Square D		NA	NA	NA	NA

Pump Station Control Panel

APPENDIX D LIST OF APPROVED PRODUCTS - PUMP STATION SYSTEMS

FEBRUARY 11, 2011

Desc	Manufacturer	Water Model #	Comments	Reclaimed Water Model #	Comments
PL	Pilot Light (PL) 24 Volt with 1819 Bulb	NA	NA	NA	NA
		NA	NA	NA	NA
RL	Run Indicator Light (RL) 120 Volt	NA	NA	NA	NA
		NA	NA	NA	NA
MT	Moisture and Temperature Failure Light (MT) 120 Volt with 120MB Bulb	NA	NA	NA	NA
		NA	NA	NA	NA
Sluice Gate	Sluice Gate for Wet Well with Motorized Operator	NA	NA	NA	NA
		NA	NA	NA	NA
VFD	Variable Frequency Drives	NA	NA	NA	NA
		NA	NA	NA	NA

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**APPENDIX 2**

**ORANGE COUNTY STANDARDS WATER SECTION**



**CHAPTER 2 GENERAL REQUIREMENTS AND DESIGN STANDARDS**  
**Section 2210: Water Main Design Standard**

**PART 1 – GENERAL**

- A. Water mains shall be designed for the estimated tributary population, as delineated in the approved UTILITIES' MASTER PLAN (latest edition). When DEVELOPER's water MASTER PLANS are required, water mains shall be designed for the estimated ultimate build out, as approved by UTILITIES. DEVELOPER shall be required to satisfy the domestic water and fire protection design flow for their planned development (PD) or the development of regional impact (DRI).

**PART 2 – LOCATION**

- A. Mains shall be located within dedicated rights-of-way or utility easements.
1. Right-of-way  
When installed in rights-of-way, mains shall maintain a consistent alignment with respect to the centerline of the road. No parallel mains shall be allowed. Water mains shall be installed on the opposite side of the right-of-way as the reclaimed water main and the force main. Mains shall be installed along one side of the road, with crossings kept to a minimum.
  2. Easements  
If piping is constructed within an easement, the centerline of the pipe shall be located within two feet of the centerline of the easement.
    - a. Adjacent to right-of-way – minimum 15 feet;
    - b. Not adjacent to right-of-way – minimum 20 feet;
    - c. Additional easement width, as determined by UTILITIES, shall be required under the following conditions.
      - i. Pipe sizes greater than 12 inches;
      - ii. When the pipe depth is greater than five feet, the easement width shall be increased by three feet for each additional foot of depth;
      - iii. More than one parallel pipe within the easement; or
      - iv. Pipe is not centered in the easement.
      - v.
- B. Mains within easements shall not be placed under buildings, retention ponds, courts, swimming pools, fountains or other structures. Landscape and privacy walls and foundations shall not be placed parallel over mains. Placement of mains under pavement shall be kept to a minimum. Mains shall not be located along interior side or rear lot lines, unless approved by UTILITIES. Placement of mains along interior side or rear lot lines or storm water retention pond berms may be allowed on a case by case basis if such a configuration results in efficient placement and utilization of the system, as determined by UTILITIES. Services, air release valves and other valves shall not be placed along interior side or rear lot lines.
- C. Proposed commercial and residential development offsite mains shall be extended a minimum of 10 feet beyond the furthest entrance to the development.
- D. Water mains shall be designed with uniform positive or negative slopes to avoid undulations and minimize high points and low points in the profile.

### **PART 3 - DESIGN BASIS**

- A. Average Daily Flow and Peak Flows:  
Average daily water flow shall be calculated by referencing the equivalent residential connection (ERC) flow rates as outlined in Appendix E, "ERC/ERU Design Factors". Water flow rates shall be based on a maximum day to average day peaking factor of 2.0 and a peak hour to average day peaking factor of 4.0.
- B. Fire Flow Requirements:  
Fire flow requirements shall be determined in accordance with applicable COUNTY/city fire codes and SUBDIVISION REGULATIONS. Where fire flow requirements exceed the anticipated available fire flow from the central water system, on-site fire protection system or other COUNTY/city fire department approved mitigation measures shall be utilized.
- C. Design Calculations:  
DEVELOPER's ENGINEER shall submit signed, sealed and dated design calculations with the PLANS for all water distribution projects. Calculations shall show that the water mains will have sufficient hydraulic capacity to transport the greater of peak hourly flows or the combination of maximum daily flows and fire flows while meeting the requirements of this Section and FDEP. Minor head losses shall be incorporated in calculations including losses through meters, detector checks and backflow prevention assemblies.

### **PART 4 - DESIGN AND CONSTRUCTION**

- A. Pipe Cover:  
A minimum cover of 30 inches shall be provided for pipe located within LOCAL roadways or within an easement. Water mains located within non-LOCAL roadways shall require a minimum cover of 36 inches for mains sized 12 inch and below and a minimum cover of 48 inches for mains sized 16 inch and greater. See Table 2210-1 for minimum valve depths and Appendix A for pipe separation requirements.
- B. Work on roads identified in FDOT, COUNTY, or a city five year widening plan shall be coordinated by the DEVELOPER / ENGINEER with the respective road agency for future depth and location of utilities. Additional depth and / or easements shall be required to accommodate future proposed work of Agencies and all practical measures shall be taken to avoid conflicts / relocations due to proposed work.
- C. Pressure:  
All water mains shall be designed in accordance with this Section. The system shall be designed to maintain a minimum pressure of 20 psi at all points in the distribution system under all conditions of flow. Due to internal water demands, higher minimum pressures may be required at commercial, industrial and high-density residential areas. The design pressure in the distribution system should be approximately 45 psi, but in no case less than 35 psi on the upstream side of a meter. For excessive pressures, pressure-reducing provisions may be required.

D. Design Friction Losses:

Friction losses through mains shall be based on the Hazen and Williams or Darcy-Wiesbach formulas. In the use of Hazen and Williams formula, the value for "C" shall be 120 for ductile iron pipe and 130 for PVC and HDPE pipe. "C" values greater than 130 shall not be allowed.

E. Design Pressure and Restraint

1. The main and fittings, including all restrained joint fittings shall be designed to withstand pump operating pressures and pressure surges, but not less than 150 psi.
2. The restrained joint lengths shall be calculated consistent with the table format shown in the STANDARD DRAWINGS.

F. Velocity and Diameter:

Only 6, 8, 12, 16, 20, 24, 30, 36, 42, 48 and 54-inch diameter water mains shall be permitted. Four-inch water mains shall be permitted only in cul-de-sacs with a maximum length of 500 feet of pipe if reclaimed water is provided. If reclaimed water is not provided, a minimum of 6-inch diameter water main is required in cul-de-sacs. A minimum of six-inch looped systems shall be required in low-density residential projects. Where looping of mains is not practical, minimum eight-inch mains shall be required. Mains shall be sized so velocities do not exceed eight feet per second under the fire plus max day flow condition. In no case shall connections be made to cause velocities to exceed eight feet per second in existing mains.

G. Material:

1. Water transmission pipe greater than 12 inches shall be ductile iron pipe.
2. Water distribution pipe less than or equal to 12 inches shall be either PVC or ductile iron. HDPE may be used in specific applications as specified in this MANUAL or as approved by UTILITIES.

H. Pipe Deflection: Fittings and sleeves shall be used for all changes in direction.

1. Ductile Iron Pipe Mains - Allowable deflection for design of ductile iron pipe shall not exceed 50% of the manufacturer's recommended allowable joint deflection. No pipe bending shall be permitted. Where pipe is not straight and deflection is utilized, the Engineer shall provide limits of deflection on the plan and profile sheets including the radius of curvature and angle of deflection for each segment of pipe to be deflected.
2. PVC Pipe. No allowable deflection is permitted for design of PVC mains. Fittings and sleeves shall be designed in lieu of deflection for changes in direction.

I. Fire Hydrant Location and Spacing:

At a minimum, specifications outlined in the latest version of SUBDIVISION REGULATIONS and applicable COUNTY fire codes shall apply. Hydrants shall be placed on the same side of the roadway as the water mains and shall be placed at 500-foot intervals in commercial, multifamily and industrial areas. Hydrant spacing for single-family residential and other areas shall be 1,000-foot intervals. Fire hydrants shall be connected to a 6" water main or greater.

J. Dead Ends:

1. In order to provide increased reliability of service and reduce head loss, dead ends shall be minimized by making appropriate tie-ins whenever practical, as determined

by UTILITIES.

2. Where permanent dead-end mains occur, they shall be provided with an approved flushing hydrant or blow-off assembly for flushing purposes. Automatic-metered flushing devices may be required to maintain water quality in water mains. No flushing device shall be directly connected to any WASTEWATER SYSTEM. Connection to storm water system shall require an approved backflow prevention device and approval from PUBLIC WORKS.

K. Valves:

Resilient seat gate valves shall be installed vertically in accordance with the specifications in Chapter 3 and Appendix D to isolate water mains. Sufficient valves shall be provided on water mains so that inconvenience and sanitary hazards will be minimized during repairs. Valves shall be located no more than 500 feet apart in commercial, industrial and high-density residential areas and no more than 1000 feet in all other areas. Valves shall be spaced to isolate a maximum of 40 single-family residential lots. A minimum of two valves per tee shall be required to isolate and maintain adequate service. Valves shall be placed at phase lines and located at the end of all water main extensions except at cul-de-sacs. The pipe profile shall show valves with the minimum valve cover specified in Table 2210-1.

**Table 2210-1 - Minimum Pipe Cover Required for Valves**

Pipe Diameter (Inches)	Vertical Gate Valve Cover	
	Local Roadway	Non-LOCAL Roadway*
4"-8"	30"	36"
12"	26"	36"
16"	44"	48"
20"	-	50"
24"	-	54"

Note: \* Additional 12" of cover is required for all vertical valves 16" and greater located in the pavement.

L. Separation of Water Mains and Sewers:

1. Separation of potable water, reclaimed water, storm and sewer systems shall comply with FDEP regulations and STANDARD DRAWINGS.
2. Water pipes shall not pass through any part of a storm sewer or manhole. A three foot minimum separation from storm water structures shall be maintained to facilitate maintenance and operation.

M. Air Release Valves:

Provisions shall be made to remove air at high points in water mains where elevation changes exceed five feet. Automatic air release valves shall be located at high points in water mains for pipe systems greater than 12 inches in diameter.

N. Permanent sample stations may be required as directed by UTILITIES.

- O. Provision for the installation of permanent access points into and egress points out of the piping system for pigging and cleaning purposes shall be incorporated into the design for pipe diameters greater than 12-inch. Permanent and temporary access and egress points shall conform to the STANDARD DRAWINGS.

## **PART 5 – SYSTEM CONNECTION AND SERVICE CONNECTIONS**

- A. Water connections shall conform to the applicable provisions of this MANUAL.
- B. Water Services:
  - 1. Water services shall conform to the applicable provisions of this MANUAL. Only 1, 2, 4, 6, 8, and 12-inch services will be permitted. Where water services greater than 12 inches are required, additional services shall be provided. It is recommended that hospitals install at least two services. For single family homes, single services are required where reclaimed water is unavailable or reclaimed water is available with lots greater than 1/3 acre. Otherwise, dual services shall be provided.
  - 2. One and two-inch services shall be polyethylene tubing. Services 4-inch and larger shall be DIP from the point of connection to the existing main to the meter assembly, if the existing main is on the same side of the street as the property. If the main is on the opposite side of the street, as a minimum, the segment of pipe immediately upstream from the meter assembly shall be DIP.
  - 3. UTILITIES will install services and connections to existing water systems up to two-inch, after payment of applicable fees and charges. On existing water mains, services and connections larger than two-inch may be made by UTILITIES or by the CONTRACTOR. The CONTRACTOR shall furnish service connections for new water main extensions.
- C. Multi-family subdivisions and town home developments require a 4-inch stub out for each building, or groups of buildings for future fire sprinkling system.

## **PART 6 - WATER METERING**

- A. General:

Water service connections shall be metered. In general, the method of metering will follow the guidelines listed below and require UTILITIES approval.
- B. Single Family, Duplex and Multi-Family Subdivisions/Town Homes with Public Rights-of-Way:
  - 1. Each unit shall be individually metered. Services shall be installed as indicated by the STANDARD DRAWINGS.
  - 2. A double detector check valve assembly shall be provided if a fire sprinkling system is required. Both the double detector check valve assembly and the fire sprinkling system are to be owned and maintained by the Homeowner's Association.
- C. Single Family, Duplex and Multi-Family Subdivisions/Town Homes with Private Streets:
  - 1. Individual meters may be permitted in accordance with this section if the private streets are designed in accordance with the latest edition of the ROAD CONSTRUCTION SPECIFICATIONS for an urban design cross section. Easements shall be dedicated over the entire private street common areas. In addition, sufficient area must be available outside of paved areas to locate water mains, services, and meters. If the above criteria cannot be met, the subdivision shall be master metered.

2. A double detector check valve assembly shall be provided if a fire sprinkling system is required. Both the double detector check valve assembly and the fire sprinkling system are to be owned and maintained by the Homeowner's Association.
- D. Commercial, Industrial and Institutional Projects without Private Fire Lines:  
In general, each building shall be individually metered. Meter(s) shall be located in the public rights-of-way at the property line.
- E. Commercial, Industrial, Institutional, Multi-Family with Private Streets and Fire Lines (including timeshares, condo hotels, duplexes, triplexes, quadplexes, apartments and condominiums projects):
1. Apartments, condominiums, hotels, schools, shopping malls (containing interior hallways) and multi-family projects:
    - a. Requires installation of fire line master meter.
  2. Commercial, industrial and institutional projects:
    - a. Master meter; or
    - b. Dual systems as approved by UTILITIES. Dual systems shall require installation of a double detector check valve assembly on the fire line. Domestic line shall also be metered.
  3. Shopping centers (contain no interior hallways):
    - a. A master domestic meter or individual domestic meters to each building. Individual meters shall be located at the right-of-way;
    - b. Dual systems may be required with individual meters for developments requiring fire protection systems, as approved by UTILITIES. Dual systems shall require installation of a double detector check valve assembly on the fire line.
- F. Meter Installation:  
Meters (5/8"-2") will be installed after payment of applicable fees and charges. Master meter assemblies will be delivered to the site after payment of applicable fees and charges. All meters 1-inch and less in size may be installed underground in an approved meter box. Meters 1-1/2 to 10 inches in size shall be installed above ground, within a utility easement adjacent to the public right-of-way.
- G. Meter Sizing:  
UTILITIES shall determine the size and quantity of all meters. The DEVELOPER's ENGINEER shall provide sufficient information on estimated average, peak and minimum flows so that meter size can be determined in accordance with Table 2210-2, below.  
Sites with potable irrigation shall have a separate irrigation meter. Irrigation meters shall be sized using Table 2210-2, where the Peak Irrigation Flow is defined as the highest flow resulting from a combination of zones designed to flow simultaneously. In addition, the DEVELOPER's ENGINEER shall provide the square footage of the area to be irrigated.

**Table 2210-2 Flow and Selection of Meter Size.**

Meter Size (inches)	Domestic Meter Average Daily Flow Up to (GPM)	Irrigation Meter Peak Flow Up to (gpm)
5/8	8	10
1	20	25
1.5	40	50
2	65	80**
2	***	N/A
4x1	***	N/A
6x2	***	N/A
8x2	***	N/A
10x2	***	N/A

\* For flows between 20 gpm to 130 gpm a minimum of 2 meters shall be required.

\* For peak irrigation flows above 80 gpm, contact Development Engineering for guidance.

\*\* Size meter to maintain adequate pressure during the fire flow conditions.

**PART 7 - MATERIALS, INSTALLATION AND TESTING**

A. Applicable provisions of this MANUAL shall apply.

**PART 8 - LOCATION AND IDENTIFICATION**

A. A means for locating and identifying all water mains and valves shall be provided in accordance with this MANUAL, STANDARD DRAWINGS and Chapter 2 Section 2111 “Project Documents and Submittals.”

**PART 9 - CROSS CONNECTION CONTROL**

A. General:

1. In order to protect the potable water supply system from contamination due to cross-connections, UTILITIES approved backflow prevention devices shall be installed on the potable water system. Some of the common instances requiring installation of cross connection control devices are listed below.
2. UTILITIES is protecting public health through the enforcement of requirements and standards for design, construction, operation and maintenance of public potable water supply systems and reclaimed water systems. Refer to “*Orange County Utilities Cross Connection Control Program Manual*” for design guidelines. Copies of this Manual may be obtained from Orange County Utilities web site at: [http://www.orangecountyfl.net/cms/DEPT/utilities/cross\\_connection\\_backflow\\_prevention.htm](http://www.orangecountyfl.net/cms/DEPT/utilities/cross_connection_backflow_prevention.htm). These minimum requirements are also outlined in the following regulations.
  - a. State of Florida Safe Drinking Water Act; “Drinking Water Standards, Monitoring and Reporting”, Chapter 62-550, FAC, “Permitting Construction,

- Operation and Maintenance”, Chapter 62-555, FAC and “Reuse of Reclaimed Water and Land Application”, Chapter 62-610, FAC;
- b. “Chapter 4A-46, ‘Fire Protection Contractors and Systems’, Division of State Fire Marshall”;
  - c. “Fire Prevention and Control”, Chapter 633, F.S.; and
    - i. “Section 9-203, ‘Florida Building Code, Plumbing, Adopted’, Article V, Chapter 9, Orange County Code”.
    - ii.
- B. Commercial, Industrial, and Multi-Family Residential:  
Commercial, industrial, and multi-family residential projects shall, as a minimum, require installation of an approved double check valve assembly on the potable water system. Projects with a higher degree of hazard may be required to install an approved reduced pressure backflow prevention assembly.
- C. Irrigation Systems:  
Pressure-type vacuum breakers or reduced pressure backflow prevention device shall be utilized on all potable water irrigation systems.
- D. Location and Installation:  
Backflow prevention devices are to be located directly following the water meter on DEVELOPER’s property. Backflow prevention devices shall be installed above ground to facilitate maintenance and testing. It shall be the DEVELOPER’s responsibility to provide, install and test all backflow prevention devices.
- E. General areas of concern for installation of backflow prevention assemblies connecting to County water service:
  1. Commercial/Industrial properties: Potable domestic, lawn irrigation and fire suppression system.
  2. Temporary meter connections: fire hydrants or other water services not intended to be permanent.
  3. Residential: potable domestic if (auxiliary water supply, well or reclaimed irrigation is present), potable lawn irrigation and fire suppression systems.
- F. Backflow Assembly Standards:  
Any backflow assembly below shall be installed and placed on the discharge side of the potable water meter connection or property line if meter is not used. The standard type of assembly is based on degree of hazard from the water user. Backflow assemblies shall meet at least one of the following standards including but not limited to:
  1. Approved listing from FCCC&HR of SC, or ASSE
  2. AWWA standards C510, Double Check Valve Assembly
  3. AWWA standards C511, Reduced-Pressure Principle, Backflow Assembly
  4. ASSE -1011 Hose Bib Vacuum Breakers, Hose connection
  5. ASSE -1013 Reduced-Pressure Principle, Backflow Assembly
  6. ASSE -1015 Double Check Valve Assembly
  7. ASSE -1020 Pressure-Type Vacuum Breakers normally lawn irrigation
  8. ASSE -1047, & (FM) approval, Reduced Pressure Detector Check Assembly, (chemical use protection from antifreeze, corrosion inhibitors) on dedicated fire systems.
  9. ASSE -1048, & (FM) approval Double Check Detector Check Assembly, dedicated fire systems.



G. Commercial/Industrial

All Commercial/Industrial connection from the potable water system shall have the following:

1. Minimum protection for any Commercial/Industrial connection: DCVA ASSE 1015
2. Toxic chemical used on site: RPBA-ASSE 1013
3. Non-toxic chemicals used on site: DCVA ASSE 1015
4. Irrigation: RPBA-ASSE 1013 or PVB-ASSE 1020
5. Master Meter connections (fireline and domestic combination): DCVA-ASSE 1015

H. Dedicated Fire Lines Minimum Type of Protection:

1. All commercial/industrial or residential fire suppression systems without chemical additives or additional auxiliary non-potable water supply including on site fire hydrants: DCDA ASSE-1048, Double Check Detector Assembly and (FM) approval.
2. All commercial/industrial or residential fire suppression systems with chemical additives or additional auxiliary non-potable water supply including on site fire hydrants: RPPDA ASSE-1047, Reduced Pressure Principle Detector Assembly and (FM) approval.

I. Hydrant or temporary constructions: RPBA-ASSE 1013

J. Residential:

1. Residential properties maintaining auxiliary water supply (wells, other auxiliary water or reclaimed water): DCVA- ASSE 1015
2. Residential fire suppression systems, using one potable meter for both homes & fire system: DCVA-ASSE 1015
3. Residential fire suppression systems, Double Check Detector Check Assembly: DCDA ASSE-1048 and (FM) approval.

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**APPENDIX 3**

**FDEP PERMITS**



# Florida Department of Environmental Protection

Central District  
3319 Maguire Boulevard, Suite 232  
Orlando, Florida 32803-3767

Rick Scott  
Governor

Carlos Lopez-Cantera  
Lt. Governor

Ryan E. Matthews  
Interim Secretary

## Notification of Acceptance of Use of a General Permit

**Permittee:**

Jose Hernandez, P.E., Chief Engineer  
Orange County Utilities  
9150 Curry Ford Road  
Orlando, FL 32825  
[Jose.hernandez2@ocfl.net](mailto:Jose.hernandez2@ocfl.net)

**Permit Number:** 0080772-650-DSGP

**Issue date:** May 2, 2017

**Expiration Date:** May 1, 2022

**County:** Orange

**Project Name:** Sherry Court

**Water Supplier:** Orange County Utilities- Western

**PWS ID:** 3481546

**PWS Type:** Community

Dear Mr. Hernandez:

On May 1, 2017, the Florida Department of Environmental Protection received a "Notice of Intent to Use the General Permit for Construction of Water Main Extensions for PWSs" [DEP Form No. 62-555.900(7)], under the provisions of Rule 62-4.530 and Chapter 62-555, Florida Administrative Code (F.A.C.). The proposed project includes the construction of 328 linear feet of 8-inch ductile iron water main to serve the existing residences on Sherry Court. The water main will be constructed as part of a road project. The project is located on Sherry Court, Orlando, Florida from Station 50+12.00 to Station 54+00.00.

Based upon the submitted Notice and accompanying documentation, this correspondence is being sent to advise that the Department does not object to the use of such general permit at this time. Please be advised that the permittee is required to abide by Rule 62-555.405, F.A.C., all applicable rules in Chapters 62-4, 62-550, 62-555, F.A.C., and the General Conditions for All General Drinking Water Permits (found in 62-4.540, F.A.C.).

The permittee shall comply with all sampling requirements specific to this project. These requirements are attached for review and implementation.

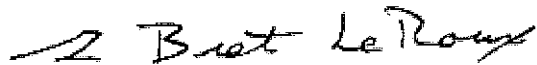
Pursuant to Rule 62-555.345, F.A.C., the permittee shall submit a certification of construction completion [DEP Form No. 62-555.900(9)] to the Department and obtain approval, or clearance, from the Department before placing any water main extension constructed under this general permit into operation for any purpose other than disinfection or testing for leaks.

Within 30 days after the sale or legal transfer of ownership of the permitted project that has not been cleared for service in total by the Department, both the permittee and the proposed

permittee shall sign and submit an application for transfer of the permit using Form 62-555.900(8), F.A.C., with the appropriate fee. The permitted construction is not authorized past the 30-day period unless the permit has been transferred.

This permit will expire five years from the date of issuance. If the project has been started and not completed by that time, a new permit must be obtained before the expiration date in order to continue work on the project, per Rule 62-4.030, F.A.C.

Sincerely,



---

G. Bret LeRoux, P.G.

Environmental  
Administrator

Permitting and Waste Cleanup

Program cc: Daissan Villareal,

FDEP

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**APPENDIX 4**

**ORANGE COUNTY UTILITY FORMS**

**APPENDIX B FORMS**

**Pressure Main Sample Collection Submittal Form**

Proposed

**Project:** \_\_\_\_\_

**Contractor:** \_\_\_\_\_

**LOCATION OF SAMPLE**

Address: \_\_\_\_\_ Date: \_\_\_\_\_ Submitted by: \_\_\_\_\_

**PIPE SAMPLE ID NUMBER** \_\_\_\_\_

**GPS NORTHING** \_\_\_\_\_ **EASTING** \_\_\_\_\_

**REASON FOR SAMPLE COLLECTION (e.g. Line Tap, Tie in, Abandonment, etc):**

**SAMPLE TYPE:**  Coupon  Pipe Section  Other (description) \_\_\_\_\_

**SAMPLE SIZE:** \_\_\_\_\_ x \_\_\_\_\_

**PIPE MATERIAL:**  Ductile Iron  Cast Iron  PCCP  Asbestos Cement

**PIPE DIAMETER:** \_\_\_\_\_

**SAMPLE LOCATION ON PIPE (Clock position):** \_\_\_\_\_

**SITE OBSERVATIONS** (Describe any relevant observations (e.g. "Plastic wrap", "gas main in proximity", "areas of softness in AC pipe", etc.)

**DIGITAL PHOTOGRAPHS: (Insert file name)**

Overall Work Site \_\_\_\_\_

Exposed Pipe \_\_\_\_\_

Exterior of Sample \_\_\_\_\_

Edge of Pipe \_\_\_\_\_



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FORMS

APPENDIX B

Pressure Test

February 11, 2011

Project Name: _____		<input type="checkbox"/> Force Main <input type="checkbox"/> Reclaimed Main <input type="checkbox"/> Water Main		<b>Allowable Loss – 2 Hours</b> $L = SD(P) 1/2$ 148,000 See Note Below				Pass /Fail STATUS				
Constructed by: _____				END Time		PSI	Allow	Actual				
DATE	LINE SEGMENT	STATION		LENGTH	N	D	START		PSI	LOSS (gal)		Pass /Fail STATUS
		From	To				Time	Time		Actual	Allow	
<b>COUNTY Inspector's Name:</b>			<b>Signature:</b>			<b>Date:</b>						
<b>Tester's Name:</b>			<b>Signature:</b>			<b>Date:</b>						
<b>Comments:</b>												

*Note:* L - Allowable leakage in gallons per hour.  
 S - Length of pipe tested, in feet.  
 D - Nominal diameter of the pipe in inches.  
 P - Average test pressure during leakage test in pounds per square inch gauge.

**APPENDIX B**

**FORMS**

**Water Main Disinfection Certification**

February 11, 2011

This form is required to schedule and document the disinfection of newly installed water mains to AWWA C-651 – latest revision. The CONTRACTOR shall complete the top portion of this form to document the subject water main, disinfection method and amount of chlorine applied. The UTILITIES inspector will document the residuals at each sample point on the bottom portion of this form.

Date Requested: \_\_\_\_\_  
CONTRACTOR's Name: \_\_\_\_\_  
Project Name: \_\_\_\_\_  
Project Number: \_\_\_\_\_  
Location: \_\_\_\_\_ Plan Sheet \_\_\_\_\_ No.(s): \_\_\_\_\_ Starting Location: \_\_\_\_\_ Ending \_\_\_\_\_ Location: \_\_\_\_\_  
\_\_\_\_\_ Line Length: \_\_\_\_\_ Line Size: \_\_\_\_\_ Pipe Material: \_\_\_\_\_ Type \_\_\_\_\_ of \_\_\_\_\_  
\_\_\_\_\_ Gallons to Fill Pipe: \_\_\_\_\_ Pounds of \_\_\_\_\_ Chlorine \_\_\_\_\_ Applied: \_\_\_\_\_ Method \_\_\_\_\_ of \_\_\_\_\_  
Disinfection Used: \_\_\_\_\_ CONTRACTOR's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**For COUNTY Use Only**

Certification Information

Start Time: \_\_\_\_\_ Start PSI: \_\_\_\_\_  
Stop Time: \_\_\_\_\_ Stop PSI: \_\_\_\_\_

<i>Sample Point Number</i>	<i>Sample Point Location</i>	<i>Initial Chlorine Reading, Minimum 25 ppm Required</i>	<i>24 Hr Chlorine Reading, Minimum 10 ppm Required</i>

Lab Test Results

Passed: \_\_\_\_\_ Failed: \_\_\_\_\_ Incomplete: \_\_\_\_\_

Comments:

\_\_\_\_\_  
\_\_\_\_\_

Inspector's Signature: \_\_\_\_\_ Date: \_\_\_\_\_