

**STATE OF FLORIDA
FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION**

CONTRACT No. 20329

The FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION, whose address is 620 South Meridian Street, Tallahassee, Florida 32399-1600, hereafter “**Commission**,” and Martin County Board of County Commissioners (BOCC), 59-6000743, whose address is 2401 SE Monterey Road, Stuart, FL 34996 , hereinafter “**Contractor**”, collectively, “Parties”.

INTRODUCTORY CLAUSES

The Commission and Contractor intend to partner together to restore and enhance approximately 150 acres of critical dead, dying, and stressed mangrove habitat in the Indian River Lagoon (IRL) that was severely negatively impacted by Hurricane Irma in 2017. The objectives of the restoration are to increase hydrologic connection of the impoundment with the IRL, improve internal water flow within the impoundment, and restore mangrove habitat. These objectives will be achieved by increasing the existing number of hydrologic connections (culverts) between the impoundment and the IRL, increasing connections within the impoundment, and dredging existing and new internal channels;

The Commission has awarded this Contract pursuant to the requirements of Sections 287.057, Florida Statutes; and Such benefits are for the ultimate good of the State of Florida, its resources, wildlife, and public welfare.

TERMS OF THE CONTRACT

The Commission and the Contractor, for the considerations stated in this Contract, agree as follows:

1. PROJECT DESCRIPTION.

The Contractor shall provide the services and products, and perform the specific responsibilities and obligations, as set forth in the Scope of Work, attached hereto as Attachment A and made a part hereof (hereafter, Scope of Work). The Scope of Work, Attachment A specifically identifies project tasks and accompanying deliverables. These deliverables must be submitted and approved by the Commission prior to any payment. The Commission will not accept any deliverable that does not comply with the specified required minimum level of service to be performed and the criteria for evaluating the successful completion of each deliverable. If this Contract was competitively procured, the Contractor’s response to the Commission’s solicitation is hereby incorporated by reference.

2. PERFORMANCE.

A. Contractor Performance. The Contractor shall perform the activities described in the Scope of Work, Attachment A in a proper and satisfactory manner. Unless otherwise provided for in the Scope of Work, Attachment A, any and all equipment, products or materials necessary or appropriate to perform under this Contract shall be supplied by the Contractor. Contractor shall obtain all necessary local, state, and federal authorizations necessary to complete this project, and the Contractor shall be licensed as necessary to perform under this Contract as may be required by law, rule, or regulation; the Contractor

shall provide evidence of such compliance to the Commission upon request. The Contractor shall procure all supplies and pay all charges, fees, taxes and incidentals that may be required for the completion of this Contract. By acceptance of this Contract, the Contractor warrants that it has the capability, integrity and reliability to assure good-faith performance. Contractor shall immediately notify the Commission's Contract Manager in writing if its ability to perform under the Contract is compromised in any manner during the term of the Contract. The Commission shall take appropriate action, including potential termination of this Contract pursuant to paragraph ten (10) Remedies, below, in the event the Contractor's ability to perform under this Contract becomes compromised.

- B. Contractor Responsibilities.** The Contractor agrees that all Contractor employees, subcontractors, or agents performing work under the Contract shall be properly trained technicians who meet or exceed any specified training qualifications. Upon request, Contractor shall furnish a copy of technical certification or other proof of qualification. All employees, subcontractors, or agents performing work under the Contract must comply with all security and administrative requirements of the Commission. The Commission may conduct, and Contractor shall cooperate in, a security background check or otherwise assess any employee, subcontractor, or agent furnished by Contractor for this scope of work (on this project). The Commission in coordination with the Contractor may refuse access to, or require replacement of, any personnel for cause, including, but not limited to, technical or training qualifications, quality of work, change in security status, or non-compliance with the Commission's security or other requirements. Such refusal shall not relieve Contractor of its obligation to perform all work in compliance with the Contract. The Commission may reject and bar from any facility for cause any of Contractor's employees, subcontractors, or agents.
- C. Commission Rights to Assign or Transfer.** Contractor agrees that the State of Florida shall at all times be entitled to assign or transfer its rights, duties, or obligations under this Contract to another governmental agency in the State of Florida, upon giving prior written notice to Contractor.

3. CONTRACT PERIOD.

- A. Contract Period and Limited Obligation Period.** This Contract shall begin upon execution by both Parties or June 1, 2021 (whichever is later) and end June 30, 2023, inclusive. The Commission shall not be obligated to pay for costs related to this Contract prior to its beginning date or after its ending date.
- B. Renewal – Competitive Procurement.** If this Contract was competitively procured pursuant to Section 287.057, Florida Statutes, the renewal price(s) must be set forth in the Contractor's response to the Commission's bid document. The renewal price(s) for this Contract are included in the Scope of Work, Attachment A. If applicable, renewal of this Contract shall be subject to the availability of funds, satisfactory performance evaluations by the Commission, and at the discretion of the Commission; it must also be in writing and subject to the same terms and conditions of this Contract. Renewal amendments must be executed prior to the end date of the Contract. Any costs associated with a renewal may not be passed onto the Commission.
- C. Renewal – Exceptional Purchase.** If this Contract was procured by an exceptional purchase pursuant to Subsections 287.057(3)(a) or (3)(c), Florida Statutes (F.S.), it may not be renewed. Subsection 287.057(13), F.S., provides that contracts for commodities or

contractual services may be renewed for up to three (3) years, or for a total term not to exceed the original Contract period, whichever is longer. If applicable, renewal of this Contract shall be subject to the availability of funds, satisfactory performance evaluations by the Commission, and at the discretion of the Commission; it must also be in writing and subject to the same terms and conditions of this Contract. Renewal amendments must be executed prior to the end date of the Contract. Any costs associated with a renewal may not be passed onto the Commission.

- D. Renewal Period.** This Contract may not be renewed.
- E. Extension.** If this is a Contract for contractual services, any extension of this contract as provided for in the Scope of Work, Attachment A shall be in writing for a period not to exceed six (6) months and shall be subject to the same terms and conditions set forth in the initial Contract. There shall be only one extension of this Contract unless the failure to meet the criteria set forth in the Contract for completion of the Contract is due to events beyond the control of the Contractor.

4. **COMPENSATION AND PAYMENTS.**

- A. Compensation.** As consideration for the services rendered by the Contractor under the terms of this Contract, the Commission shall pay the Contractor on a fee schedule basis as specified in the Scope of Work. Based on the fee schedule rates/amounts specified, maximum compensation under this Contract shall not exceed \$999,999
- B. Payments.** The Commission shall pay the Contractor for satisfactory performance of the tasks identified in the Scope of Work, Attachment A, as evidenced by the completed deliverables, upon submission of invoices, accompanied by supporting documentation sufficient to justify invoiced expenses or fees, and after acceptance of services and deliverables in writing by the Commission's Contract Manager, identified in paragraph eleven (11), below. Unless otherwise specified in the Scope of Work, Attachment A, invoices shall be due monthly, commencing from the start date of this Contract. Invoices must be legible and must clearly reflect the goods or services that were provided in accordance with the terms of the Contract for the invoice period. Unless otherwise specified in the Scope of Work, Attachment A, a final invoice shall be submitted to the Commission no later than forty-five (45) days following the expiration date of this Contract to assure the availability of funds for payment. Costs under this Contract must be obligated, and all work completed by the Contractor by the end of the Contract period identified in paragraph three (3).
- C. Invoices.** Each invoice shall include the Commission Contract Number and the Contractor's Federal Employer Identification (FEID) Number. Invoices, with supporting documentation, may be submitted electronically to the attention of the Commission's Contract Manager identified in Paragraph eleven (11) below. If submitting hard copies, an original and two (2) copies of the invoice, plus all supporting documentation, shall be submitted. All bills for amounts due under this Contract shall be submitted in detail sufficient for a proper pre-audit and post-audit thereof. Contractor acknowledges that the Commission's Contract Manager shall reject invoices lacking documentation necessary to justify invoiced expenses.

- D. Travel Expenses.** If authorized in the Scope of Work, Attachment A, travel expenses shall be reimbursed in accordance with Section 112.061, F.S.
- E. State Obligation to Pay.** The State of Florida's performance and obligation to pay under this Contract is contingent upon an annual appropriation by the Legislature. The Parties hereto understand that this Contract and any renewal thereof is not a commitment to future appropriations but is subject to appropriation and authority to spend provided by the Legislature. The Commission shall be the final authority as to the availability of funds for this Contract, and as to what constitutes an "annual appropriation" of funds to complete this Contract. If such funds are not appropriated or available for the Contract purpose, such event will not constitute a default on behalf of the Commission or the State. The Commission's Contract Manager shall notify Contractor in writing at the earliest possible time if funds are not appropriated or available.
- F. Non-Competitive Procurement and Rate of Payment.** Section 216.3475, F.S., requires that under non-competitive procurements, a Contractor may not receive a rate of payment in excess of the competitive prevailing rate for those services unless expressly authorized in the General Appropriations Act. If applicable, the Contractor warrants, by execution of this Contract, that the amount of non-competitive compensation provided in this Contract is in compliance with Section 216.3475, F.S.
- G. Time Limits for Payment of Invoices.** Payments shall be made in accordance with Sections 215.422 and 287.0585, F.S., governing time limits for payment of invoices. Section 215.422, F.S. provides that agencies have five (5) working days to inspect and approve goods and services, unless bid specifications or the Scope of Work, Attachment A, specifies otherwise. If payment is not available within forty (40) days, measured from the latter of the date the invoice is received or the goods or services are received, inspected and approved, a separate interest penalty set by the Department of Financial Services pursuant to Section 55.03(1), F.S., will be due and payable in addition to the invoice amount. Invoices returned to a vendor due to preparation errors will result in a payment delay. Invoice payment requirements do not start until a properly completed invoice is provided to the agency.
- H. Electronic Funds Transfer.** The Contractor agrees to enroll in Electronic Funds Transfer (EFT), offered by the State's Chief Financial Officer, within thirty (30) days of the date the last Party has signed this Contract. Copies of the Authorization form and a sample blank enrollment letter can be found on the vendor instruction page at:

<https://www.myfloridacfo.com/Division/AA/Vendors/default.htm>

Questions should be directed to the State of Florida's EFT Section at (850) 413-5517. Once enrolled, invoice payments will be made by EFT.
- I. Vendor Ombudsman.** A Vendor Ombudsman, whose duties include acting as an advocate for vendors who may be experiencing problems in obtaining timely payment(s) from a State agency, may be contacted at (850) 413-5516 or by calling the Chief Financial Officer's Hotline, (800) 342-2762.

5. MYFLORIDAMARKETPLACE VENDOR REGISTRATION AND TRANSACTION FEE.

- A. MyFloridaMarketPlace.** In accordance with Rule 60A-1.033 of the Florida Administrative Code (F.A.C.), each vendor doing business with the State for the sale of commodities or contractual services as defined in Section 287.012, F.S., shall register in the MyFloridaMarketPlace system, unless exempted under Rule 60A-1.033(3), F.A.C. Information about the registration process is available, and registration may be completed, at the MyFloridaMarketPlace website (link under Business on the State portal at www.myflorida.com). Interested persons lacking Internet access may request assistance from the MyFloridaMarketPlace Customer Service at (866-352-3776) or from State Purchasing, 4050 Esplanade Way, Suite 300, Tallahassee, Florida 32399.
- B. Transaction Fee.** Pursuant to Section 287.057(22), F.S., all payments, unless exempt under Rule 60A-1.033(3), F.A.C., shall be assessed a Transaction Fee, which the Vendor shall pay to the State. For payments within the State accounting system (Florida Accounting Information Resource, FLAIR, or its successor), the Transaction Fee shall, when possible, be automatically deducted from payments to the Vendor. If automatic deduction is not possible, the Vendor shall pay the Transaction Fee pursuant to Rule 60A-1.031(2), F.A.C. By submission of these reports and corresponding payments, Vendor certifies their correctness. All such reports and payments shall be subject to audit by the State or its designee.

6. RETURN OR RECOUPMENT OF FUNDS.

- A. Overpayments to Contractor.** The Contractor shall return to the Commission any overpayments due to unearned funds or funds disallowed pursuant to the terms of this Contract that were disbursed to the Contractor by the Commission. In the event that Contractor or its independent auditor discovers that overpayment has been made, Contractor shall repay said overpayment within forty (40) calendar days without prior notification from the Commission. In the event that the Commission first discovers an overpayment has been made, the Commission will notify the Contractor in writing. Should repayment not be made in a timely manner, the Commission shall be entitled to charge interest at the lawful rate of interest established pursuant to Section 55.03(1), F.S., on the outstanding balance beginning forty (40) calendar days after the date of notification or discovery. Refunds should be sent to the Commission's Contract Manager and made payable to the "The Florida Fish and Wildlife Conservation Commission."
- B. Additional Costs or Monetary Loss Resulting from Contractor Non-Compliance.** If the Contractor's non-compliance with any provision of the Contract results in additional cost or monetary loss to the Commission or the State of Florida to the extent allowed by Florida law, the Commission can recoup that cost or loss from monies owed to the Contractor under this Contract or any other contract between the Contractor and the Commission. In the event that the discovery of this cost or loss arises when no monies are available under this Contract or any other contract between the Contractor and the Commission, Contractor will repay such cost or loss in full to the Commission within thirty (30) days of the date of notice of the amount owed, unless the Commission agrees, in writing, to an alternative timeframe. If the Contractor is unable to repay any cost or loss to the Commission, the Commission shall notify the State of Florida, Department of Financial Services, for resolution pursuant to Section 17.0415, F.S.

7. COMMISSION EXEMPT FROM TAXES, PROPERTY EXEMPT FROM LIEN.

The Contractor recognizes that the State of Florida, by virtue of its sovereignty, is not required to pay any taxes on the services or goods purchased under the terms of this Contract. Contractor is placed on notice that this exemption generally does not apply to other parties of this agreement, contractors, or subcontractors. Any questions regarding this tax exemption should be addressed to the Commission Contract Manager.

- A. If the Contract involves the improvement of real property titled to the State of Florida, then the following paragraph applies.

The Contractor acknowledges that property being improved is titled to the State of Florida and is not subject to lien of any kind for any reason. The Contractor shall include notice of such exemptions in any subcontracts and purchase orders issued hereunder.

8. MONITORING.

The Commission's Contract Manager shall actively monitor the Contractor's performance and compliance with the terms of this Contract. The Commission reserves the right for any Commission staff to make scheduled or unscheduled, announced or unannounced monitoring visits. Specific monitoring terms, conditions, and schedules may be included in the Scope of Work, Attachment A.

9. TERMINATION.

- A. **Commission Termination.** The Commission may unilaterally terminate this Contract for convenience by providing the Contractor with thirty (30) calendar days of written notice of its intent to terminate. The Contractor shall not be entitled to recover any cancellation charges or lost profits. The Contractor may request termination of the Contract for convenience.
- B. **Termination – Fraud or Willful Misconduct.** This Contract shall terminate immediately in the event of fraud or willful misconduct on the part of the Contractor. In the event of such termination, the Commission shall provide the Contractor with written notice of termination.
- C. **Termination - Funds Unavailability.** In the event funds to finance this Contract become unavailable or if federal or state funds upon which this Contract is dependent are withdrawn or redirected, the Commission may terminate this Contract upon no less than twenty-four (24) hours' notice in writing to the Contractor. Said notice shall be delivered by certified mail, return receipt requested or in person with proof of delivery. The Commission shall be the final authority as to the availability of funds and will not reallocate funds appropriated for this Contract to another program thus causing "lack of funds." In the event of termination of this Contract under this provision, the Contractor will be compensated for any work satisfactorily completed and any non-cancellable obligations properly incurred prior to notification of termination.
- D. **Termination – Other.** The Commission may terminate this Contract if the Contractor fails to: 1.) comply with all terms and conditions of this Contract; 2.) produce each deliverable within the time specified by the Contract or extension; 3.) maintain adequate progress, thus

endangering the performance of the Contract; or, 4.) abide by any statutory, regulatory, or licensing requirement. Rule 60A-1.006(3), F.A.C., governs the procedure and consequences for default. The rights and remedies of the Commission in this clause are in addition to any other rights and remedies provided by law or under the Contract. Contractor shall not be entitled to recover any cancellation charges or lost profits.

- E. Contractor Discontinuation of Activities upon Termination Notice.** Upon receipt of notice of termination, the Contractor shall, unless the notice directs otherwise, immediately discontinue all activities authorized hereunder. Upon termination of this Contract, the Contractor shall promptly render to the Commission all property belonging to the Commission. For the purposes of this section, property belonging to the Commission shall include, but shall not be limited to, all books and records kept on behalf of the Commission.

10. REMEDIES.

- A. Financial Consequences.** In accordance with Section 287.058(1)(h), F.S., the Scope of Work, Attachment A contains clearly defined deliverables. If the Contractor fails to produce each deliverable within the time frame specified by the Scope of Work, Attachment A the budget amount allocated for that deliverable will be deducted from the Contractor's payment. The Commission shall apply any additional financial consequences identified in the Scope of Work, Attachment A.
- B. Cumulative Remedies.** The rights and remedies of the Commission in this paragraph are in addition to any other rights and remedies provided by law or under the Contract.

11. NOTICES AND CORRESPONDENCE.

Any and all notices shall be delivered to the individuals identified below. In the event that any Party designates a different Contract Manager after the execution of this Contract, the Party will provide written notice of the name, address, zip code, telephone and fax numbers, and email address of the newest Contract Manager or individual authorized to receive notice on behalf of that Party to all other Parties as soon as possible, but not later than five (5) business days after the new Contract Manager has been named. A designation of a new Contract Manager shall not require a formal amendment to the Contract.

FOR THE COMMISSION:

Contract Manager
Kent Smith
Biological Administrator II
FL Fish and Wildlife Conservation Commission
620 South Meridian Street
Tallahassee, FL 32399
(850) 488-3831
Kent.Smith@MyFWC.com

FOR THE CONTRACTOR:

Contract Manager
John Maehl
Ecosystem Restoration and Management Manager
Martin County BOCC
2401 SE Monterey Road
Stuart, FL 34996
(772) 463-3263
JMaehl@Martin.FL.US

12. AMENDMENT.

- A. Waiver or Modification.** No waiver or modification of this Contract or of any covenant, condition, or limitation herein contained shall be valid unless in writing and lawfully executed by both Parties.

- B. Change Orders.** The Commission may, at any time, by written order, make a change to this Contract. Such changes are subject to the mutual agreement of both Parties as evidenced in writing. Any change which causes an increase or decrease in the Contractor's cost or time shall require an Amendment. Minor changes, such as those updating a party's contact information, may be accomplished by a Modification.
- C. Renegotiation upon Change in Law or Regulations.** The Parties agree to renegotiate this Contract if federal and/or state revisions of any applicable laws or regulations make changes in the Contract necessary.

13. PROPERTY RIGHTS.

A. Intellectual and Other Intangible Property.

- i. **Contractor's Pre-existing Intellectual Property (Proprietary) Rights.** Unless specifically addressed otherwise in the Scope of Work, Attachment A, intellectual and other intangible property rights to the Contractor's pre-existing property will remain with the Contractor.
- ii. **Proceeds Related to Intellectual Property Rights.** Proceeds derived from the sale, licensing, marketing or other authorization related to any intellectual and other intangible property right created or otherwise developed by the Contractor under this Contract for the Commission shall be handled in the manner specified by applicable Florida State Statute and/or Federal program requirements.
- iii. **Commission Intellectual Property Rights.** Where activities supported by this Contract produce original writing, sound recordings, pictorial reproductions, drawings or other graphic representation and works of any similar nature, the Commission and the State of Florida have the unlimited, royalty-free, nonexclusive, irrevocable right to use, duplicate and disclose such materials in whole or in part, in any manner, for any purpose whatsoever and to have others acting on behalf of the Commission to do so. If this Contract is supported by federal funds, the federal awarding agency reserves a royalty-free, nonexclusive and irrevocable right to reproduce, publish, or otherwise use the work for federal purposes, and to authorize others to do so.

B. Purchase or Improvement of Real Property.

This agreement is not for the purchase or improvement of real property, therefore, the following terms and conditions do not apply.

- i. **Title.** If this Contract is supported by state funds, the Contractor shall comply with Section 287.05805, F.S. This section requires the Contractor to grant a security interest in the property to the State of Florida, the type and details of which are provided for in Attachment A, Scope of Work. Title to state-owned real property remains vested in the state.
- ii. **Use.** State-owned real property will be used as provided in Attachment A, Scope of Work.

C. Non-Expendable Property.

- i. **Non-Expendable Property Defined.** For the requirements of this section of the Contract, “non-expendable property” is the same as “property” as defined in Section 273.02, F.S. (equipment, fixtures, and other tangible personal property of a non-consumable and non-expendable nature, with a value or cost of **\$1,000.00** or more, and a normal expected life of one year or more; hardback-covered bound books that are circulated to students or the general public, with a value or cost of **\$25.00** or more; and uncirculated hardback-covered bound books, with a value or cost of **\$250.00** or more).
- ii. **Title to Non-Expendable Property.** Title (ownership) to all non-expendable property acquired with funds from this Contract shall be vested in the Commission and said property shall be transferred to the Commission upon completion or termination of the Contract unless otherwise authorized in writing by the Commission or unless otherwise specifically provided for in Attachment A, Scope of Work.

14. RELATIONSHIP OF THE PARTIES.

- A. Independent Contractor.** The Contractor shall perform as an independent contractor and not as an agent, representative, or employee of the Commission. The Contractor covenants that it presently has no interest and shall not acquire any interest that would conflict in any manner or degree with the performance of services required. Each party hereto covenants that there is no conflict of interest or any other prohibited relationship between the Contractor and the Commission.
- B. Contractor Training Qualifications.** The Contractor agrees that all Contractor employees, subcontractors, or agents performing work under the Contract shall be properly trained technicians who meet or exceed any specified training qualifications. Upon request, Contractor shall furnish a copy of technical certification or other proof of qualification.
- C. Commission Security.** All employees, subcontractors, or agents performing work under the Contract must comply with all security and administrative requirements of the Commission. The Commission may conduct, and the Contractor shall cooperate in, a security background check or otherwise assess any employee, subcontractor, or agent furnished by the Contractor. The Commission may refuse access to, or require replacement of, any personnel for cause, including, but not limited to, technical or training qualifications, quality of work, change in security status, or non-compliance with the Commission’s other requirements. Such refusal shall not relieve the Contractor of its obligation to perform all work in compliance with the Contract. The Commission in coordination with the Contractor may reject and bar from any facility for cause any of Contractor’s employees, subcontractors, or agents.
- D. Commission Rights to Assign or Transfer.** The Contractor agrees that the State of Florida shall at all times be entitled to assign or transfer its rights, duties, or obligations under this Contract to another governmental agency in the State of Florida, upon giving prior written notice to the Contractor.
- E. Commission Rights to Undertake or Award Supplemental Contracts.** The Contractor agrees that the Commission may undertake or award supplemental contracts for work

related to the Contract. The Contractor and its subcontractors shall cooperate with such other contractors and the Commission in all such cases.

15. SUBCONTRACTS.

- A. **Authority. Contractor is permitted to subcontract work under this Agreement, therefore, the following terms and conditions apply.** The Contractor shall ensure, and provide assurances to the Commission upon request, that any subcontractor selected for work under this Contract has the necessary qualifications and abilities to perform in accordance with the terms and conditions of this Contract. The Contractor must provide the Commission with the names of any subcontractor considered for work under this Contract; the Commission in coordination with the Contractor reserves the right to reject any subcontractor. The Contractor agrees to be responsible for all work performed and all expenses incurred with the project. Any subcontract arrangements must be evidenced by a written document available to the Commission upon request. The Contractor further agrees that the Commission shall not be liable to the extent allowed by law, to any subcontractor for any expenses or liabilities incurred under the subcontract and the Contractor shall be solely liable to the subcontractor for all expenses and liabilities incurred under the subcontract.
- B. **Contractor Payment to Subcontractor.** If subcontracting is permitted pursuant to Paragraph A, above, the Contractor agrees to make payments to the subcontractor upon completion of work and submitted invoice in accordance with the contract between the Contractor and subcontractor. Failure to make payment pursuant to any subcontract will result in a penalty charged against the Contractor and paid to the subcontractor in the amount of one-half of one percent (0.50%) of the amount due per day from the expiration of the period allowed herein for payment. Such penalty shall be in addition to actual payments owed and shall not exceed fifteen percent (15%) of the outstanding balance due.
- C. **Commission Right to Reject Subcontractor Employees.** The Commission in coordination with the Contractor shall retain the right to reject any of the Contractor's or subcontractor's employees whose qualifications or performance, in the Commission's judgment, are insufficient.
- D. **Subcontractor as Independent Contractor.** If subcontracting is permitted pursuant to Paragraph A above, the Contractor agrees to take such actions as may be necessary to ensure that each subcontractor will be deemed to be an independent contractor and will not be considered or permitted to be an agent, servant, joint venturer, or partner of the State of Florida.

16. MANDATORY DISCLOSURE.

These disclosures are required by State law, as indicated, and apply when this Contract includes State funding; and by Federal law, as indicated.

- A. **Disclosure of Interested State Employees.** This Contract is subject to Chapter 112, F.S. Contractors shall provide the name of any officer, director, employee, or other agent who is affiliated with this project and an employee of the State of Florida.
- B. **Convicted Vendors.** Contractor hereby certifies that neither it, nor any person or affiliate of Contractor, has been convicted of a Public Entity Crime as

defined in section 287.133, F.S., nor placed on the convicted vendor list. Contractor shall have a continuing obligation to disclose, to the Commission, in writing, if it, its principals, recipient, subrecipient, contractor, or subcontractor, are on the convicted vendors list maintained by the Florida Department of Management Services pursuant to Section 287.133(3)(d), F.S.

- i. **Convicted Vendor List.** Pursuant to Subsection 287.133(2)(a), F.S., a person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not be awarded or perform work as a Contractor, supplier, subcontractor or consultant under a contract with any public entity and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, F.S., for Category Two for a period of thirty-six (36) months from the date of being placed on the convicted vendor list. The State of Florida, Department of Management Services, Division of State Purchasing provides listings for convicted, suspended, discriminatory and federal excluded parties, as well as the vendor complaint list at:

http://www.dms.myflorida.com/business_operations/state_purchasing/vendor_information/convicted_suspended_discriminatory_complaints_vendor_lists

- ii. **Notice of Conviction of Public Entity Crime.** Any person must notify the Department of Management Services and the Commission, in writing, within thirty (30) days after conviction of a public entity crime applicable to that person or an affiliate of that person as defined in Section 287.133, F.S.

C. Vendors on Scrutinized Companies List.

- i. **Scrutinized Companies.** Contractor certifies that it and any of its affiliates are not scrutinized companies as identified in Section 287.135, F.S. In addition, Contractor agrees to observe the requirements of Section 287.135, F.S., for applicable sub-agreements entered into for the performance of work under this Agreement. Pursuant to Section 287.135, F.S., the Commission may immediately terminate this Agreement for cause if the Contractor, its affiliates, or its subcontractors are found to have submitted a false certification; or if the Contractor, its affiliates, or its subcontractors are placed on any applicable scrutinized companies list or engaged in prohibited contracting activity during the term of the Agreement. As provided in Subsection 287.135(8), F.S., if federal law ceases to authorize these contracting prohibitions then they shall become inoperative.

- D. Discriminatory Vendors.** Contractor shall disclose to the Commission, in writing, if they, their contractor, or subcontractor, are on the Discriminatory Vendor List maintained by the Florida Department of Management Services pursuant to Section 287.134(3)(d), F.S. “An entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid, proposal, or reply on a contract to provide any goods or services to a public entity; may not submit a bid, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals, or replies on leases of real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity; and may not transact business with any public entity.” Section 287.134(2)(a), F.S. Contractor has a continuing duty to disclose to the Commission whether they appear on the discriminatory vendor list.

- E. Prompt Disclosure of Litigation, Investigations, Arbitration, or Administrative Proceedings.** Throughout the term of the Contract, the Contractor has a continuing duty to promptly disclose to the Commission's Contract Manager, in writing, upon occurrence, all civil or criminal litigation, investigations, arbitration, or administrative proceedings (Proceedings) relating to or affecting the Contractor's ability to perform under this contract. If the existence of such Proceeding causes the Commission concern that the Contractor's ability or willingness to perform the Contract is jeopardized, the Contractor may be required to provide the Commission with reasonable assurances to demonstrate that: a.) The Contractor will be able to perform the Contract in accordance with its terms and conditions; and, b.) The Contractor and/or its employees or agents have not and will not engage in conduct in performing services for the Commission which is similar in nature to the conduct alleged in such Proceeding.

17. INSURANCE.

The Contractor warrants and represents that it is insured, or self-insured for liability insurance, in accordance with applicable state law and that such insurance or self-insurance offers protection applicable to the Contractor's officers, employees, servants and agents while acting within the scope of their employment with the Contractor.

18. SPONSORSHIP.

As required by Section 286.25, F.S., if the Contractor is a nongovernmental organization which sponsors a program financed wholly or in part by state funds, including any funds obtained through this Contract, it shall, in publicizing, advertising, or describing the sponsorship of the program, state: "Sponsored by (the Contractor's name) and the State of Florida, Fish and Wildlife Conservation Commission." If the sponsorship reference is in written material, the words "State of Florida, Fish and Wildlife Conservation Commission" shall appear in the same size letters or type as the name of the Contractor's organization. Additional sponsorship requirements may be specified in Attachment A, Scope of Work.

19. PUBLIC RECORDS.

- A.** All records in conjunction with this Contract shall be public records and shall be treated in the same manner as other public records that are under Chapter 119, F.S.
- B.** This Contract may be unilaterally canceled by the Commission for refusal by the Contractor to allow public access to all documents, papers, letters, or other material subject to the provisions of Chapter 119, Florida Statutes, and made or received by the Contractor in conjunction with this Contract, unless exemption for such records is allowable under Florida law.
- C.** If the Contractor meets the definition of "Contractor" in Section 119.0701(1)(a) F.S., the Contractor shall comply with the following:

- i. IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF THE CHAPTER 119, FLORIDA STATUTES, TO THE**

CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT: 850-488-6553, RecordsCustodian@myfwc.com, and 620 South Meridian Street, Tallahassee FL 32399

- ii. Keep and maintain public records required by the Commission to perform the service.
- iii. Upon request from the Commission's custodian of public records, provide the Commission 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 Chapter 119, F.S. or as otherwise provided by law.
- iv. Ensure that public records that are exempt or confidential and exempt from 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 the Commission.
- v. Upon completion of the contract transfer, at no cost, to the Commission all public records in possession of the Contractor or keep and maintain public records required by the Commission to perform the service. If the Contractor transfers all public records to the Commission 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 the Commission, upon request from the Commission's custodian of public records, in a format that is compatible with the information technology systems of the Commission.

20. COOPERATION WITH INSPECTOR GENERAL.

Pursuant to subsection 20.055(5), F.S., Contractor, and any subcontractor to the Contractor, understand and will comply with their duty to cooperate with the Inspector General in any investigation, audit, inspection, review, or hearing. Upon request of the Inspector General or any other authorized State official, the Contractor shall provide any type of information the Inspector General deems relevant to the Contractor's integrity or responsibility. Such information may include, but shall not be limited to, the Contractor's business or financial records, documents, or files of any type or form that refer to or relate to the Agreement. The Contractor agrees to reimburse the State for the reasonable costs of investigation incurred by the Inspector General or other authorized State official for investigations of the Contractor's compliance with the terms of this or any other agreement between the Contractor and the State which results in the suspension or debarment of the Contractor. Such costs shall include but shall not be limited to: salaries of investigators, including overtime; travel and lodging expenses; and expert witness and documentary fees.

21. SECURITY AND CONFIDENTIALITY.

The Contractor shall not divulge to third Parties any clearly marked confidential information obtained by the Contractor or its agents, distributors, resellers, subcontractors, officers or employees in the course of performing Contract work. To ensure confidentiality, the Contractor

shall take appropriate steps regarding its personnel, agents, and subcontractors. The warranties of this paragraph shall survive the Contract.

22. RECORD KEEPING REQUIREMENTS.

- A. Contractor Responsibilities.** The Contractor shall maintain accurate books, records, documents and other evidence that sufficiently and properly reflect all direct and indirect costs of any nature expended in the performance of this Contract, in accordance with generally accepted accounting principles.
- B. State Access to Contractor Books, Documents, Papers, and Records.** The Contractor shall allow the Commission, the Chief Financial Officer of the State of Florida, the Auditor General of the State of Florida, the Florida Office of Program Policy Analysis and Government Accountability or authorized representatives of the state or federal government to have access to any of Contractor's books, documents, papers, and records, including electronic storage media, as they may relate to this Contract, for the purposes of conducting audits or examinations or making excerpts or transcriptions.
- C. Contractor Records Retention.** Unless otherwise specified in the Scope of Work, these records shall be maintained for five (5) fiscal years following the close of this Contract, or the period required for this particular type of project by the General Records Schedules maintained by the Florida Department of State (available at: <http://dos.myflorida.com/library-archives/records-management/general-records-schedules/>), whichever is longer. Contractor shall cooperate with the Commission to facilitate the duplication and transfer of such records upon the Commission's request.
- D. Contractor Responsibility to Include Records Requirements – Subcontractors.** In the event any work is subcontracted under this Contract, The Contractor shall include the aforementioned audit and record keeping requirements in all subcontract agreements.
- E. Compliance with Federal Funding Accountability and Transparency.** Any federal funds awarded under this Contract must comply with the Federal Funding Accountability and Transparency Act (FFATA) of 2006. The intent of the FFATA is to empower every American with the ability to hold the government accountable for each spending decision. The result is to reduce wasteful spending in the government. The FFATA legislation requires that information on federal awards (federal financial assistance and expenditures) be made available to the public via a single, searchable website: www.USASpending.gov. Grant recipients awarded a new Federal grant greater than or equal to **\$25,000.00** awarded on or after October 1, 2010 are subject to the FFATA. Contractor agrees to provide the information necessary, over the life of this Contract, for the Commission to comply with this requirement

23. FEDERAL COMPLIANCE.

As applicable, Contractor shall comply with all federal laws, rules, and regulations, including but not limited to:

- i. **Clean Air Act and Water Pollution Control Act.** All applicable standards, orders, or requirements issued under the Clean Air Act (42 U.S.C. 7401-7671q), and the Water Pollution Control Act (33 U.S.C. 1251-1387, as amended).

- ii. **Lacey Act, 16 U.S.C 3371-3378.** This Act prohibits trade in wildlife, fish and plants that have been illegally taken, possessed, transported or sold.
- iii. **Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S.C. 1801-1884.** This Act governs marine fisheries in Federal waters.
- iv. **Migratory Bird Treaty Act, 16 U.S.C. 703-712.** The Act prohibits anyone, unless permitted, to pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry or cause to be carried by any means whatsoever, receive for shipment, transport of carriage, or export, at any time, or in any manner, any migratory bird, or any part, nest, or egg of such bird.
- v. **Endangered Species Act, 16 U.S.C. 1531, et seq.** The Act provides a program for the conservation of threatened and endangered plants and animals and the habitat in which they are found. The Act also prohibits any action that cause a “taking” of any listed species of endangered fish or wildlife. Also, generally prohibited are the import, export, interstate, and foreign commerce of listed species.

24. FEDERAL FUNDS. This Contract relies on federal funds, therefore, the following terms and conditions apply:

- A. Prior Approval to Expend Federal Funds to Federal Agency or Employee.** It is understood and agreed that the Contractor is not authorized to expend any federal funds under this Contract to a federal agency or employee without the prior written approval of the awarding federal agency.
- B. Equal Employment Opportunity.** Executive Order 11246 of September 24, 1965, entitled “Equal Employment Opportunity,” as amended by Executive Order 11375 of October 13, 1967, and as supplemented in Department of Labor regulations (41 CFR Chapter 60). Applicable, except as otherwise provide under 41 CFR Part 60, to any grant, contract, loan, insurance, or guarantee involving Federal assisted construction.
- C. Davis-Bacon Act.** The Davis-Bacon Act, 40 U.S.C. 3141-3148, as supplemented by Department of Labor regulations at 29 CFR Part 5. Applicable to contractors and subcontractors performing on federally funded or assisted contracts in excess of **\$2,000.00** for the construction, alteration, or repair (including painting and decorating) of public buildings or public works. Under this Act, contractors and subcontractors must pay their laborers and mechanics employed under the contract no less than the locally prevailing wages and fringe benefits for corresponding work on similar projects in the area.
- D. Copeland “Anti-Kickback Act.”** The Copeland “Anti-Kickback” Act, 40 U.S.C. 3141-3148, and 3146-3148, as supplemented by Department of Labor regulations (29 CFR Part 5). Applicable to contracts awarded by a non-Federal entity in excess of **\$100,000.00** that involve employment of mechanics or labors. Under this Act, contractors and subrecipients are prohibited from inducing, by any mean, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled.
- E. Contract Work Hours and Safety Standards Act** Sections 103 and 107 of the Agreement Work Hours and Safety Standards Act (40 U.S.C. 327–330) as supplemented by Department of Labor regulations (29 CFR part 5). Applicable to construction contracts awarded by

Contractors and subcontractors in excess of **\$2,000.00**, and in excess of **\$2,500.00** for other contracts which involve the employment of mechanics or laborers. Under this Act, contractors and subcontractors must compute wages of mechanics and laborers (workers) on the basis of a standard forty (40) hour work week; provide workers no less than time and a half for hours worked in excess of the forty (40) hour work week; and not require workers to work in surroundings or work conditions that are unsanitary, hazardous, or dangerous.

- F. Rights to Inventions Made Under a Contract or Agreement.** 37 CFR 401. If the Federal award meets the definition of “funding agreement” under 37 CFR 401.2(a) and the recipient or Subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under the “funding agreement,” the recipient or subrecipient must comply with the requirements of 37 CFR Part 401, “Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements,” and any implementing regulations issued by the awarding agency.
- G. Energy Efficiency.** Mandatory standards and policies relating to energy efficiency which are contained in the State energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub. L. 94–163, 89 Stat. 871).
- H. Debarment and Suspension Contractor Federal Certification.** In accordance with Federal Executive Order 12549 and 2 CFR Part 1400 regarding Debarment and Suspension, the Contractor certifies that neither it, nor its principals, is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any federal department or agency; and, that the Contractor shall not knowingly enter into any lower tier contract, or other covered transaction, with a person who is similarly debarred or suspended from participating in this covered transaction.
- I. Prohibition against Lobbying.**
 - i. Contractor Certification – Payments to Influence.** The Contractor certifies that no Federal appropriated funds have been paid or will be paid, on or after December 22, 1989, by or on behalf of the Contractor, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress, in connection with the awarding, renewal, amending or modifying of any Federal contract, grant, or cooperative agreement. The Contractor also certifies that they have not engaged any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on behalf of the Contractor with respect to this Contract and its related federal contract, grant, loan, or cooperative agreement; or, if the Contractor has engaged any registrant with respect to this Contract and its related Federal contract, grant, loan, or cooperative agreement, the Contractor shall, prior to or upon execution of this Contract, provide the Commission Contract Manager a signed declaration listing the name of any said registrant. During the term of this Contract, and at the end of each Calendar quarter in which any event occurs that materially affects the accuracy of this certification or declaration, the Contractor shall file an updated declaration with the Commission’s Contract Manager. If any non-federal funds are used for lobbying activities as described above in connection with this Contract, the Contractor shall submit Standard Form-LLL, “Disclosure Form to Report Lobbying”, and shall file quarterly updates of any material changes. The Contractor shall require the language

of this certification to be included in all subcontracts, and all subcontractors shall certify and disclose accordingly.

- ii. **Contractor – Refrain from Subcontracting with Certain Organizations.** Pursuant to the Lobbying Disclosure Act of 1995, the Contractor agrees to refrain from entering into any subcontracts under this Contract with any organization described in Section 501(c)(4) of the Internal Revenue Code of 1986, unless such organization warrants that it does not, and will not, engage in lobbying activities prohibited by the Act as a special condition of the subcontract.

J. Compliance with Office of Management and Budget Circulars. As applicable, Contractor shall comply with the following Office of Management and Budget (OMB) Uniform Guidance (2 CFR 200).

K. Drug Free Workplace. Pursuant to the Drug-Free Workplace Act of 1988, the Contractor attests and certifies that the contractor will provide a drug-free workplace compliant with 41 U.S.C. 81.

25. CONTRACT-RELATED PROCUREMENT.

A. PRIDE. In accordance with Section 946.515(6), F.S., if a product or service required for the performance of this Contract is certified by or is available from Prison Rehabilitative Industries and Diversified Enterprises, Inc. (PRIDE) and has been approved in accordance with Subsection 946.515(2), F.S., the following statement applies:

It is expressly understood and agreed that any articles which are the subject of, or required to carry out, this contract shall be purchased from [PRIDE] in the same manner and under the same procedures set forth in Subsections 946.515(2) and (4), F.S.; and for purposes of this contract the person, firm or other business entity carrying out the provisions of this contract shall be deemed to be substituted for this agency insofar as dealings with such corporation are concerned.

The above clause is not applicable to subcontractors unless otherwise required by law. Additional information about PRIDE and the products it offers is available at <http://www.pride-enterprises.org>.

B. Respect of Florida. In accordance with Subsection 413.036(3), F.S., if a product or service required for the performance of this Contract is on the procurement list established pursuant to Subsection 413.035(2), F.S., the following statement applies:

It is expressly understood and agreed that any articles that are the subject of, or required to carry out, this contract shall be purchased from a nonprofit agency for the blind or for the severely handicapped that is qualified pursuant to Chapter 413, F.S., in the same manner and under the same procedures set forth in Subsections 413.036(1) and (2), F.S.; and for purposes of this contract, the person, firm or other business entity carrying out the provisions of this contract shall be deemed to be substituted for

the state agency insofar as dealings with such qualified nonprofit agency are concerned.

Additional information about the designated nonprofit agency and the products it offers is available at <http://www.respectofflorida.org>.

C. Procurement of Recycled Products or Materials. The Contractor agrees to procure any recycled products or materials which are the subject of or are required to carry out this Contract in accordance with Section 403.7065, F.S.

26. INDEMNIFICATION.

If Contractor is a state agency or subdivision, as defined in Subsection 768.28(2), F.S., pursuant to Subsection 768.28(19), F.S., neither Party indemnifies nor insures the other Party for the other Party's negligence. If Contractor is not a state agency or subdivision as defined above, the Contractor shall be fully liable for the actions of its agents, employees, partners, or subcontractors and shall fully indemnify, defend, and hold harmless the State and the Commission, and their officers, agents, and employees, from suits, actions, damages, and costs of every name and description, including attorneys' fees, arising from or relating to personal injury and damage to real or personal tangible property alleged to be caused in whole or in part by the Contractor, its agents, employees, partners, or subcontractors, provided, however, that the Contractor shall not indemnify for that portion of any loss or damages proximately caused by the negligent act or omission of the State or the Commission. However, nothing contained herein shall constitute a waiver by the Commission of its sovereign immunity or the provisions of Section 768.28, Florida Statutes.

27. NON-DISCRIMINATION.

No person, on the grounds of race, creed, color, national origin, age, sex, or disability, shall be excluded from participation in, be denied the proceeds or benefits of, or be otherwise subjected to discrimination in performance of this Contract.

28. SEVERABILITY, CHOICE OF LAW, AND CHOICE OF VENUE.

This Contract has been delivered in the State of Florida and shall be construed in accordance with the laws of Florida. Wherever possible, each provision of this Contract shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Contract shall be prohibited or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provision or the remaining provisions of this Contract. Any action in connection herewith, in law or equity, shall be brought in Leon County, Florida, to the exclusion of all other lawful venues.

29. NO THIRD-PARTY RIGHTS.

The Parties hereto do not intend, nor shall this Contract be construed to grant any rights, privileges or interest to any person not a party to this Contract.

30. JURY TRIAL WAIVER.

As part of the consideration for this Contract, the Parties hereby waive trial by jury in any action or proceeding brought by any party against any other party pertaining to any matter whatsoever

arising out of or in any way connected with this Contract, or with the products or services provided under this Contract, including but not limited to any claim by the Contractor of *quantum meruit*.

31. PROHIBITION OF UNAUTHORIZED ALIENS.

In accordance with Federal Executive Order 96-236, the Commission shall consider the employment by the Contractor of unauthorized aliens a violation of Section 274A(e) of the Immigration and Nationalization Act. Such violation shall be cause for unilateral cancellation of this Contract if the Contractor knowingly employs unauthorized aliens.

32. EMPLOYMENT ELIGIBILITY VERIFICATION (E-VERIFY).

- A. Requirement to Use E-Verify.** Section 448.095(2) Florida Statute requires the Contractor to: 1.) 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 Purchase Order term; and 2.) include in all subcontracts under this Purchase Order, the requirement that subcontractors performing work or providing services pursuant to this Purchase Order utilize the E-Verify system to verify the employment eligibility of all new employees hired by the subcontractor during the term of the subcontract.
- B. E-Verify Online.** **E-Verify** is an Internet-based system that allows an employer, using information reported on an employee's Form I-9, Employment Eligibility Verification, to determine the eligibility of all new employees hired to work in the United States. The Department of Homeland Security's E-Verify system can be found online at <https://www.e-verify.gov>.
- C. Enrollment in E-Verify.** As a condition precedent to entering a Purchase Order with the Commission, Contractors and Subcontractors shall register with and use the E-Verify system. Failure to do so shall result in the Purchase Order not being issued, or if discovered after issuance, termination of the Purchase Order.
- D. E-Verify Recordkeeping.** The Contractor further agrees to maintain records of its participation and compliance with the provisions of the E-Verify program, including participation by its subcontractors as provided above, and to make such records available to the Commission or other authorized state entity consistent with the terms of the Contractor's enrollment in the program. This includes maintaining a copy of proof of the Contractor's and subcontractors' enrollment in the E-Verify Program. If a contractor enters into a contract with a subcontractor, the subcontractor must provide the contractor with an affidavit stating that the subcontractor does not employ, contract with, or subcontract with an unauthorized alien. The contractor shall maintain a copy of such affidavit for the duration of the contract.
- E. Employment Eligibility Verification & Compliance.** Compliance with the terms of the Employment Eligibility Verification provision is made an express condition of this Purchase Order and the Commission may treat a failure to comply as a material breach of

the agreement. If the Commission terminates the Purchase Order pursuant to Section 448.095(2)(c) Florida Statute, the contractor may not be awarded a public contract for at least 1 year after the date on which the contract was terminated and the Contractor is liable for any additional costs incurred by The Commission as a result of the termination of this Purchase Order.

33. FORCE MAJEURE AND NOTICE OF DELAY FROM FORCE MAJEURE.

Neither Party shall be liable to the other for any delay or failure to perform under this Contract if such delay or failure is neither the fault nor the negligence of the Party or its employees or agents and the delay is due directly to acts of God, wars, acts of public enemies, strikes, fires, floods, or other similar cause wholly beyond the Party's control, or for any of the foregoing that affects subcontractors or suppliers if no alternate source of supply is available. However, in the event of delay from the foregoing causes, the Party shall take all reasonable measures to mitigate any and all resulting delay or disruption in the Party's performance obligation under this Contract. If the delay is excusable under this paragraph, the delay will not result in any additional charge or cost under the Contract to either Party. In the case of any delay the Contractor believes is excusable under this paragraph, Contractor shall notify the Commission's Contract Manager in writing of the delay or potential delay and describe the cause of the delay either: (1) within ten (10) calendar days after the cause that creates or will create the delay first arose, if Contractor could reasonably foresee that a delay could occur as a result; or (2) within five (5) calendar days after the date Contractor first had reason to believe that a delay could result, if the delay is not reasonably foreseeable. **THE FOREGOING SHALL CONSTITUTE CONTRACTOR'S SOLE REMEDY OR EXCUSE WITH RESPECT TO DELAY.** Providing notice in strict accordance with this paragraph is a condition precedent to such remedy. The Commission, in its sole discretion, will determine if the delay is excusable under this paragraph and will notify the Contractor of its decision in writing. No claim for damages, other than for an extension of time, shall be asserted against the Commission. The Contractor shall not be entitled to an increase in the Contract price or payment of any kind from the Commission for direct, indirect, consequential, impact, or other costs, expenses or damages, including but not limited to costs of acceleration or inefficiency arising because of delay, disruption, interference, or hindrance from any cause whatsoever. If performance is suspended or delayed, in whole or in part, due to any of the causes described in this paragraph, after the causes have ceased to exist, the Contractor shall perform at no increased cost, unless the Commission determines, in its sole discretion, that the delay will significantly impair the value of the Contract to the Commission or the State, in which case, the Commission terminate the Contract in whole or in part.

34. ENTIRE CONTRACT.

This Contract with all incorporated attachments and exhibits represents the entire Contract of the Parties. Any alterations, variations, changes, modifications or waivers of provisions of this Contract shall only be valid when they have been reduced to writing, and duly signed by each of the Parties hereto, unless otherwise provided herein. In the event of conflict, the following order of precedence shall prevail; this contract and its attachments, the terms of the solicitation and the contractor's response to the solicitation.

**REMAINDER OF PAGE INTENTIONALLY LEFT BLANK
SIGNATURE PAGE TO FOLLOW**

IN WITNESS WHEREOF, the Parties hereto have caused this Contract to be executed through their duly authorized signatories on the day and year last written below.

CONTRACTOR EXECUTION SIGNATURE	COMMISSION EXECUTION SIGNATURE
Martin Board of County Commissioners	Florida Fish and Wildlife Conservation Commission
Contractor Signature	Executive Director (or Designee) Signature
Print Name	Print Name
Title	Title
Date	Date

Approved as to form and legality by:

Commission Attorney

ATTEST	BOARD OF COUNTY COMMISSIONERS MARTIN COUNTY, FLORIDA
Carolyn Timmann, Clerk of the Circuit Court and Comptroller	Stacey Hetherington, Chair

Approved as to form and legal sufficiency:

Sarah W. Woods, County Attorney

Attachments in this Agreement include the following:

- Attachment A - Scope of Work
- Attachment B - Grant Agreement
- Attachment C - Documentation of Competitive Process
- Attachment D - Hydrologic Modeling Report
- Attachment E - Project Construction Plans
- Attachment F - Requirements of the Florida Single Audit Act

Attachment A – SCOPE OF WORK

Project Name:	Jensen Beach Impoundment Mangrove Restoration Project	FWC Contract No.	FWC 20329
----------------------	---	-------------------------	-----------

1. PROJECT DESCRIPTION

1.1 Project Overview

1.1.1 Purpose of this Agreement

The purpose of this contract is to establish a funding mechanism between the Florida Fish and Wildlife Conservation Commission (“COMMISSION”) and the Martin County Board of County Commissioners (“CONTRACTOR”) to implement a federally funded grant for \$1,000,000 to restore and enhance 150 acres of mangrove habitat through the Jensen Beach Impoundment Mangrove Restoration Project (“PROJECT”). In support of this project, the COMMISSION will administer a National Oceanic and Atmospheric Administration (NOAA) Hurricane Irma Fisheries Disaster Recovery grant awarded to the COMMISSION. Granting agency agreement NA19NMF0220003 CFDA#11.022 is attached hereto and made a part hereof as Attachment B. The CONTRACTOR will perform the restoration activities through a sub-contractor attained through a competitive bid process, the CONTRACTOR documentation of which is attached hereto and made a part hereof as Attachment C. The CONTRACTOR has developed the PROJECT in partnership with the COMMISSION and will secure and comply with all necessary environmental permits to complete the project.

1.1.2 Project Goals and Objectives

Mangrove habitat along the Indian River Lagoon (IRL), directly adjacent to this project, is tremendously important to the surrounding community and economy. These mangroves form the base of the estuary food chain and are crucial nursery habitat for aquatic organisms including several essential fish species. According to the Smithsonian Marine Institute, the IRL is home to more than 3,500 species of animal and plants (<https://irlspecies.org/>). This includes numerous managed and protected species that use mangrove habitats such as snook, tarpon, red drum, mullet, various snappers and groupers, blue crabs, and Panaeid shrimps. Mangrove swamps also provide critical habitat for Federally and State protected bird species. Herons, brown pelicans, wood stork, and spoonbills all make their nests in the upper branches of mangrove trees and many of these bird species also use mangrove habitat as core foraging areas.

The Jensen Beach Impoundment (JBI) is a 150-acre impounded mangrove wetland area that is within the Jensen Beach to Jupiter Inlet Aquatic Preserve in the IRL. A majority of the JBI is located within Martin County, with a small northern section lying within St. Lucie County. The site is divided into functionally separate “north,” “south,” and “northeast” cells which operate independently. An access road serves as the boundary between the cells. The purpose of the JBI is to control *Aedes taeniorhynchus* (black saltmarsh mosquitoes) while providing critical mangrove habitat in the IRL. In the aftermath of Hurricane Irma, over 50-acres of primarily red mangrove (*Rhizophora mangle*) habitat in the impoundment was impacted due to high water levels and poor water quality, and the remaining 100 acres of mangroves continue to show signs of stress.

Attachment A – SCOPE OF WORK

Project Name:	Jensen Beach Impoundment Mangrove Restoration Project	FWC Contract No.	FWC 20329
----------------------	---	-------------------------	-----------

This contract will assist in achieving the overall goal to restore and enhance 150 acres of dead and stressed mangrove habitat and will fulfill the requirements of the NOAA grant by achieving the following objectives:

- 1) increasing hydrologic connectivity with the IRL; and
- 2) improving internal water flow within the impoundment.

1.1.3 Work to be Performed (Entire Project)

This PROJECT, in its entirety, including funding from this contract as well as from other sources, will restore and enhance approximately 150 acres of impounded mangrove wetlands. The PROJECT will improve hydrologic connectivity and flow between the impoundment and the IRL and within the impoundment between the north, south, and northeast cells. This will be done by: installing one culvert between the south cell of the impoundment and the IRL; installing three culverts to connect the north and south cells within the impounded area; dredging 13,000 linear feet (lf) of interior channels to historic elevations; and removing excess vegetation that is blocking water flow in the interior channels of the north, south, and northeast cells.

1.1.4 Work to be Performed under this Contract

The CONTRACTOR and COMMISSION, through hydrological modeling (Attachment D), have identified specific historical channels within the impoundment which are critically important to the hydrology of the system. This contract includes removal of vegetative debris in locations specified in Attachment E and dredging up to 13,000 linear feet (lf) of interior channels, resulting in the removal of approximately 20,000 cubic yards (cu yds) of sediment and debris (muck). Dredging will be performed by hydraulic dredge as per the specifications described in Attachment E. Muck removed from the channels will be placed in geotextile tubes placed in roll-off containers and de-watered on-site. Vegetative debris will be mulched on-site and then transported to a landfill or other agreed upon location for disposal. Dried spoil material will be transported to and deposited at a disposal site approved by the COMMISSION and the CONTRACTOR. Allowable work hours will be from sunrise to sunset Monday through Friday.

1.1.5 Permit Compliance

The project was determined by the Florida Department of Environmental Protection to be exempt from the need to obtain a state environmental resource permit, pursuant to Section 62-330.051(7)(c), F.S. The CONTRACTOR will acquire necessary permits and adhere to conditions and requirements of the U.S. Army Corps of Engineers (USACE). The PROJECT will remain in the ownership of and under the management of the CONTRACTOR in perpetuity.

1.2 Background

- This PROJECT is a partnership between the COMMISSION and the CONTRACTOR.

Attachment A – SCOPE OF WORK

Project Name:	Jensen Beach Impoundment Mangrove Restoration Project	FWC Contract No.	FWC 20329
----------------------	---	-------------------------	-----------

The CONTRACTOR and the COMMISSION designed the project. The CONTRACTOR will secure permits for the project and the COMMISSION applied for and was awarded federal funding through the NOAA Hurricane Irma Fisheries Disaster Recovery Grant for the project. The United States Fish and Wildlife Service (USFWS) is also a partner and is contributing funding through the Florida Fish and Wildlife Commission (FFWC) State Wildlife Grants Program.

The CONTRACTOR is committed to providing any additional funding necessary to complete the project.

1.2.1 Support of Commission Mission

The overall mission of the COMMISSION is “*managing fish and wildlife resources for their long-term well-being and the benefit of people.*” The PROJECT is intended to restore estuarine habitats, which will benefit fish and wildlife and increase recreational opportunities in the IRL (e.g., fishing, bird watching, kayaking).

As one of its many activities, the COMMISSION’s Division of Habitat and Species Conservation is tasked with aquatic habitat conservation and restoration of marine, estuarine, and freshwater systems in the state of Florida. Specific objectives include:

- Creating balanced aquatic ecosystems to support a multi-species environment to benefit Florida’s native fish and wildlife;
- Monitoring and managing Florida’s wetlands to restore and enhance aquatic habitats;
- Establishing desirable native aquatic vegetation that protects shorelines from erosion; and
- Offering scientific support to other government groups to promote good environmental management practices.

To achieve these objectives, the COMMISSION collaborates with partners with similar objectives and responsibilities to develop an integrated strategy for habitat restoration which achieves results on a landscape scale. The JBI Restoration Project is an example of such a joint venture.

It is the mission of the CONTRACTOR and project partner to “*preserve, restore, maintain and enhance Martin County’s environmental resources.*” The CONTRACTOR manages approximately 35,000 acres of environmentally sensitive lands and implements water quality compliant projects that meet the community’s needs and support improved access to public lands.

2. BASIC SCOPE OF SERVICES

The COMMISSION will pay for hydraulic dredging, to remove accumulated sediments and vegetative debris, up to 13,000 lf, from existing channels which will result in an estimated 20,000 cu yds of spoil. The material will be dewatered into containment units (e.g., geotextile tubes) onsite then trucked to a landfill or other publicly beneficial disposal method. Vegetation will be removed by hand and or by cutter/suction dredge from the existing channels, up to 13,000 lf. See Attachment E.

Attachment A – SCOPE OF WORK

Project Name:	Jensen Beach Impoundment Mangrove Restoration Project	FWC Contract No.	FWC 20329
----------------------	---	-------------------------	-----------

3. DELIVERABLES

The CONTRACTOR will provide the COMMISSION with a report summarizing each Task completed and documentation with each submitted invoice. The reports will include tasks accomplished by date, deliverables provided (see measurement and documentation methods below), problems that occurred, and how problems were resolved. The reports shall be submitted electronically to the COMMISSION project manager within 30 days of the completion of the Task.

3.1 Measurement and Documentation Methods

3.1.1 Hydraulic dredging

- i. Up to 13,000 lf of hydraulic dredging will occur within existing channels resulting in approximately 20,000 cu yds muck removal. Payment for this item shall be made as a unit price per linear feet (lf) of channel dredged (see Table 3 below).
- ii. Material removed shall be eligible for payment based on construction surveys. Topographic/bathymetric surveys shall document the pre- and post-conditions for dredging elements of the work. Surveys shall be certified by a Florida registered professional surveyor. The surveys shall be provided by the CONTRACTOR along with a summary of their adherence to the project construction plans (Attachment E).

3.1.2 Vegetation Removal

- i. Payment for this item shall be made as a unit price per linear feet (lf) of vegetation removed from channels identified in the construction plans (Attachment E).
- ii. Measurement of quantities shall be based on linear feet (lf) of vegetation removal along channels and identified in the surveys described above (3.1.1 (ii)).

Attachment A – SCOPE OF WORK

Project Name:	Jensen Beach Impoundment Mangrove Restoration Project	FWC Contract No.	FWC 20329
----------------------	---	-------------------------	-----------

Table 3. Tasks, Deliverables, and Payment

Task	Deliverable	Maximum Payment
1. Mobilization, erosion and sediment controls, pre-construction surveys	-Dredging equipment on-site -Erosion and sediment controls installed -Pre-construction surveys/project layout	\$200,000
2. Hydraulic dredging, dewatering, and transport of muck resulting from at a minimum 2,000 linear feet of channel cleaning to a mutually agreed upon disposal site AND vegetation removal and transport of debris from at a minimum 2,000 linear feet of canal cleaning to a landfill (or other approved location). Dredging and vegetation removal shall be in accordance with specifications in Attachment E.	-Interim report summarizing work completed -Copies of interim check surveys showing locations/elevations and quantities of muck removed and placed in landfills (or other approved location). -Copies of interim check surveys showing locations and quantities of vegetation removed.	\$200,000
3. Hydraulic dredging, dewatering, and transport of muck resulting from at a minimum 2,000 linear feet of channel cleaning to a mutually agreed upon disposal site AND vegetation removal and transport of debris from at a minimum 2,000 linear feet of canal cleaning to a landfill (or other approved location). Dredging and vegetation removal shall be in accordance with specifications in Attachment E.	-Interim report summarizing work completed -Copies of interim check surveys showing locations/elevations and quantities of muck removed and placed in landfills (or other approved location). -Copies of interim check surveys showing locations and quantities of vegetation removed.	\$200,000
4. Hydraulic dredging, dewatering, and transport of muck resulting from at a minimum 2,000 linear feet of channel cleaning to a mutually agreed upon disposal site AND vegetation removal and transport of debris from at a minimum 2,000 linear feet of canal cleaning to a landfill (or other approved location). Dredging and vegetation removal shall be in accordance with specifications in Attachment E.	-Interim report summarizing work completed -Copies of interim check surveys showing locations/elevations and quantities of muck removed and placed in landfills (or other approved location). -Copies of interim check surveys showing locations and quantities of vegetation removed.	\$200,000
5. Hydraulic dredging, dewatering, and transport of muck resulting from at a minimum 1,000 linear feet of channel cleaning to a mutually agreed upon disposal site AND vegetation removal and transport of debris from at a minimum 1,000 linear feet of canal cleaning to a landfill (or other approved location). Dredging and vegetation removal shall be in accordance with specifications in Attachment E.	-Interim report summarizing work completed -Copies of interim check surveys showing locations/elevations and quantities of muck removed and placed in landfills (or other approved location). -Copies of interim check surveys showing locations and quantities of vegetation removed.	\$100,000

Attachment A – SCOPE OF WORK

Project Name:	Jensen Beach Impoundment Mangrove Restoration Project	FWC Contract No.	FWC 20329
6. Hydraulic dredging, dewatering, and transport of muck resulting from at a minimum 500 linear feet of channel cleaning to a mutually agreed upon disposal site AND vegetation removal and transport of debris from at a minimum 500 linear feet of canal cleaning to a landfill (or other approved location). Dredging and vegetation removal shall be in accordance with specifications in Attachment E.	-Interim report summarizing work completed -Copies of interim check surveys showing locations/elevations and quantities of muck removed and placed in landfills (or other approved location). -Copies of interim check surveys showing locations and quantities of vegetation removed.		\$50,000
7. Hydraulic dredging, dewatering, and transport of muck resulting from at a minimum 499 linear feet of channel cleaning to a mutually agreed upon disposal site AND vegetation removal and transport of debris from at a minimum 499 linear feet of canal cleaning to a landfill (or other approved location). Dredging and vegetation removal shall be in accordance with specifications in Attachment E.	-Interim report summarizing work completed -Copies of interim check surveys showing locations/elevations and quantities of muck removed and placed in landfills (or other approved location). -Copies of interim check surveys showing locations and quantities of vegetation removed.		\$49,999
Total Payments not to Exceed			\$999,999

3.2 Reports

Annual project performance and fiscal reports will be submitted as per the schedule described below. These reports will include project construction progress, deviations from project schedule, monitoring data and summaries, and expenditures. Approval for project modifications from the original project proposal approved as part of the NOAA grant must be justified and sought by formal request through the COMMISSION and to the NOAA.

Quarterly reports will be submitted that indicate work accomplishments scheduled, completed, and the reason for any scheduled accomplishments not being completed. Quarterly reports will also include expenditures that were scheduled, incurred, and reasons for discrepancies between scheduled and incurred. Quarterly reports will cover Jan-March, April-June, July-September, and October-December and will be due on April 15, July 15, October 15, and January 15, respectively. Reports will be submitted each quarter from the time of execution of this contract until completion of the contract. A final report summarizing all project accomplishments and expenditures will be submitted with the final invoice.

Attachment A – SCOPE OF WORK

Project Name:	Jensen Beach Impoundment Mangrove Restoration Project	FWC Contract No.	FWC 20329
----------------------	---	-------------------------	-----------

4. FINANCIAL CONSEQUENCES

Pursuant to Term 10. **REMEDIES**/Paragraph A, Titled **Financial Consequences** of the agreement FWC 20329:

If the CONTRACTOR materially fails to comply with the terms and conditions of this Agreement, including any federal or state statutes, rules, or regulations applicable to this Agreement, the COMMISSION may take one or more of the following actions, as appropriate for the circumstances:

If the CONTRACTOR materially fails to comply with the terms and conditions of this Agreement, including any federal or state statutes, rules, or regulations applicable to this Agreement, the COMMISSION may take one or more of the following actions, as appropriate for the circumstances:

- If the contractor fails to install turbidity and erosion barriers, as specified in Task 1, to meet permit requirements, the amount of \$20,000 will be withheld.
- If the contractor fails to provide Pre-construction surveys and project layout, as specified in Task 1, the amount of \$20,000 will be withheld.
- The COMMISSION may reduce payment by \$100 for each linear foot of channel not dredged and cleared below the minimum specified in each of Tasks 2 through 7.
- Disallow (that is, deny both use of funds and any applicable matching credit for) all or part of the cost of the activity or action not in compliance.
- Wholly or partly suspend or terminate this Agreement.
- Take other remedies that may be legally available.
- Notwithstanding the above, COMMISSION shall pay the CONTRACTOR for all expenses, including but not limited to non-cancellable obligations, up to the date of termination.

5. PERFORMANCE

The CONTRACTOR shall adhere to all conditions set forth in the state and federal permits for this grant. Additionally, the CONTRACTOR shall adhere to all conditions set forth in the federal grant (Attachment B).

6. CONTRACT PERIOD

Term 3. **CONTRACT PERIOD**/Paragraph A, titled **Contract Period and Limited Obligation Period** of the agreement FWC 20329 is hereby replaced in its entirety to read as follows:

This contract shall begin upon execution by both Parties or on June 1, 2021 (whichever is later) and end on June 30, 2023, inclusive. The COMMISSION shall not be obligated to pay for costs related to this Contract prior to its beginning date or after its ending date.

Attachment A – SCOPE OF WORK

Project Name:	Jensen Beach Impoundment Mangrove Restoration Project	FWC Contract No.	FWC 20329
----------------------	---	-------------------------	-----------

As specified in NOAA Grant Agreement No. NA19NMF0220003 CFDA#11.022, this project began July 1, 2019 and ends June 30, 2023. Payment beyond the end of the grant, June 30, 2023, can only occur if NOAA authorizes an extension of the grant agreement.

The project activity schedule described under the Deliverables and Compensation sections of this Contract is idealized and dependent upon weather, tidal level, and other circumstances in-order-to complete the field work described herein; therefore, the end date of June 30, 2023 has been stipulated in the federal grant agreement. If unexpected delays in restoration activities occur and restoration targets are not met by June 30, 2023, the COMMISSION can request an extension of the federal grant beyond the current end date. The schedule of invoice receipt and payment in the Deliverables and Compensation sections of this Contract correspond to the termination date of the aforementioned federal grant agreement and can be treated in like manner. Should this contract not be completed by June 30, 2023, the grant may be extended to allow time for project completion. The COMMISSION will not compensate the CONTRACTOR after June 30, 2023 unless the federal grant agreement has been duly extended.

Term 3. **CONTRACT PERIOD**/Paragraphs B, C, and D, respectively titled **Renewal – Competitive Procurement, Renewal – Exceptional Purchase, and Renewal Period** of the agreement FWC 20329 are hereby deleted in their entirety.

7. COMPENSATION AND PAYMENT

In addition to and pursuant to Term 4. **COMPENSATION AND PAYMENT** of the agreement FWC 20329 the following paragraph also applies with regard to invoicing:

The CONTRACTOR will submit invoices upon completion of each task, however, not more frequently than once every two months and not less frequently than one every four months. Invoice amounts may not exceed \$250,000. See Contract Section 4C for invoicing requirements. When the COMMISSION's Project Manager has signed off on each deliverable associated with each Phase, the COMMISSION will pay the CONTRACTOR at an amount up to, but not exceeding the amount indicated for each deliverable. At the completion of the final Phase and the completion of the project, the CONTRACTOR will invoice the COMMISSION and receive payment for an amount that will bring total project payments to a sum **not to exceed \$999,999**.

8. MONITORING SCHEDULE

See Term 8. **MONITORING** of Agreement FWC 20329.

9. INTELLECTUAL PROPERTY RIGHTS

Term 13. **INTELLECTUAL PROPERTY RIGHTS**/Paragraph A(i) Titled **Contractor's Preexisting Intellectual Property (Proprietary) Rights**, of the Agreement FWC 20329 is hereby replaced in its entirety to read as follows:

Attachment A – SCOPE OF WORK

Project Name:	Jensen Beach Impoundment Mangrove Restoration Project	FWC Contract No.	FWC 20329
----------------------	---	-------------------------	-----------

Contractor's Preexisting Intellectual Property (Proprietary) Rights. Unless specifically addressed otherwise in the Scope of Work, intellectual property rights to the CONTRACTOR's preexisting property will remain with the CONTRACTOR. If CONTRACTOR is a state agency or subdivision, as defined in Subsection 768.28(2), F.S., pursuant to Subsection 768.28(19), F.S., neither Party indemnifies nor insures the other Party for or on account of any copyrighted, patented, or un-patented invention, process or article manufactured or supplied by CONTRACTOR. If CONTRACTOR is not a state agency or subdivision as defined above, CONTRACTOR shall indemnify and hold harmless the COMMISSION and its employees from any liability, including costs, expenses, and attorney's fees, for or on account of any copyrighted, patented, or un-patented invention, process or article manufactured or supplied by CONTRACTOR.

10. TERMINATION

Term 9. **TERMINATION**/Paragraph A the Agreement FWC 20329 titled **Commission Termination**, the last sentence is hereby amended to read:

"The Contractor shall have the right to terminate the contract for lack of funding, cause or convenience of the Contractor."

11. FEDERAL FUNDS

Term 24. **FEDERAL FUNDS**/Paragraph A the Agreement FWC 20329 titled Prior Approval to **Expend Federal Funds to Federal Agency or Employee** is hereby amended to add the following statement to the end of the of the last sentence:

"a copy of which is attached hereto and made a part hereof as Attachment B."

Term 24. **FEDERAL FUNDS** of the Agreement FWC 20329 is further hereby amended to add Paragraph L, M, N, and O below, respectively titled **Trafficking Victims Protection Act of 2000, Federal and Florida Single Audit Act Requirements, Produced in the United States (Certification Required), Affirmative Steps, and Federal Compliance.**

L. Trafficking Victims Protection Act of 2000

This federal award is subject to the Trafficking Victims Protection Act of 2000, as amended (22 U.S.C. 7104(g), 2 CFR 175.15). As such, the awarding federal agency may unilaterally terminate this award without penalty for violations of this Act. If the CONTRACTOR is a private entity, the following Paragraph applies to the federal award:

You as the recipient, your employees, sub-recipients under this award, and subrecipients' employees may not:

Attachment A – SCOPE OF WORK

Project Name:	Jensen Beach Impoundment Mangrove Restoration Project	FWC Contract No.	FWC 20329
----------------------	---	-------------------------	-----------

1. Engage in severe forms of trafficking in persons during the period of time that the award is in effect;
2. Procure a commercial sex act during the period of time that the award is in effect; or
3. Use forced labor in the performance of the award or sub-awards under the award.

M. Federal and Florida Single Audit Act Requirements

Pursuant to the FSAA (or Federal) Vendor / Recipient Determination Checklist, CONTRACTOR has been determined to be a recipient of state financial assistance and/or a subrecipient of a federal award. Therefore, pursuant to Section 215.97, F.S. and/or OMB Circular A-133, the CONTRACTOR may be subject to the audit requirements of the Florida and/or Federal Single Audit Acts. If applicable, CONTRACTOR shall comply with the audit requirements outlined in Attachment F, "Requirements of the Federal and Florida Single Audit Acts," attached hereto and made a part of the Contract, as applicable.

N. Produced in the United States (Certification Required)

All unmanufactured and manufactured articles, materials, and supplies acquired for public use under this Contract must be produced in the United States as required by 41 U.S.C §10a, unless it would not be in the public interest, or unreasonable in cost.

O. Affirmative Steps

A Bidder must take the following affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus area firms are used as subcontractors when possible:

1. Placing qualified small and minority businesses and women's business enterprises on solicitation lists;
2. Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;
3. Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises;
4. Establishing delivery schedules, where the requirements permit, which encourage participation by small and minority businesses, and women's business enterprises; and
5. Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.

FORM CD-450 (REV 10/18)		U. S. DEPARTMENT OF COMMERCE FINANCIAL ASSISTANCE AWARD		☐ GRANT ☒ COOPERATIVE AGREEMENT	
RECIPIENT NAME FISH & WILDLIFE CONSERVATION COMMISSION, FLORIDA		FEDERAL AWARD ID NUMBER NA19NMF0220003			
		PERIOD OF PERFORMANCE 07/01/2019-06/30/2023			
STREET ADDRESS 620 S MERIDIAN ST		FEDERAL SHARE OF COST \$44,563,431.00			
CITY, STATE, ZIP CODE TALLAHASSEE FL 32399-6543		RECIPIENT SHARE OF COST \$0.00			
AUTHORITY Bipartisan Budget Act of 2018, (P. L. 115-123) February 9, 2018; 16 U.S.C. 1881a(d)		TOTAL ESTIMATED COST \$44,563,431.00			
CFDA NO. AND NAME 11.022 Bipartisan Budget Act of 2018					
PROJECT TITLE Hurricane Irma Fishery Disaster Funding					
This Award Document (Form CD-450) signed by the Grants Officer constitutes an obligation of Federal funding. By signing this Form CD-450, the Recipient agrees to comply with the Award provisions checked below and attached. Upon acceptance by the Recipient, the Form CD-450 must be signed by an authorized representative of the Recipient and returned to the Grants Officer. If not signed and returned without modification by the Recipient within 30 days of receipt, the Grants Officer may unilaterally withdraw this Award offer and de-obligate the funds. ☒ DEPARTMENT OF COMMERCE FINANCIAL ASSISTANCE STANDARD TERMS AND CONDITIONS ☐ R & D AWARD ☐ FEDERAL-WIDE RESEARCH TERMS AND CONDITIONS, AS ADOPTED BY THE DEPT. OF COMMERCE ☒ SPECIFIC AWARD CONDITIONS ☒ LINE ITEM BUDGET ☒ 2 CFR PART 200, UNIFORM ADMINISTRATIVE REQUIREMENTS, COST PRINCIPLES, AND AUDIT REQUIREMENTS, AS ADOPTED PURSUANT TO 2 CFR § 1327.101 ☐ 48 CFR PART 31, CONTRACT COST PRINCIPLES AND PROCEDURES ☐ MULTI-YEAR AWARD. PLEASE SEE THE MULTI-YEAR SPECIFIC AWARD CONDITION. ☒ OTHERS(S): This award is being made under non-competitive Request for Applications Number NOAA-NMFS-FHQ-2018-2005658, posted at Grants.gov on 06/29/2018.					
SIGNATURE OF DEPARTMENT OF COMMERCE GRANTS OFFICER Arlene Simpson Porter				DATE 05/31/2019	
PRINTED NAME, PRINTED TITLE AND SIGNATURE OF AUTHORIZED RECIPIENT OFFICIAL James Estes				DATE 06/10/2019	

PROJECT INFORMATION
ATTACH TO ADMINISTRATIVE APPROVAL REQUEST FORM (AAR)
FOR PERMISSION TO ADVERTISE A REQUEST FOR PROPOSALS (RFP)

Please refer to Section 18 of the Purchasing Manual for additional information regarding RFPs

Does this project require Professional Services within the scope of the practice of architecture, professional engineering, landscape architecture, registered surveying or mapping? ☐ Yes ☐ No

If yes, a Request for Qualifications (RFQ) is required.

Professional Services within the scope of the practice of architecture, professional engineering, landscape architecture, registered surveying or mapping as defined by Florida law will be acquired in accordance with Section 287.055, Florida Statutes, the Consultant's Competitive Negotiation Act (CCNA). Selection of consultants for FTA funded projects shall be acquired in accordance with The Brooks Act. Price cannot be an evaluation factor for RFQs.

PROJECT NAME:

Please ensure that all documents have the same project name for consistency

PROJECT DESCRIPTION (SCOPE OF WORK):

PROJECT MANAGER/POINT OF CONTACT:

CIP PROJECT: ☐ Yes ☐ No

If yes, upload a copy of the CIP sheet into OnBase (AAR)

GRANT FUNDING: ☐ FEDERAL ☐ STATE ☐ N/A

*****IMPORTANT: It is the managing Department's responsibility to provide ALL grant required forms, contract provisions, and other requirements to Purchasing for the procurement process. Purchasing will not be held responsible for any issues with non-compliance or reimbursement issues relating to grant-funded projects. Please become familiar with the grant agreement and contact the grant agency prior to submitting a RFP for advertisement. *****

Upload copies of all grant agreements into OnBase (AAR)

Granting Agency Name(s): *

Davis-Bacon Wage Requirement?: ☐ Yes ☐ No

Grant Contract Provisions Required: ☐ Yes ☐ No

If yes, provide Purchasing with a copy

Grant Forms Required?: ☐ Yes ☐ No

If yes, list below and provide Purchasing with a copy

**If FTA funded, all required FTA forms must be completed including checklists (forms in P:/FTA; create folder and save completed forms)*

ADVERTISEMENT REQUIREMENTS:

*****All RFPs are advertised on DemandStar (online bidding site)*****

Purchasing shall provide public notice, at least once, in the form of an advertisement in a newspaper of general circulation ([Stuart News](#)) in the County a **minimum of 21 calendar days** prior to bid opening **for construction projects exceeding \$200,000** and a **minimum of 30 calendar days** prior to bid opening **for construction projects exceeding \$500,000** and at least 5 calendar days prior to any scheduled prebid conference.

All other procurements shall be advertised on the County website for a minimum of fourteen (14) calendar days and notices may be transmitted by third parties which specialize in this service. **Bids for roadway construction shall be advertised once a week for two (2) consecutive weeks** in accordance with Section 336.44, Florida Statutes.

Does this bid have special advertising requirements? ☐ Yes ☐ No

If yes, please list:

Publication Name (other than Stuart News):

SELECTION CRITERIA

A contract shall be awarded based on the requirements set forth in the RFP to the proposer determined to be the most advantageous to the County. **No criteria may be used for evaluation that has not been set forth in the RFP. The score that will be assigned to each criterion shall be published in the RFP.**

Criterion (add additional rows if needed)	Point Value

*****Per Administration: Price/Cost shall not exceed 35 points*****

Solicitations for initial work (conceptual phase, feasibility study, etc.) resulting in subsequent work (i.e. design, development, master planning) shall include language advising firms, "Performing initial work on this effort may preclude your firm from working on subsequent work which goes beyond the initial scope of work". Exceptions to this requirement are based upon the Department Director stating and executing on the AAR for award selection that i) all results from this initial work were shared in the solicitation with all bidders and ii) higher scores were not given to any firm participating in "initial work" for having a better understanding of the County's needs as a result of participating in this initial work.

FORM OF SUBMITTAL (What documents do the proposers need to provide as part of their proposal?)

The Selection Criteria and Proposal Submittal requirements should coincide.

Items b-f below (including the page limit) can be modified as necessary.

1. Proposal to be provided in the order below:
 - a. Cover letter / statement of interest including e-mail address of person to be notified of award, signed by an authorized corporate officer, principal, or partner. Include physical address of primary Consultant. (2 page limit)
 - b. Firm and individual staff qualifications (3 page limit)
 - c. Past experience with similar services/references (1 page per project)
 - d. Approach and methodology (3 page limit)
 - e. Schedule (1 page limit)

f. Total cost (1 page limit)

SELECTION COMMITTEE MEMBERS (Est. <\$50=3 members; >\$50K=5 members)

A Selection Committee of a minimum of three (3) people is required for all RFPs. One member shall be outside the originating Department. Selection Committee members shall not include supervisors of other Committee members.

NAME	DEPARTMENT / AGENCY	EMAIL ADDRESS

VENDOR MINIMUM/SPECIAL PAST EXPERIENCE, IF ANY:

CONTRACTOR MINIMUM REQUIREMENTS/LICENSES:

<http://www.myfloridalicense.com/DBPR/construction-industry/>

- ☐ Florida Certified General Contractor
- ☐ Underground Utility and Excavation Contractor
- ☐ Florida Certified Building Contractor
- ☐ Other (List):

PRE-BID/PROPOSAL MEETING: ☐ Yes ☐ No

MANDATORY: ☐ Yes ☐ No

If yes, location & address of meeting:

If yes, list the required attendees (Names & Email Addresses):

PROJECT COST ESTIMATE OR FIVE YEAR NOT TO EXCEED CONTRACT AMOUNT: \$

All continuing contracts shall clearly set forth a defined term and such term may not exceed five (5) years plus a ninety (90) day extension period if allowed by contract to allow for completion of services or re-bid process. Contract terms exceeding the aforementioned term require Board approval.

PATH TO BID DOCUMENTS ON T: OR P:*

DOES THIS PROJECT REQUIRE A SPECIAL CONTRACT (NOT A STANDARD COUNTY CONTRACT TEMPLATE): ☐ Yes ☐ No

If yes, has this Contract been routed through OnBase (Legal Contract Review) and approved by the Legal Department? ☐ Yes ☐ No

If yes, please provide the AAR #:

VENDOR NOTIFICATIONS

Do you want to send a bid announcement to a specific company/companies? If so, please list:

COMPANY NAME	CONTACT NAME	EMAIL ADDRESS

Hydrologic and Hydraulic Modeling Summary Report

for the

Jensen Beach Impoundment Mangrove Restoration Project

Prepared for:

Florida Fish and Wildlife Conservation Commission

Prepared by:



ECT No. 200248-0200

July 2020

DOCUMENT REVIEW

The dual signatory process is an integral part of Environmental Consulting & Technology, Inc.'s (ECT's) Document Review Policy No. 9.03. All ECT documents undergo technical/peer review prior to dispatching these documents to any outside entity.

This document has been authored and reviewed by the following employees:

Roger Dawson, PE, PG
Author

Robert Johnson, PE
Peer Review

Signature

Signature

July 27, 2020
Date

July 27, 2020
Date

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
1.0 INTRODUCTION	1-1
1.1 PROJECT AREA OVERVIEW	1-1
1.2 RESTORATION OBJECTIVES	1-3
1.2.1 MANGROVE RESTORATION	1-3
1.2.2 MOSQUITO CONTROL	1-4
2.0 HYDROLOGIC ANALYSIS	2-1
2.1 HISTORICAL CONDITIONS MODEL DEVELOPMENT	2-1
2.1.1 TOPOGRAPHIC INFORMATION	2-2
2.1.2 AERIAL PHOTOGRAPHS	2-2
2.1.3 LIDAR DATA COLLECTION	2-3
2.1.3.1 LiDAR Processing	2-4
2.1.3.2 DEM Modifications for Flow Routing	2-6
2.1.3.3 Topographic Contours	2-6
2.1.4 LAND USE AND LAND COVER	2-6
2.1.5 SOILS	2-7
2.2 EXISTING DRAINAGE INFRASTRUCTURE	2-9
2.2.1 BOUNDARY CONDITIONS, PRECIPITATION AND TIDAL DATA	2-11
3.0 HISTORICAL CONDITIONS MODEL	3-1
3.1 MODEL SETUP	3-1
3.2 MODEL CALIBRATION AND STABILITY	3-2
3.3 HISTORICAL CONDITIONS MODEL RESULTS	3-3
4.0 PROPOSED ALTERNATIVE MODELS	4-1
4.1 DESCRIPTIONS OF ALTERNATIVE DESIGNS	4-1
4.2 PROPOSED CONDITIONS RESULTS	4-5
4.3 SELECTION OF PREFERRED ALTERNATIVE	4-16
4.4 PREFERRED ALTERNATIVE RESULTS	4-
164	
5.0 REFERENCES/BIBLIOGRAPHY	5-1

APPENDICES

- APPENDIX A—HISTORICAL CONDITIONS MODEL EXHIBITS OF
WATER SURFACE ELEVATION CHANGE
- APPENDIX B—PROPOSED CONDITION 2 MODEL EXHIBITS OF
WATER SURFACE ELEVATION CHANGE
- APPENDIX C—PROPOSED CONDITION 3 MODEL EXHIBITS OF
WATER SURFACE ELEVATION CHANGE
- APPENDIX D—PROPOSED CONDITION 4 MODEL EXHIBITS OF
WATER SURFACE ELEVATION CHANGE
- APPENDIX E—PROPOSED CONDITION 5 MODEL EXHIBITS OF
WATER SURFACE ELEVATION CHANGE
- APPENDIX F—HISTORICAL CONDITIONS MODEL INPUT AND
OUTPUT REPORT
- APPENDIX G—PROPOSED CONDITION 2 MODEL INPUT AND
OUTPUT REPORT
- APPENDIX H—PROPOSED CONDITION 3 MODEL INPUT AND
OUTPUT REPORT
- APPENDIX I—PROPOSED CONDITION 4 MODEL INPUT AND
OUTPUT REPORT
- APPENDIX J—PROPOSED CONDITION 5 MODEL INPUT AND
OUTPUT REPORT

LIST OF TABLES

<u>Table</u>	<u>Page</u>
Table 1. Elevation Ranges and Mean Elevation (NGVD Datum) of Undisturbed Mangroves Near Wolf Branch Creek, Tampa Bay, Florida	1-3
Table 2. Culvert Details at JBI	2-10

LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
Figure 1. Aerial view of the FWC – Jensen Beach Impoundment	1-2
Figure 2. Examples of surveyed channel cross-sections, parallel to central access berm	2-2
Figure 3. Aerial photographs of FWC-JBI project area (yellow boundary delineates model domain)	2-3
Figure 4. LiDAR Points Imported & Aggregated as 3'x3' Raster Grid	2-4
Figure 5. Digital Elevation Model	2-5
Figure 6. DEM with Lowered External Elevations	2-5
Figure 7. FLUCCS Codes for Land Use across JBI	2-7
Figure 8. Hydrologic Soil Group (HSG) Designations within the JBI	2-8
Figure 9. Existing and Proposed infrastructure in JBI: pipes (yellow), channels (blue), pump stations (green)	2-11
Figure 10. Normal tides and Tides with projected Sea Level Rise for the Indian River Lagoon	2-13
Figure 11. Historical Conditions: Time versus Stage graph for Channel C, Pumping-only scenario	3-4
Figure 12. Historical Conditions: Time versus Stage graph for Channel I, Pumping-only scenario	3-5
Figure 13. Historical Conditions: Time versus Stage graph for Channel I, Pumping-only scenario	3-6
Figure 14. Historical Conditions: Time versus Stage graph for Channel I, Pumping plus 2-year, 72-hour storm event scenario	3-7
Figure 15. Historical Conditions: Time versus Stage graph for Channel C, Pumping plus 25-year, 72-hour storm event scenario	3-8
Figure 16. Historical Conditions: Time versus Stage graph for Channel I, Pumping plus 25-year, 72-hour storm event scenario	3-9
Figure 17. Proposed Condition 2 model domain	4-7

LIST OF FIGURES
(Continued, Page 2 of 2)

<u>Figure</u>	<u>Page</u>
Figure 18. Proposed Condition 3: Example of dredging and muck removal: existing channel cross-section (top) and proposed channel cross- section (bottom)	4-7
Figure 19. Proposed Condition 3 model domain	4-7
Figure 20. Proposed Condition 4 model domain	4-7
Figure 21. Proposed Condition 2: Time versus Stage graph for Channels C & I, Pumping only scenario	4-7
Figure 22. Proposed Condition 2: Time versus Stage graph for Channels C & I, Pumping plus 2-year, 72-hour storm event scenario	4-8
Figure 23. Proposed Condition 2: Time versus Stage graph for Channels C & I, Pumping plus 25-year, 72-hour storm event scenario	4-9
Figure 24. Proposed Condition 3: Time versus Stage graph for Channels C & I, Pumping only scenario	4-10
Figure 25. Proposed Condition 3: Time versus Stage graph for Channels C & I, Pumping plus 2-year, 72-hour storm event scenario	4-11
Figure 26. Proposed Condition 3: Time versus Stage graph for Channels C & I, Pumping plus 25-year, 72-hour storm event scenario	4-12
Figure 27. Proposed Condition 4: Time versus Stage graph for Channels C & I, Pumping only scenario	4-13
Figure 28. Proposed Condition 4: Time versus Stage graph for Channels C & I, Pumping plus 2-year, 72-hour storm event scenario	4-14
Figure 29. Proposed Condition 4: Time versus Stage graph for Channels C & I, Pumping plus 25-year, 72-hour storm event scenario	4-15
Figure 30. Proposed Condition 5: Time versus Stage graph for Channels C & I, Pumping only scenario	4-
177	
Figure 31. Proposed Condition 5: Time versus Stage graph for Channels C & I, Pumping plus 2-year, 72-hour storm event scenario	4-18

Figure 32. Proposed Condition 5: Time versus Stage graph for Channels C & I, Pumping plus 25-year, 72-hour storm event scenario

4-18

1.0 INTRODUCTION

The Jensen Beach Impoundment (JBI) is a 170-acre impounded mangrove wetland area within the Jensen Beach to Jupiter Inlet Aquatic Preserve. Most of the JBI is located within Martin County with a small northern section lying within St. Lucie County. The site is divided into functionally separate “north” and “south” cells, which operate independently. An access road serves as the boundary between the two cells.

The purpose of the JBI is to control *Aedes taeniorhynchus* mosquitoes and provide critical mangrove habitat in the Indian River Lagoon (IRL). In the aftermath of Hurricane Irma, more than 50 acres of primarily red mangrove (*Rhizophora mangle*) habitat was lost from the impoundment due to high water levels and poor water quality.

The purpose of this overall project is to promote site recovery and improve resiliency by accomplishing: (1) an increased connection with the IRL; (2) improvement of internal water flow within the impoundment; and (3) restoration of mangrove habitat. This will be completed through a three-phase project.

Environmental Consulting & Technology, Inc. (ECT) was commissioned by Florida Fish and Wildlife Conservation Commission (FWC) to carry out the third phase of the overall project: restoration of mangrove habitat. The purpose of the JBI Mangrove Restoration Project (project) is to improve tidal exchange between the impoundment and the IRL as well as enhance connectivity within the impoundment itself in an attempt to reduce the stress on mangroves found within the JBI.

One of the factors impeding connectivity is decreased channel capacity over time due to sedimentation. At times, water levels are too low for pumps in the JBI to operate. To restore adequate channel depths, selected channels within the north and south cells will be dredged and some additional connections between the IRL and the JBI are proposed.

1.1 PROJECT AREA OVERVIEW

The JBI includes two separate cells (North cell, South cell) that are roughly separated by berms of higher elevation, as shown in **Figure 1**. Tidal exchange is accomplished through culverts that exist between the JBI and the IRL which allow water to flow between the impoundment and the IRL. Water is then distributed through a series of internal channels, many of which were constructed in the 1940s and 1950s. Over time, and following significant storm events, debris and sedimentation has resulted in the narrowing and blockage of these existing channels, impeding tidal flushing. Additionally, construction of a residential development along the southeast boundary of the

impoundment has significantly impacted hydrology. A natural berm on the west side of the JBI limits flow to the northeast corner of the impoundment which historically received water from the south. The northeast corner now has no connectivity with the remainder of the impoundment due to construction of an access road on a berm and the residential development blocking flow from the south. Impacts from Hurricane Irma exacerbated the reduction in connectivity and has resulted in widespread decline in the JBI.

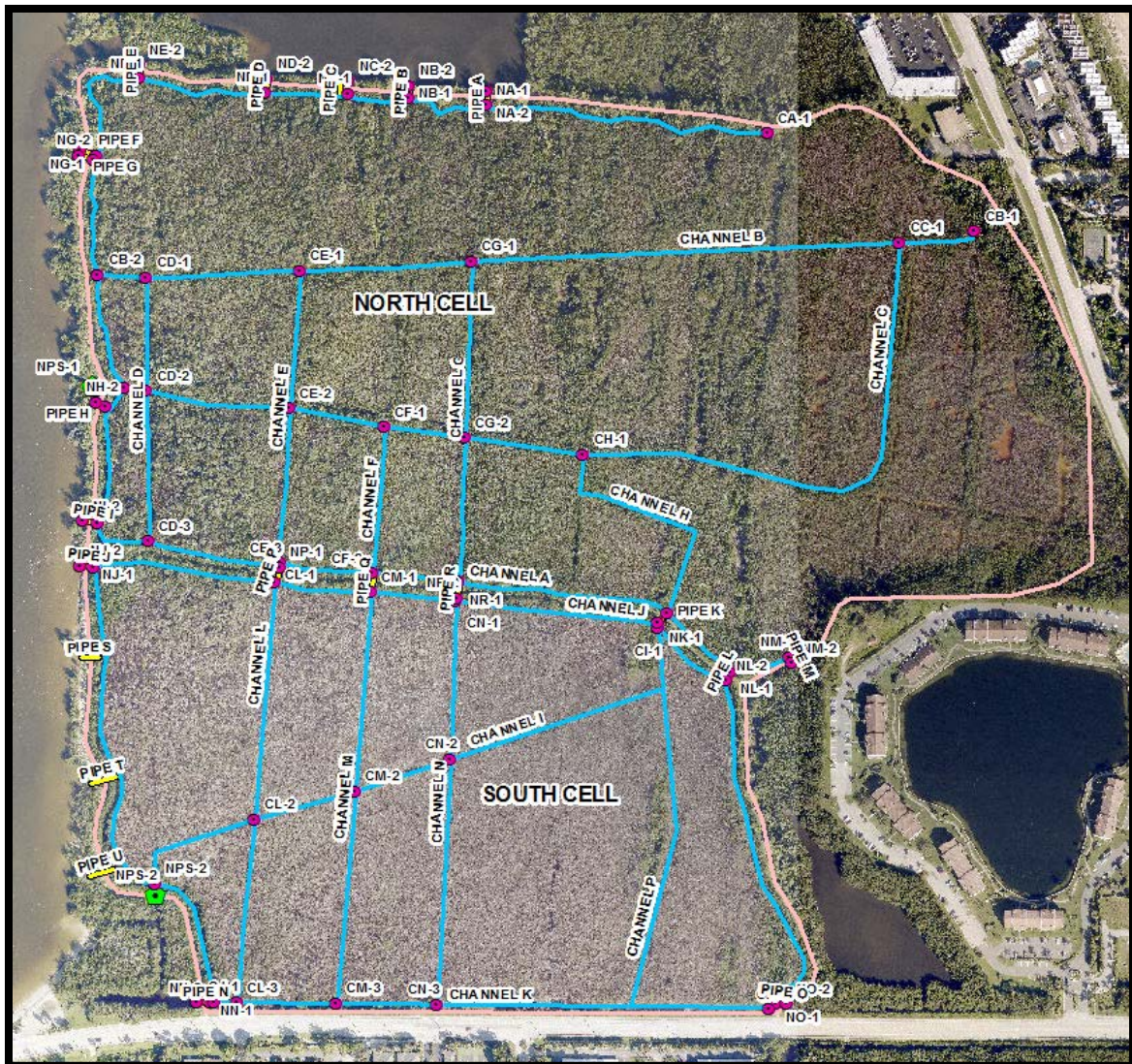


Figure 1. Aerial view of the FWC – Jensen Beach Impoundment

Specific historical channels within the impoundment have been identified which are critically important to the hydrology of the system. These channels connect directly to the pump stations that facilitate tidal exchange. However, recruitment of mangrove propagules to the south cell has remained restricted to areas near hydrologic connection points due to poor circulation of surface water.

1.2 RESTORATION OBJECTIVES

The objective of the JBI Mangrove restoration project is to provide improvements to the mangrove community located with the JBI while still providing mosquito control benefits. This is a challenging objective since the hydrological conditions that mangroves required to thrive can conflict with the management strategies that are required for limiting the propagation of mosquitoes.

1.2.1 MANGROVE RESTORATION

The survival and growth of mangrove species is directly linked to depth, duration, and frequency of flooding and soil saturation. The single most important factor in designing a successful mangrove restoration project is determining the normal hydrology. Often this is achieved using a reference site from the region with healthy mangroves and designing conditions to match that reference. Since considerable mangrove restoration has taken place along the Florida coastline in the past, data from these efforts was consulted for determining restoration hydrology.

Hydrology is important in mangrove systems for regulating sulfide loadings and salinity. Extended durations of flooding at a high frequency results in salinities and sulfide concentrations that can result in poor mangrove health. Water quality data collected by Environmental Associates, Inc. (EAI) in 2018 suggest that such conditions may have resulted in mangrove defoliation observed in the North Cell. This is discussed further in Section 2.0.

Elevations of mangroves found in Tampa Bay, Florida provide some information on what hydrologic conditions should be met for mangrove restoration, as summarized in **Table 1**. For optimal mangrove health, it will be important to balance elevations with freshwater inputs, tidal inflows, and pumping. Mangroves should experience regular drawdown and receive freshwater inputs. To increase diversity within the project area, elevations should vary within the cells to provide hydrology suitable for other species such as black mangrove (*Avicennia germinans*) and white mangrove (*Laguncularia racemosa*).

Table 1. Elevation Ranges and Mean Elevation (NAVD88 Datum) of Undisturbed Mangroves Near Wolf Branch Creek, Tampa Bay, Florida

Species	Range (ft)	Mean elevation (ft)
Red mangrove (<i>Rhizophora mangle</i>)	-0.71 to +0.69	+0.09
Black mangrove (<i>Avicennia germinans</i>)	-0.51 to +1.59	+0.59
White mangrove (<i>Laguncularia racemosa</i>)	-0.21 to +1.59	+0.59

Source: Lewis, 2005 (values converted to NAVD88 datum)

Mangroves should typically be inundated by high tides for a very short time period, with a total time of inundation throughout a typical year generally being 30 percent or less. During the rainy season, water elevations may range between 1.0-2.0 ft-NGVD at a frequency of 10 to 45 percent of the total year. During the dry season, water elevations may range between 1.0-1.5 ft-NGVD at a frequency of 5 to 15 percent of the total year (Lewis, 2005). In basin mangrove forests like the JBI, the total hours of flooding tend to be greater than the typical duration for coastal forests because of the trapping of both tidal waters and rainfall for mosquito control. Continuous water level monitoring data for another basin mangrove forest site in Florida show that the site was flooded 88 times in 2 years, with 10,182 total hours of flooding or 59 percent of the potential time (Cahoon and Lynch, 1997). We interpret this to be the upper limit for acceptable flooding frequency and duration for mangroves in the restoration design. Mangrove hydrological classification systems recommend that the duration of inundation for red and black mangroves should be around 200-450 minutes per inundation at 1.65–3.3 ft-MSL once per day, or around 100-200 minutes per inundation at 3.3–4.9 ft-MSL approximately 1 to 2 times per day (Van Loon *et al.*, 2016).

Given suitable hydrologic conditions mangroves often recover without planting efforts, as long as a suitable seed bank is present. Based on the existing mangrove population within the JBI, it is unlikely that planting will be required for the propagation of red mangroves. Current best practice recommendations for mangroves are to remove stresses followed by monitoring for natural recruitment (Lewis, 2005). The north portions of the cells contain some black and white mangroves. It is postulated that enhanced hydrologic connectivity between the North and South cells may allow a small seed bank to be available to the south cell that includes additional mangrove species beyond the red mangroves that currently dominate. However, depending on the number of viable white and black mangroves in the project area and target populations, planting may be required for these species, if desired.

1.2.2 MOSQUITO CONTROL

The salt marsh mosquitoes (*A. taeniorhynchus* and *A. sollicitans*) differ from most mosquitoes in that they lay their eggs in muddy soil above the water line, versus laying eggs in standing water like their freshwater counterparts. Females will lay eggs continuously so that longer dry periods result in a build-up of eggs. Concentration of 20,000 eggs per square inch have been found in mud above the water line in salt marshes. The eggs lay dormant until water rises with the tides or rain and floods the eggs. When the eggs are inundated they start to develop, with adult mosquitoes emerging between five and seven days later (UF IFAS, 2020).

The population of salt marsh mosquitoes at the JBI is controlled through management of impounded salt marshes that receive water from outside of the berm or flowing from artesian wells from within the impoundment. This pumping acts to keep water levels within the impoundment unnaturally high and the soil that salt marsh mosquitoes lay their eggs on permanently submerged, eliminating breeding grounds and reducing mosquito numbers. Maintaining water levels within the impoundments at the mean high water (MHW) level is believed to be high enough to prevent mosquito breeding but low enough to avoid killing salt marsh vegetation, as long as there is adequate flushing of the elevated water.

2.0 HYDROLOGIC ANALYSIS

One objective of the modeling of the hydrology and hydraulics within the JBI is to evaluate the existing cells' ability to turn over (exchange) the water volume contained within the impoundment in a 72-hour timeframe. The optimal inundation period for mangroves has been the subject of research, with an overall total time of inundation to be approximately 30 percent of the year, as referenced in Section 1.2. The mangrove hydroperiod will be considered when designing appropriate water levels and a pumping schedule with the intent of producing a regime that promotes a more diverse mangrove community. However, it is recognized that mosquito control operational requirements are also a driving factor in the design and operational schedule for the JBI. The surface water model will be used to evaluate the optimal pumping schedule for mangrove health and mosquito control, given the dynamics of the channel system within the JBI. Additionally, the model will be used to gauge the effectiveness of proposed channel improvements including dredging of muck from the channel bottoms.

2.1 HISTORICAL CONDITIONS MODEL DEVELOPMENT

The existing conditions model, hereafter referred to as the Historical Conditions model, for the FWC-JBI project area was developed using the software package Interconnected Pond Routing (ICPR), version 4.05, developed by Streamline Technologies, Inc. The on-site drainage conditions include both one-dimensional (1D) and two-dimensional (2D) elements. The 1D components include surface water conveyance features such as pipes and culverts, open-water channels, overtopping weirs that represent maintenance berms and access roads through the JBI, and time-stage boundary conditions representing discharge of surface water from within the JBI to the adjacent IRL. The 2D components of the model represent overland flow of surface water between the 1D channels. Following the initial model development, potential drainage and flow improvements were included in the model by modifying elements of the existing conditions model.

The development and refinement of the ICPR model for the JBI is dependent upon the collection, review and processing of numerous data from varied public sources, including the FWC, Martin County, St Lucie County, South Florida Water Management District (SFWMD), Florida Department of Environmental Protection (FDEP), United States Department of Agriculture (USDA) - Natural Resources Conservation Service (NRCS), National Oceanic and Atmospheric Administration (NOAA), as well as private entities. The data required for model development and execution are described in the following paragraphs.

A topographic survey of the 170-acre JBI was completed for the FWC by the Wantman Group, Inc. (WGI), with field work completed on December 11, 2019. A total of 50 cross-sections on various internal channels within the JBI were collected, extending from top-of-bank (TOB) to TOB across the channel with a bottom of muck layer elevation provided for the mid-channel survey point. An example of the survey elevations and muck elevation data provided in the survey is presented as **Figure 2**.

No pipe invert information was collected during the survey and a channel cross-section was not obtained in every internal channel within the JBI. The available cross-section information was used in the development of the Existing Conditions model as actual cross sections for the surveyed channels, as well as the development of an average idealized cross section for the modeled channels that were not surveyed.



Figure 2. Examples of surveyed channel cross-sections, parallel to central access berm

Aerial photographs were included in the submitted topographic survey deliverable from WGI to the FWC. The four aerials accompanying the survey were obtained from the Land Boundary Information Network (LABINS) website, managed by the FDEP. The aerials were originally downloaded in .TIF format for use as a background for the survey and were converted by ECT to georeferenced JPEG format for importation into ICPR 4, as shown in **Figure 3**.



Figure 3. Aerial photographs of FWC-JBI project area (yellow boundary delineates model domain)

2.1.3 LIDAR DATA COLLECTION

Light Detection and Ranging (LiDAR) data for the JBI site was included in data collected in 2018 Martin County government. ECT was provided the data via FTP download from the Martin County website. The following paragraphs detail the process used to prepare a digital elevation model (DEM) from the provided LiDAR data. The DEM was produced in the projected coordinate system “NAD_1983_2011_StatePlane_Florida_East_FIPS_0901_Ft_US”, which is used for all the relevant GIS-based data.

2.1.3.1 LiDAR Processing

The original LiDAR point data was delivered in a standard LAS 1.4 format. Vendor classified ground points were extracted from the .las files and piped directly into a GIS tool that aggregates points into a 3-ft x3-ft raster grid. When multiple points are located per one raster cell, a 'minimum' parameter is used to ensure capturing the lowest hydrologic point in the cell cluster. Null values (white) will be interpolated to create a DEM, as shown in **Figure 4**.



Figure 4. LiDAR Points Imported & Aggregated as 3'x3' Raster Grid

After importing and aggregating the points into a raster format, the grid was then used as input to interpolate a DEM, as shown in **Figure 5**. For aesthetic purposes, the lake (southeast) was hydro-flattened at 0.9 feet, which does not impact any analysis for the site to the west.

The fact that the JBI is located essentially at sea level necessitated an extra step to add a lower water elevation for drainage areas to the north and west of the project area. Since LiDAR provides no data over the IRL its elevation was flattened to -1 ft-NAVD so that the hydrologic modeling software can route to the lowest locations, as shown in **Figure 6**.

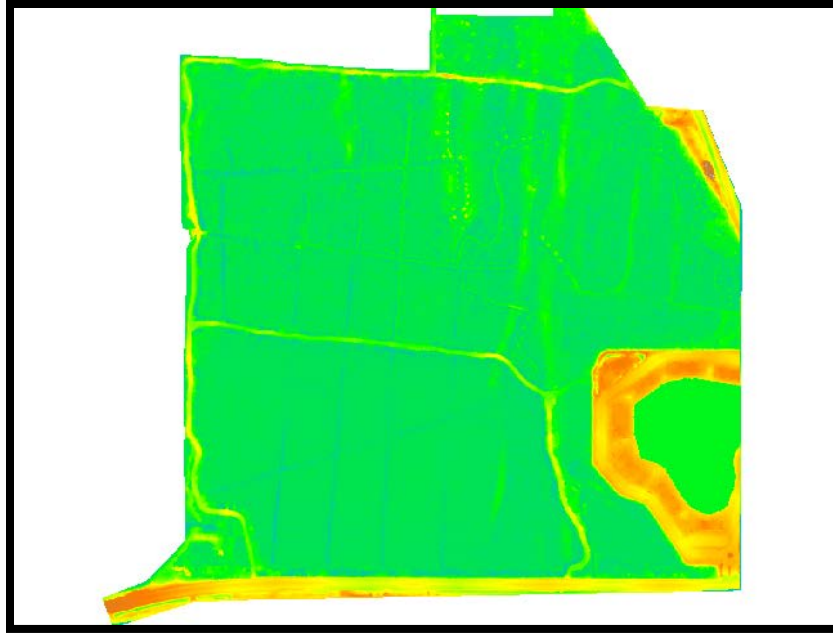


Figure 5. Digital Elevation Model

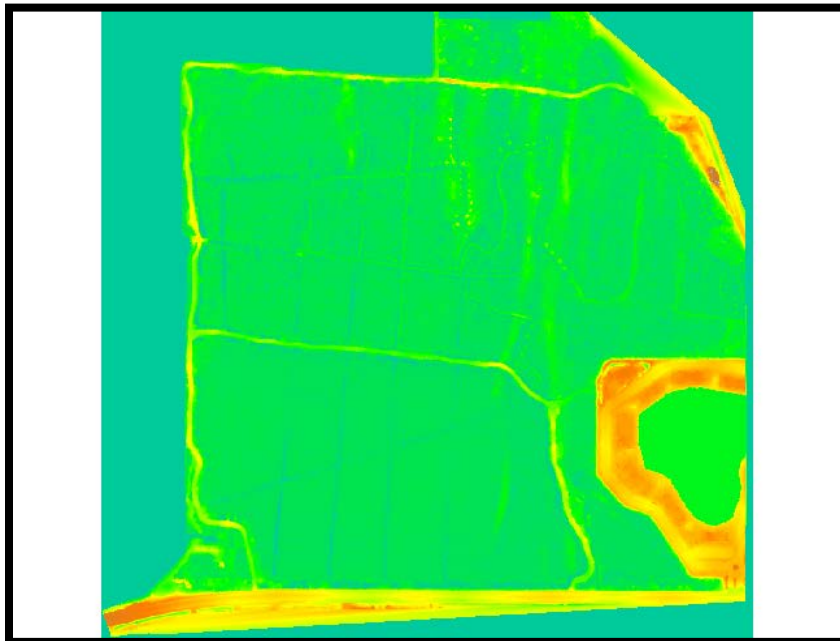


Figure 6. DEM with Lowered External Elevations

2.1.3.2 DEM Modifications for Flow Routing

The initial DEM described up until this point had no modifications except for the lake in the southeast. When the terrain is flat and some artificially interpolated ‘bumps’ are present in the DEM, it can cause the routing software to route flow in the wrong direction. These areas are highly discretionary and usually require observing intended ditching operations and then adjusting the DEM to incorporate them. Once the DEM was created, several areas were modified by ensuring ditches were represented in the DEM to provide accurate drainage flow and corresponding basins.

The average bottom elevations of the North and South cells (excluding the channels) was determined by analysis of the DEM. It was determined that the average bottom elevation of the North cell was 0.21 ft-NAVD and the average bottom elevation of the South cell was 0.0 ft-NAVD. Mangrove health and growth are dependent upon many factors including depth of inundation of surface water, and it was determined that the optimum depth of water to be maintained within the cells is 0.2 feet above the average bottom elevation.

Additionally, a second DEM was created for the JBI model, to represent initial stages for the North cell and the South cell of the impoundment. For the North cell the constant initial stage was 0.41 ft-NAVD, and the constant initial stage for the South cell was 0.2 ft-NAVD, representing the optimum depth of water to be maintained in both of the impoundment cells.

2.1.3.3 Topographic Contours

Following completion of the creation of the DEM from the LiDAR data, topographic contours with an interval of 0.5-ft and 1.0-ft were prepared using GIS tools. The resulting contours were used to refine the interpolation of the path of surface water features such as channels as well as to define the boundaries of the runoff contributing area to the JBI flow regime.

2.1.4 LAND USE AND LAND COVER

GIS shapefile coverages of land use and land cover within the project area were obtained from the SFWMD. The land use/land cover characterizations are based upon the Florida Land Use Cover and Forms Classification System (FLUCCS). FLUCCS codes are based upon the predominant land use of a region as well as the vegetative cover and water table elevation. The JBI project area contains one predominant land use, FLUCCS Code 612 – Mangrove Swamp, as shown in **Figure 7**.

2.1.5 SOILS

The mangrove swamp that dominates the JBI project area is very flat with maximum surface elevations ranging from sea level to less than 5 ft-NAVD on the berm separating the North cell from the South cell. Soils within the JBI were reviewed utilizing the Web Soil Survey (WSS) function of the USDA-NRCS website. A 300-ft buffer surrounding the project boundary was utilized as the area of interest for the WSS, and the final soil classifications within the region are shown in **Figure 8**.



Figure 7. FLUCCS Codes for Land Use across JBI

According to the WSS, the predominant soil types present within the JBI project area are as follows:

- Hydrologic Soil Group (HSG) A soils:
 - Canaveral sand, 0-5% slopes
- HSG A/D soils:
 - Kesson-Terra Ceia complex, tidal
 - Wulfert and Durbin mucks, tidal

- HSG C/D soils:
 - Bessie muck

Type A Canaveral sand is found in the central portion of the North cell of the JBI in isolated areas of slightly higher relief than the frequently submerged areas surrounding them. These soils are often derived from shell deposits on the margins of depressions in coastal areas. The A/D and C/D soils have high to moderate infiltration rates when thoroughly wet and located in drained areas (like HSG A or B soils, respectively).

However, when submerged or in undrained areas these soils have very slow infiltration rates, like HSG D soils. Since the cells of the JBI are inundated for nearly 50 percent of the year, the dual classification soils natural condition is to function as HSG D soils.

ICPR 4 uses imported GIS shapefiles of land use and soils data in concert with the DEM to assign various runoff and routing parameters within the model.

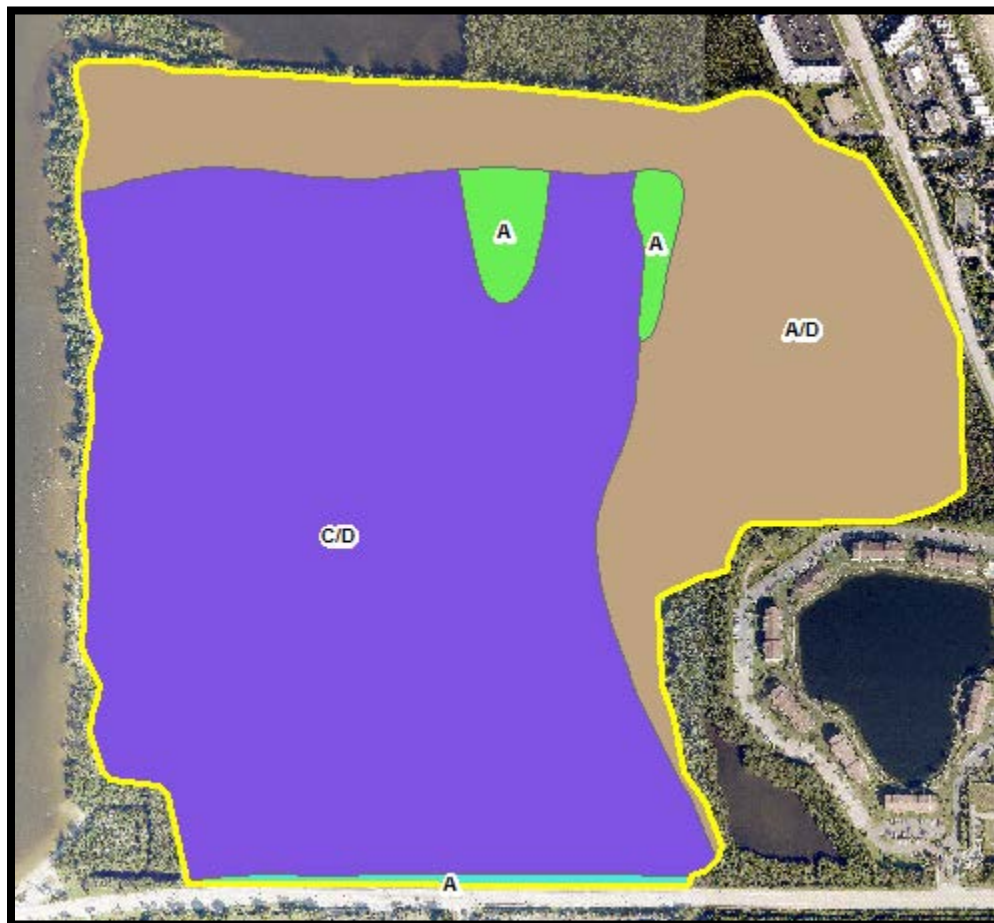


Figure 8. Hydrologic Soil Group (HSG) Designations within the JBI

2.2 EXISTING DRAINAGE INFRASTRUCTURE

A total of 15 drainage culverts were located at the JBI project area during a site visit by ECT staff on April 28, 2020, and an additional three culverts are under construction at the site, as shown on Figure 8. Five culverts are located beneath the northern berm separating the JBI from a boat basin adjacent to a residential area and connected to the Indian River Lagoon (Pipe A through E). Four culverts are beneath the western berm and access road of the JBI North Cell (Pipes F through I) and discharge water from within the JBI to the Indian River Lagoon. One existing culvert (Pipe J), one under construction (Pipe S) and two proposed culverts (Pipes T and U) are beneath the western berm and access road of the JBI South Cell and discharge to the IRL. Three culverts under construction (Pipes P through R) to facilitate the exchange and conveyance of water between the two cells are located beneath the central berm and access road separating the North and South cells of the JBI, along with two existing culverts (Pipes K and L). Pipes N and O on opposite ends of the roadside ditch parallel to Causeway Boulevard (Channel K in the model) and a third culvert (Pipe M) located in the eastern portion of the site all convey water offsite and, eventually, to the IRL.

Pipe information including selected invert elevations, diameter, material was provided by Martin County Environmental Services, collected from past surveying efforts and from the approved plans for construction of the four additional culverts within the South cell of the impoundment. Missing data were obtained by ECT and confirmed during field visits on December 9, 2019, April 28, 2020 and June 16, 2020.

An access berm and dirt roadway surround the entire South cell of the JBI and extends along the western and northern boundaries of the North cell. A series of channels exist within the two cells of the JBI that were originally created in the 1940s. At the central berm between the two cells of the JBI, culverts beneath the berm connect the channels on either side. Generally, the internal channels (Channels B, C, D, E, F, G, H, I, L, M, N) have widths between 10 and 15 ft and depths between 1 and 2.5 ft, with a muck layer of varying thickness on the bottom of the channels. The perimeter channels (Channels A, J and K) have widths of up to 30 feet and are much deeper. No survey information was provided for the perimeter channels.

Two pump stations, each with pumping capacities of 13,000 cubic feet per minute (CFM) or 28.97 cubic feet per second (CFS) are located on the western berm of the JBI, one in the North cell (NPS-1) and one in the South cell (NPS-2). Sea water is drawn into the intake of the pump stations and then is released into the network of channels within both cells of the JBI to maintain water levels. The model was used to determine the number of hours of

pumping were required to complete the exchange of the water volume within the impoundment within a 72-hour period while maintaining the optimal water levels within the impoundment for both mangrove propagation and mosquito control functions. The existing infrastructure is presented as **Figure 9**.

Table 2. Culvert Details at JBI

Name	Location	Diameter (in)	Material	Length (ft)	Invert (ft-NAVD)
PIPE A	North cell, North berm	30	CMP	40	-1.5 #
PIPE B	North cell, North berm	30	CMP	40	-1.5 #
PIPE C	North cell, North berm	30	CMP	40	-1.5 #
PIPE D	North cell, North berm	30	CMP	40	-1.5 #
PIPE E	North cell, North berm	30	CMP	40	-1.5 #
PIPE F	North cell, West berm	30	CMP	50	-1.6
PIPE G	North cell, West berm	30	CMP	50	-1.6
PIPE H	North cell, West berm	30	CMP	32	-2.0
PIPE I	North cell, West berm	30	CMP	45	-2.6
PIPE J	South cell, West berm	36	CMP	38	-3.73
PIPE K	Central berm, East end	30	CMP	40	-2.32
PIPE L	Central berm, East end	14x23	RCP	30	-1.5 #
PIPE M	North cell, East end	10	PVC	20	-1.0
PIPE N	South cell, West berm	42	CMP	38	-3.4
PIPE O	South cell, East berm	30	CMP	48	-2.5
PIPE P*	Central berm	30	CMP	48	-2.5
PIPE Q*	Central berm	30	CMP	60	-2.5
PIPE R*	Central berm	30	CMP	47	-2.5
PIPE S *	South cell, West berm	36	CMP	52	-3.0
PIPE T **	South cell, West berm	36	CMP	91 (est.)	-3.0
PIPE U **	South cell, West berm	36	CMP	100 (est.)	-3.0

Notes: Pipes names with * denotes pipes installed May - June, 2020
Pipe names with ** denotes proposed pipes based upon modeling results
Invert elevations with # are estimated based upon best available information

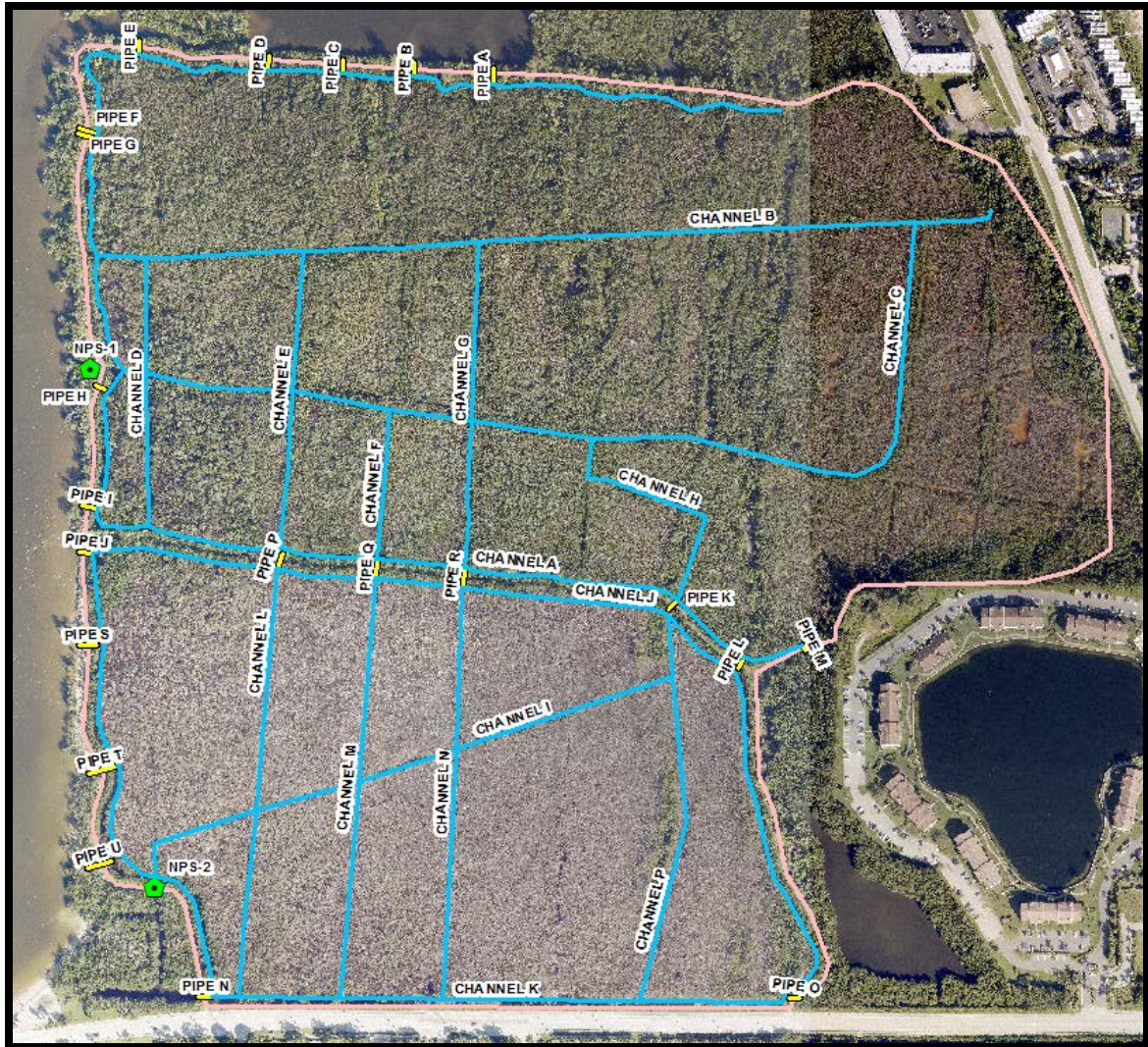


Figure 9. Existing and Proposed infrastructure in JBI: pipes (yellow), channels (blue), pump stations (green)

2.2.1 BOUNDARY CONDITIONS, PRECIPITATION AND TIDAL DATA

The culverts that are located along the northern and western sides of the impoundment discharge water from within the impoundment to the IRL. The water level within the lagoon is dependent upon tides in the adjacent Atlantic Ocean, and that water level forms the downstream boundary condition for the ICPR 4 model. For the IRL at the JBI, the MHW level is established as -0.43 ft-NAVD and the Mean Low Water (MLW) level is established as -1.28 ft-NAVD, for a tidal range of 0.85 feet.

The two closest active NOAA observation stations for daily tidal data are as follows:

- Observation buoy “Waverider” operated by Scripps Institute of Oceanography and located at Latitude 27.550N, Longitude 80.217 W, located approximately six miles offshore in the Atlantic Ocean and 20 miles north of the JBI; and
- NOAA Water Level Observation Network Station No. 8722670, Latitude 26.613N, Longitude 80.034W, located at the eastern end of the municipal pier in Lake Worth, Florida, approximately 52 miles south of the JBI.

The two listed locations are very distant from the JBI project area and are both monitoring tides within the Atlantic Ocean, not the IRL. The DBHYDRO database operated by the SFWMD contains data for a currently inactive monitoring station “IR.JENSE”, described as the Indian River at Jensen Beach Causeway. The station was located at the eastern end of the bridge over the IRL on the Jensen Beach Causeway, approximately 3,000 feet west of the southwest entrance into the JBI. The station was operational from September 8, 1988 through November 3, 1998. Hourly water surface elevation data from the station were obtained from the DBHYDRO database and used as boundary condition elevations within the IRL for modeling purposes.

Spreadsheets containing staff gauge readings at five observation locations across the impoundment have also been provided by the FWC and Martin County. These records consist of high and low water levels within the impoundment on days that observations were recorded. These data were compared with average tidal data for the IR.JENSE monitoring station and were found to correlate well on a seasonal basis. The tidal data from the station were recorded using the station datum ft-NGVD29. To convert the datum to ft-NAVD, the following conversion was used:

- $\text{ft-NAVD88} - \text{ft-NGVD29} = -1.49 \text{ ft}$

The modeling also included a test of the proposed design with sea level rise projections. The Southeast Florida Regional Climate Change Compact, Regionally Unified Sea Level Rise projection, 2019 report was reviewed. The report states that the Intergovernmental Panel on Climate Change (IPCC) median projected rise is 0.9 ft-NAVD for the year 2070 (50-year design life for JBI improvements). This value was added to the IR.JENSE data used for the analysis, to create a sea level rise boundary condition. The normal and sea level rise data are summarized in **Figure 10**.

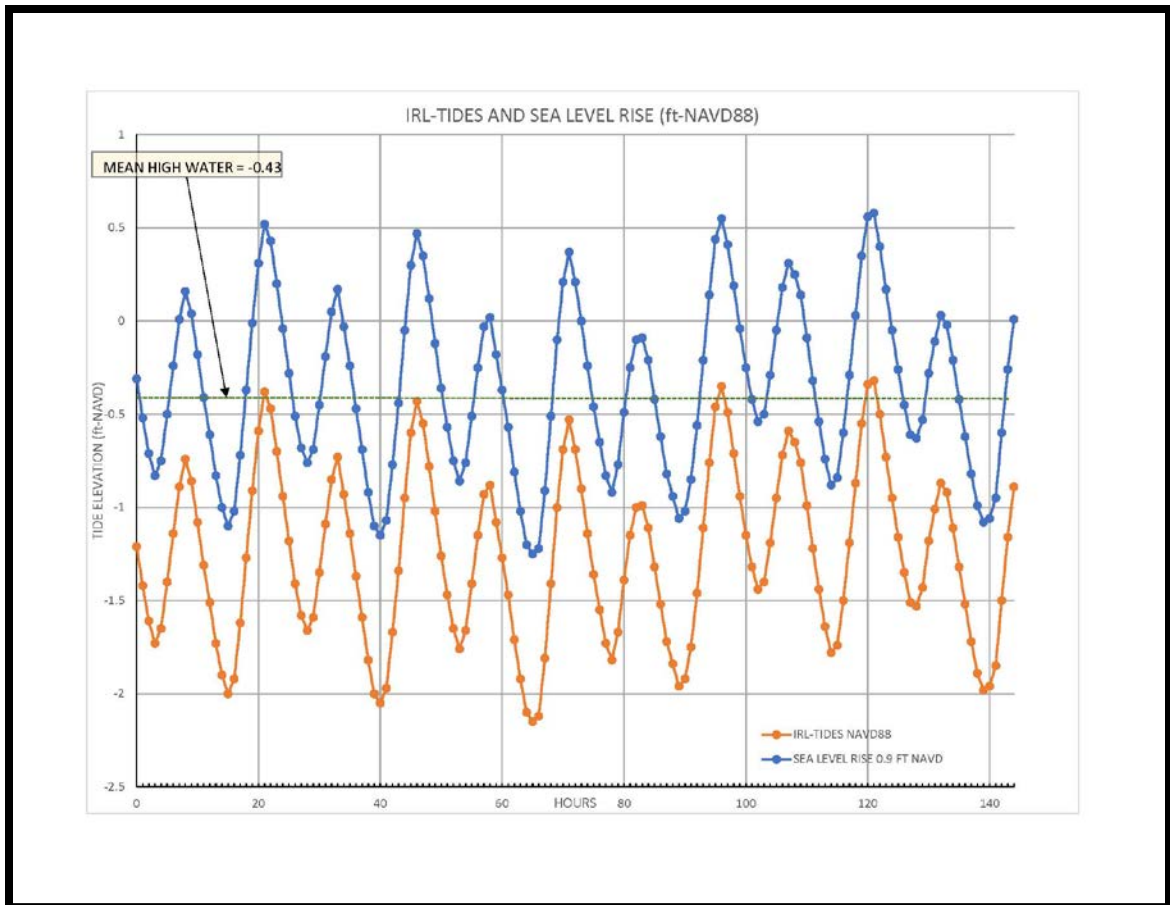


Figure 10. Normal tides and Tides with projected Sea Level Rise for the Indian River Lagoon

Supplemental rainfall data for design storms were obtained from the SFWMD (isoheytal maps) and the SFWMD Technical Publication EMA#390, Frequency Analysis of Daily Rainfall Maxima for Central and South Florida, as well as Intensity-Duration-Frequency (IDF) curves for Florida Zone 10 (which includes St. Lucie and Martin Counties), maintained by the FDOT. Based upon these resources, the 2-year, 72-hour storm event (5.25 inches) and the 25-year, 72-hour storm event (11 inches) used in the modeling were established.

3.0 HISTORICAL CONDITIONS MODEL

Once the required background and site-specific data regarding the existing hydrology and drainage infrastructure of the JBI site was collected, the Historical Conditions model was constructed in ICPR 4. Following completion of the Historical Conditions model and tests of the model's stability, various parts of the infrastructure were modified to simulate four Proposed Conditions scenarios. The details of the Historical Conditions model and the model results are summarized in this section.

3.1 MODEL SETUP

The Historical Conditions model of the JBI was constructed in ICPR 4 as a single 2D Overland Flow region with 1D culverts, pipes and channels. The model includes 50 stage-area nodes, 18 time-stage boundary nodes, 16 drop structure links, 6 pipe links, 15 channels (each sub-divided into segments between nodes), and 2 rating curve links to represent the pump stations. 2D features called Channel Control Volumes were constructed surrounding the 1D channel segments and are used by the software to exchange flow between the 2D overland flow portions (uplands) and the 1D channels.

For the Historical Conditions model, the 13 existing outfall pipes to the IRL from the JBI were modeled as pipes with variable weir opening, to account for the fact that the discharge pipes have different means of control. Five of the discharge pipes along the northern berm of the JBI (Pipes A through E) are equipped with metal flap gates on the impoundment side of the pipe, which are manually operated to either allow flow between the IRL and the JBI or prevent it. The means the flap gates are either fully open or fully closed. The small diameter PVC pipe located in the eastern portion of the site (Pipe M) has no control structure on either end. The 7 remaining pipes located along the western berm and southeast corner of the site are equipped with flash board riser structures on the impoundment side of the pipes. These structures allow site personnel to vary the control elevation of water in the impoundment by inserting or removing flash boards. There are no historical operational records of the riser structures maintained by the FWC or Martin County Environmental Services, which operates the JBI. Instead, staff experience and riser board modifications driven by weather events have been relied upon for maintenance of proper water elevations within the impoundment.

In the Historical Condition, the discharge pipes with the exception of Pipe M were modeled with time-variable weir control elevations. In these scenarios the weir control elevation was set to not allow flow through the discharge pipes until the pump stations were shut off. Then the weir control elevation was set to the invert elevation of the pipe, allowing full flow. The purpose of the variable weir elevations was to determine the length of time of

pumping that was required to raise the water elevations in the two operational cells to the optimum water level for both mangrove propagation and mosquito control. The average bottom elevations of the North and South cells (excluding the channels) was determined by analysis of the DEM. It was determined that the average bottom elevation of the North cell was 0.21 ft-NAVD and the average bottom elevation of the South cell was 0.0 ft-NAVD. Mangrove health and growth are dependent upon many factors including depth of inundation of surface water, and it was determined that the optimum depth of water to be maintained within the cells is 0.2 feet above the average bottom elevation. Therefore, the pump station pumping times were adjusted to the time required to raise the water elevation in the North cell to 0.41 ft-NAVD and the water elevation in the South cell to 0.2 ft-NAVD. The North pump station was operated for a total of 15 hours and the South pump station was operated for a total of 6 hours.

Automated processes within the software use land use/land cover regions and soil regions (imported as GIS shapefiles) as well as land surface elevation data (from the DEM) and initial stage data (another DEM) to derive computational cells within the model (the ICPR Triangulation layer). During model execution water is exchanged between triangulated cells to derive the final water surface layer in the model domain for the particular model scenario.

3.2 MODEL CALIBRATION AND STABILITY

A formal model calibration was not performed on the JBI Historical Conditions model due to lack of historical data concerning internal conditions within the JBI correlated to individual storm events and the lack of comparable tide and rainfall gages within close proximity of the impoundment. The DEM created for the modeling effort was spot checked with other elevation data as well as the survey data collected by WGI. The tidal range for the gage data used in the model boundary conditions correlated well with staged MHW and MLW elevations reported for the site during previous design and permitting efforts.

Although no onsite calibration was done on the model due to a lack of known water elevations in the upstream sub-basins, all models run were analyzed for errors and discrepancies. This analysis included using the “mass balance” feature in ICPR to verify that there was no systemic net gain or loss of water volume ($\text{Total } V_{\text{in}} - \text{Total } V_{\text{out}} = \Delta V_{\text{system}}$), and a check of the “node min/max” conditions to insure that ICPR never had to increase the time computation step beyond the set parameters (a sign of instability). All channels and other storage features were checked to make sure that ICPR did not have to extrapolate water elevations above input data. Finally, hydrographs were spot checked to ensure that, overall, there was no major instability in the ICPR JBI model

3.3 HISTORICAL CONDITIONS MODEL RESULTS

The Historical Conditions model was executed under two scenarios to examine existing hydrology within the JBI both with and without rainfall. **Historical Conditions** included currently viable channels (excluding the eastern extensions of Channel B and Channel C), all pipes existing in April 2020 (prior to installation of the three new cross drains beneath the Central Berm), and both Pump Stations. In addition to operation of the North pump station for 15 hours and the South pump station for 6 hours, the model was executed for two storm events, the 2-year, 72-hour event and the 25-year, 72-hour event. Historical Condition 2 used the same setup as Historical Condition 1 but was executed with only the two pump stations operating (North pump station for 15 hours and South pump station for 6 hours) and no design storm rainfall.

The relative time versus stage graphs for the Historical Conditions model indicate that the specified pumping times (15 hours North and 6 hours South) were sufficient to fill the North cell from initial elevation of -1.0 ft-NAVD to a water elevation of 0.41 ft-NAVD and the South cell from an initial elevation of -1.0 ft-NAVD to a water elevation of 0.2 ft-NAVD at the model nodes most distant from the pump stations. When the pumps were shut off and the discharge pipes opened to allow flow between the two cells and between the JBI and the IRL, water levels recovered to initial conditions within 8 hours, as evidenced by the sinusoidal pattern of the water stages following recovery. This indicates that the tidal cycle of the IRL controlled the stages within the JBI after the initial recovery.

The addition of rainfall events to the pumping produced similar results to the pumping-only scenario, only shifted to time = 72 hours (end of rainfall events). The maximum stage for both the 2-year and 25-year storm events was reached at time = 62 hours, which is a function of the SFWMD 72-hour rainfall event hydrograph. After the end of the rainfall events at time = 72 hours, the water surface resumed the sinusoidal pattern of the tides within the IRL by time = 90 hours. Water elevations remained highest in the northeastern portion of the JBI and the South cell had the lowest water elevations, approaching elevation 0.0 ft-NAVD.

Time versus Stage graphs of Channel C (North cell) and Channel I (South cell) for the Pumping only, 2-year, 72-hour storm event plus Pumping, and 25-year, 72-hour storm event plus Pumping scenarios are presented as **Figures 11 through 16**. Exhibits from the ICPR model execution of the Historical Conditions model that show the change of water surface elevations through time across the two cells are included as **Appendix A**. The ICPR Input and Output Report for the Historical Conditions Model is presented as **Appendix F**.

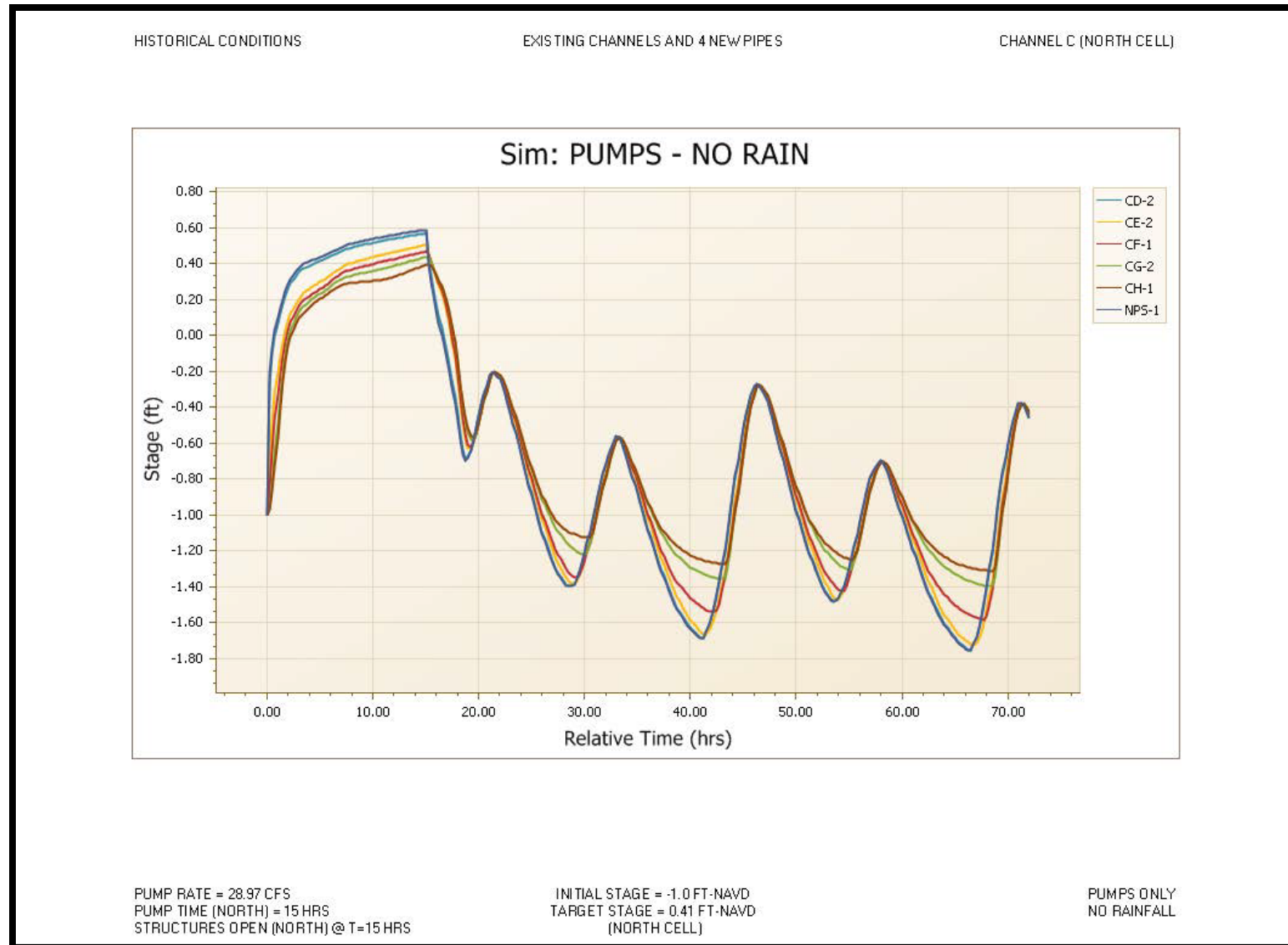


Figure 11. Historical Conditions: Time versus Stage graph for Channel C, Pumping-only scenario

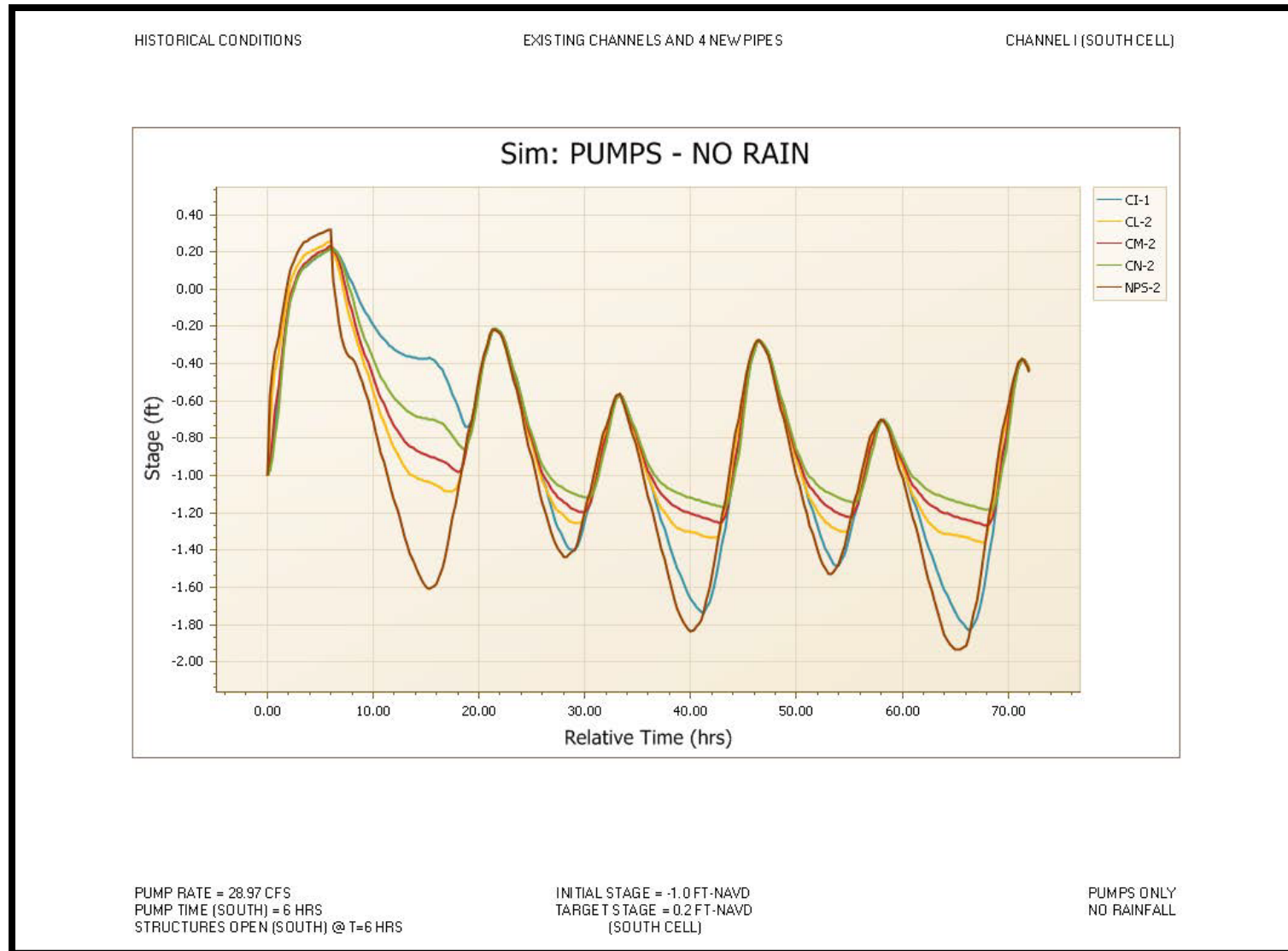


Figure 12. Historical Conditions: Time versus Stage graph for Channel I, Pumping-only scenario

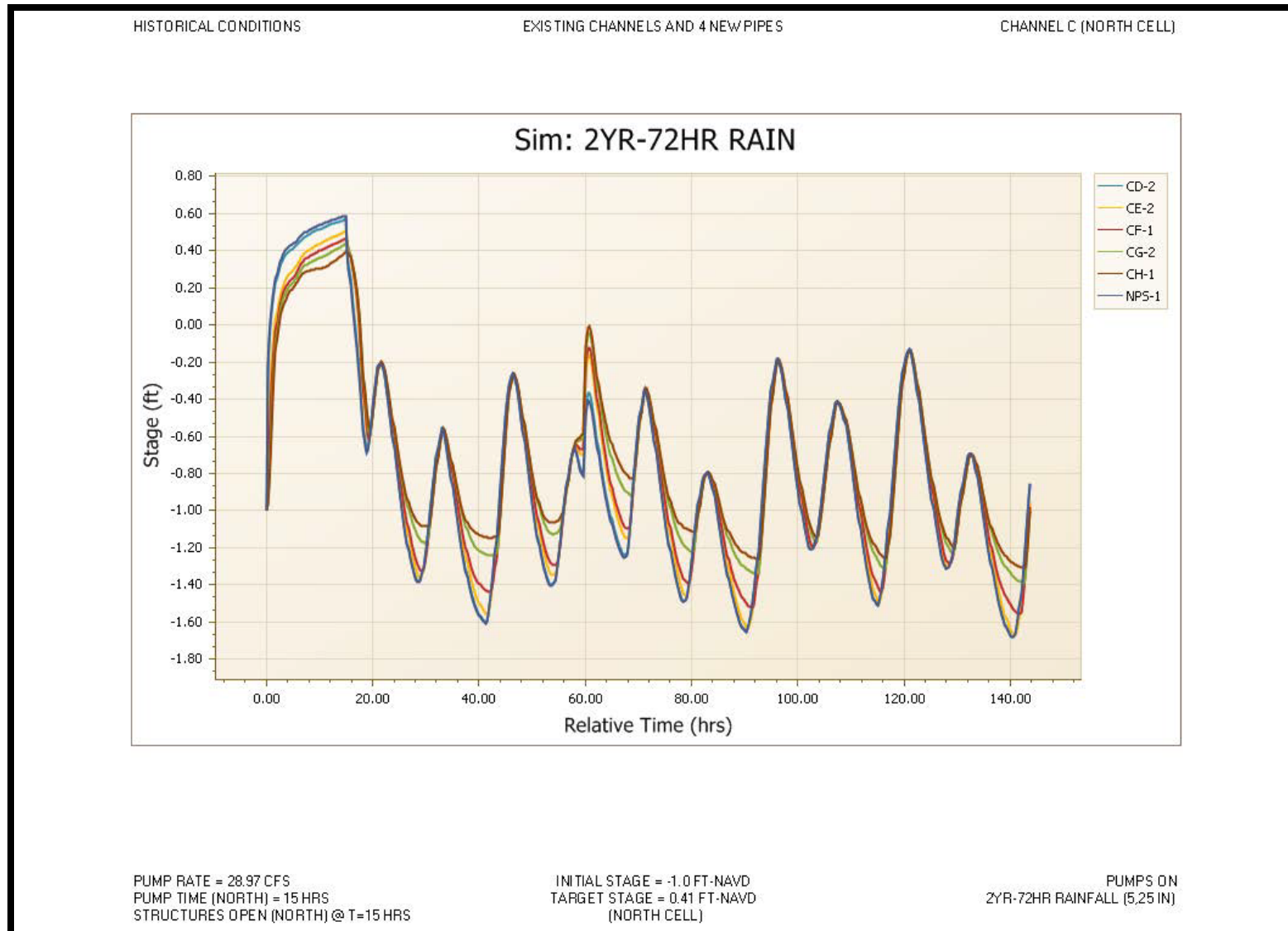


Figure 13. Historical Conditions: Time versus Stage graph for Channel I, Pumping-only scenario

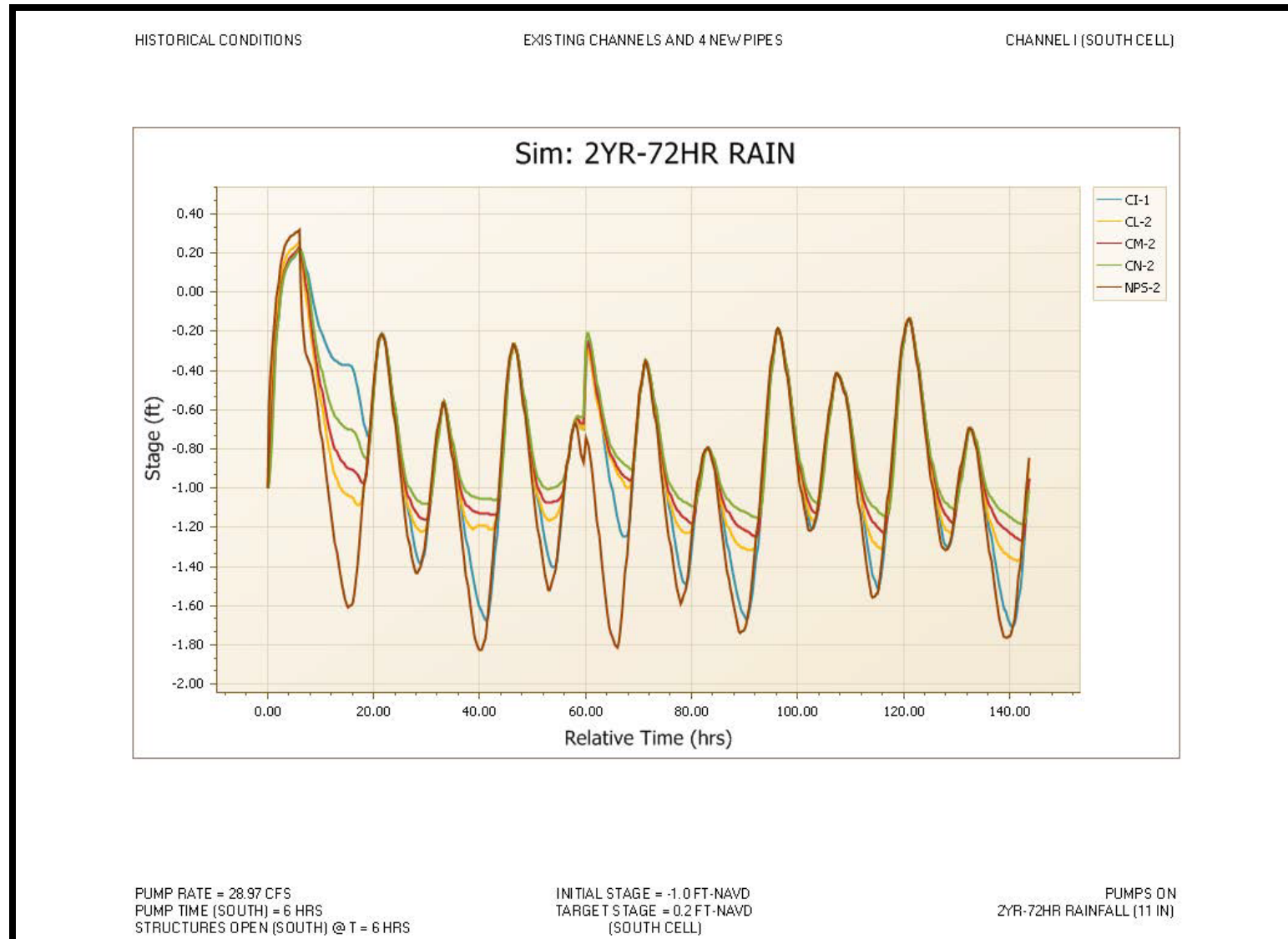


Figure 14. Historical Conditions: Time versus Stage graph for Channel I, Pumping plus 2-year, 72-hour storm event scenario

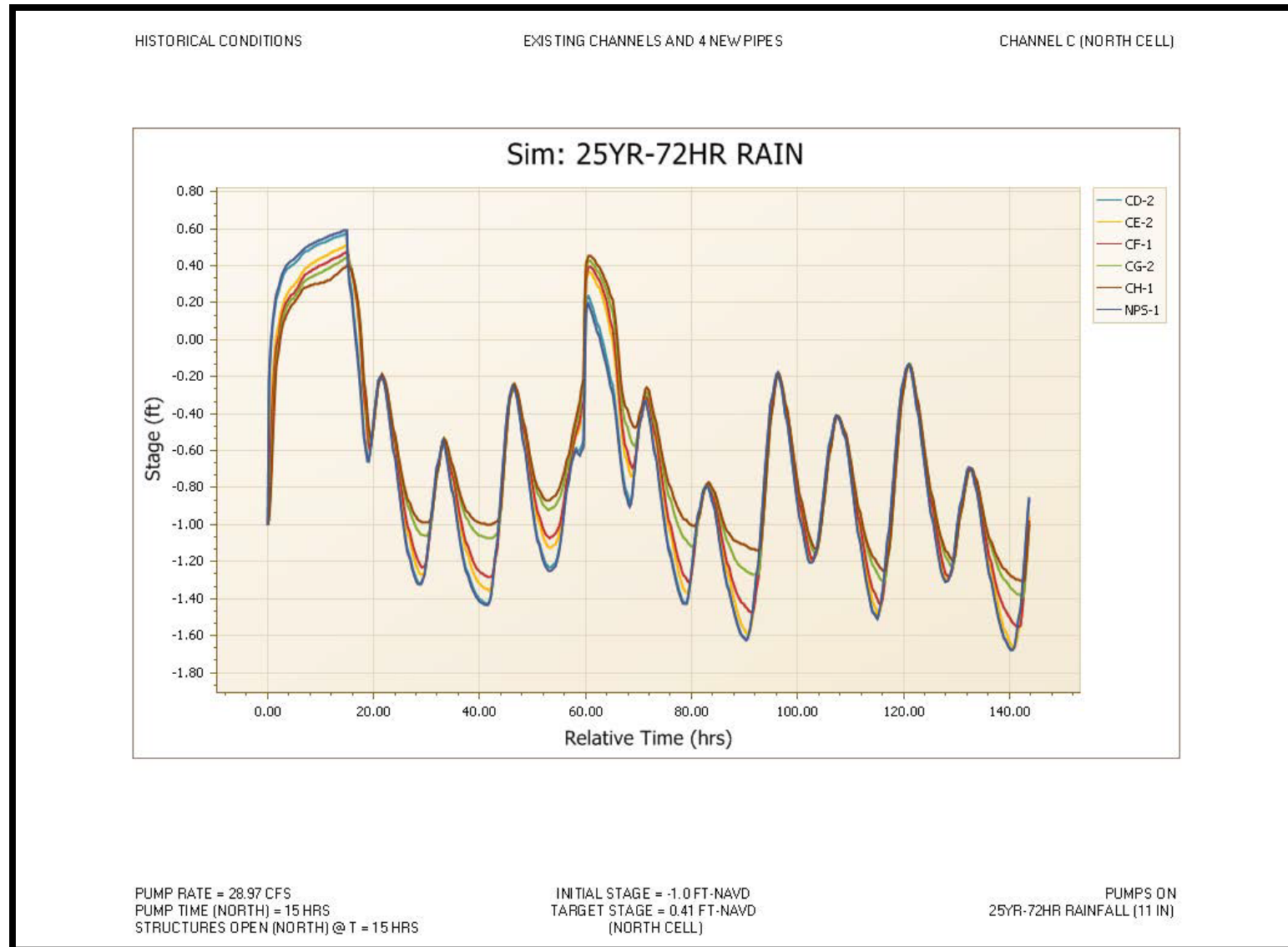


Figure 15. Historical Conditions: Time versus Stage graph for Channel C, Pumping plus 25-year, 72-hour storm event scenario

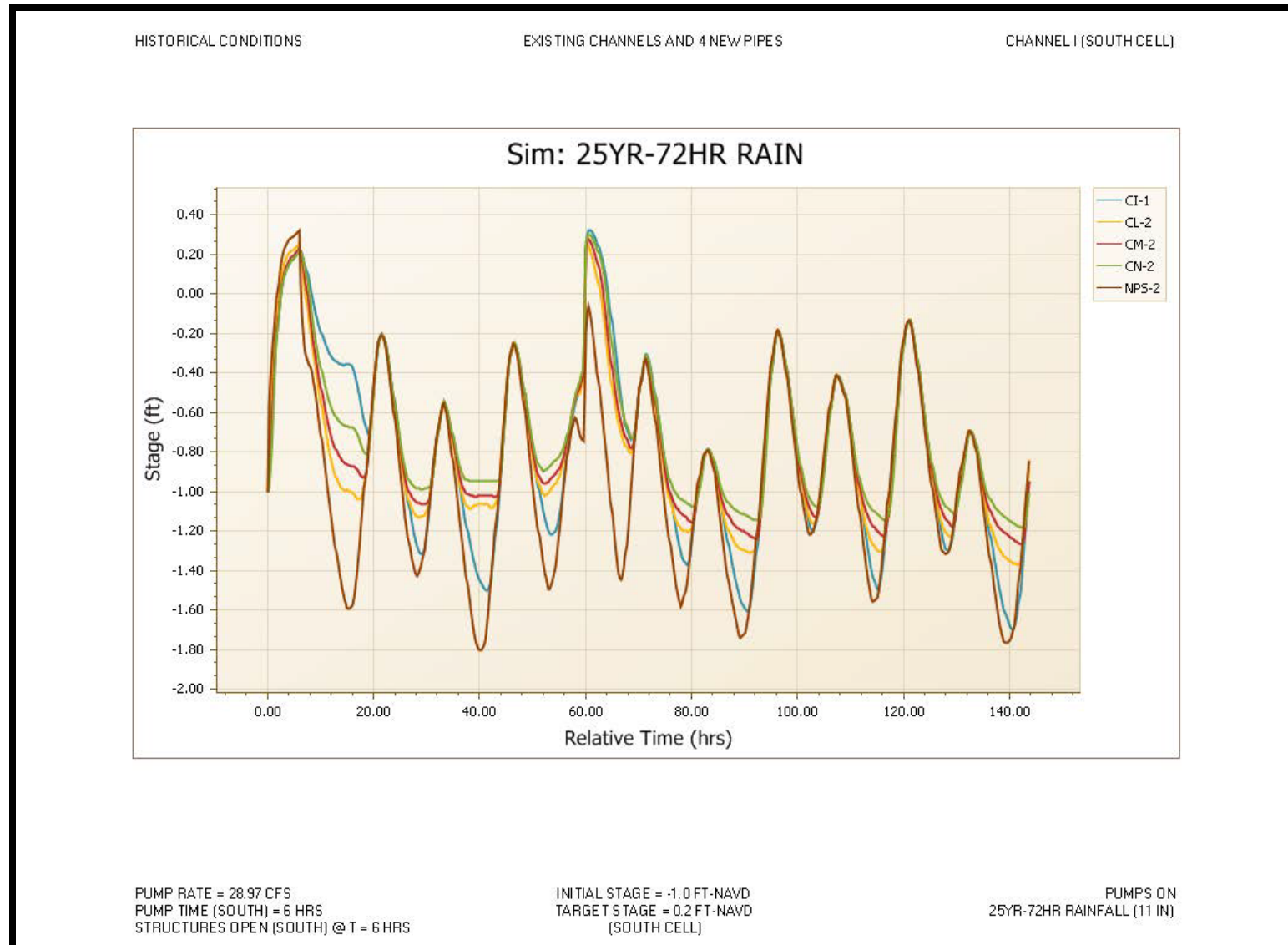


Figure 16. Historical Conditions: Time versus Stage graph for Channel I, Pumping plus 25-year, 72-hour storm event scenario

The results of the Historical Conditions model indicate that the existing pump stations and discharge pipes at the JBI would be sufficient to control the water elevations within the operational cells if the discharge structures were closely controlled. Closure of the structures at the commencement of pumping and the opening of the structures at the termination of pumping (at time = 15 hours for the North cell and time = 6 hours for the South cell) until the elevation of water within the cells had receded to the optimum elevation for each cell would control the system. However, the lack of automated discharge structures would make controlling of the water levels a very labor-intensive operation.

4.0 PROPOSED ALTERNATIVE MODELS

Following completion and execution of the Historical Conditions model, four additional models which were based upon the Historical Conditions model but with modifications to the channels, pipes and culverts within the JBI were prepared and executed. The objectives of the Proposed Conditions were to design modifications to the existing infrastructure that would maintain water levels in both operational cells at their optimal levels for both mangrove health and mosquito control while providing a less labor-intensive method for controlling discharge to the IRL. The following paragraphs describe the modifications applied for each of the three design alternatives considered as well as a fourth model representing the Preferred Alternative design and tested by application of estimated sea level rise elevations within the tidal IRL.

4.1 DESCRIPTIONS OF ALTERNATIVE DESIGNS

Proposed Condition 2 includes all of the viable channels from the Historical Conditions model (Channels A, B (western half), C (western half), E, F, G, H, I, J, K, M, N); the four new pipes installed during May-June 2020 (Pipes P, Q, R, S); and all of the outfall pipes are converted to drop structures equipped with flash board risers (Pipes A, B, C, D, E, F, G, H, I, J, N, O, S). The control elevation and weir invert elevation for the flash board riser structures were set to the optimum water elevation for each operational cell within the JBI (North cell structures set at elevation 0.41 ft-NAVD; South cell structures set at elevation 0.2 ft-NAVD). The model domain is shown in **Figure 17**.

It was determined that, due to the variation in average bottom depth between the North cell and the South cell, optimization of the efficiency of each cell requires that the new cross drain pipes (Pipes P, Q and R) beneath the central berm as well as existing Pipe K and Pipe L beneath this berm should be prevented from flowing except in an emergency situation such as the failure of one of the two pump stations or a major storm event or hurricane. Closure of the cross drains results in the two cells functioning independent of each other. This condition was carried through to Proposed Conditions 3 and 4.

The Proposed Condition 2 model was executed for two scenarios. The first scenario included operation of the two pump stations only with no design storm rainfall, with the North pump station operating for 9 hours and the South pump station operating for 6 hours. The second scenario included operation of the two pump stations (North station time of operation = 9 hours; South station time of operation = 6 hours) as well as the 2-year, 72 hour storm event (5.25 inches of rainfall) and the 25-year, 72-hour storm event (11 inches of rainfall).

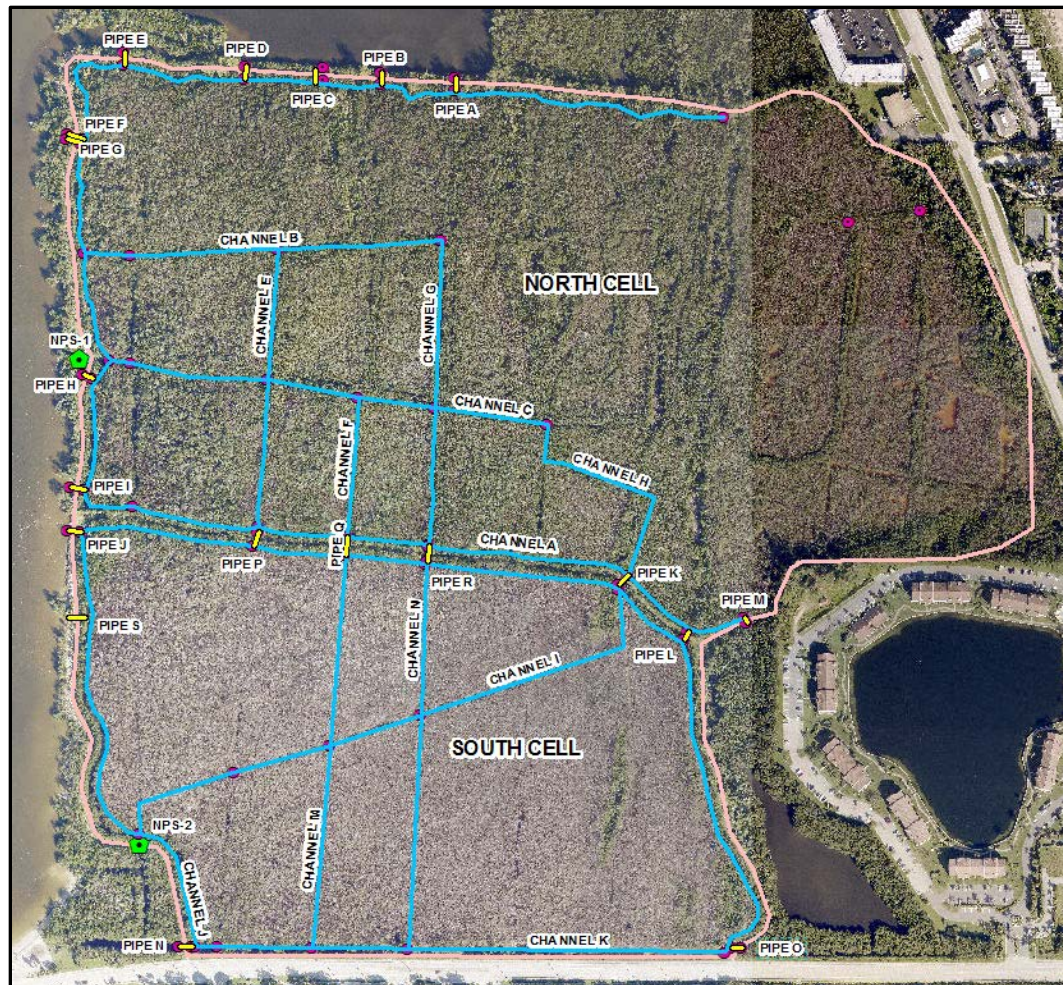


Figure 17. Proposed Condition 2 model domain

Proposed Condition 3 includes all of the viable channels from the Historical Conditions model (Channels A, B (entire length), C (entire length), E, F, G, H, I, J, K, M, N); the four new pipes installed during May-June 2020 (Pipes P, Q, R, S); and all of the outfall pipes are converted to drop structures equipped with flash board risers (Pipes A, B, C, D, E, F, G, H, I, J, N, O, S). The major internal channels (Channels B – 2,683 linear feet (LF), Channel C – 3,030 LF, and Channel I – 1,903 LF) within this scenario were dredged to remove accumulated muck from the channel bottoms to improve circulation of surface water and provide a water quality improvement, as shown in **Figure 18**. Since the muck thickness in the channels is variable, the dredged cross section of each affected channel will be different. Also, new Channel P in the eastern portion of the South cell was installed and connected to Channels I and K. The model domain is shown in **Figure 19**.

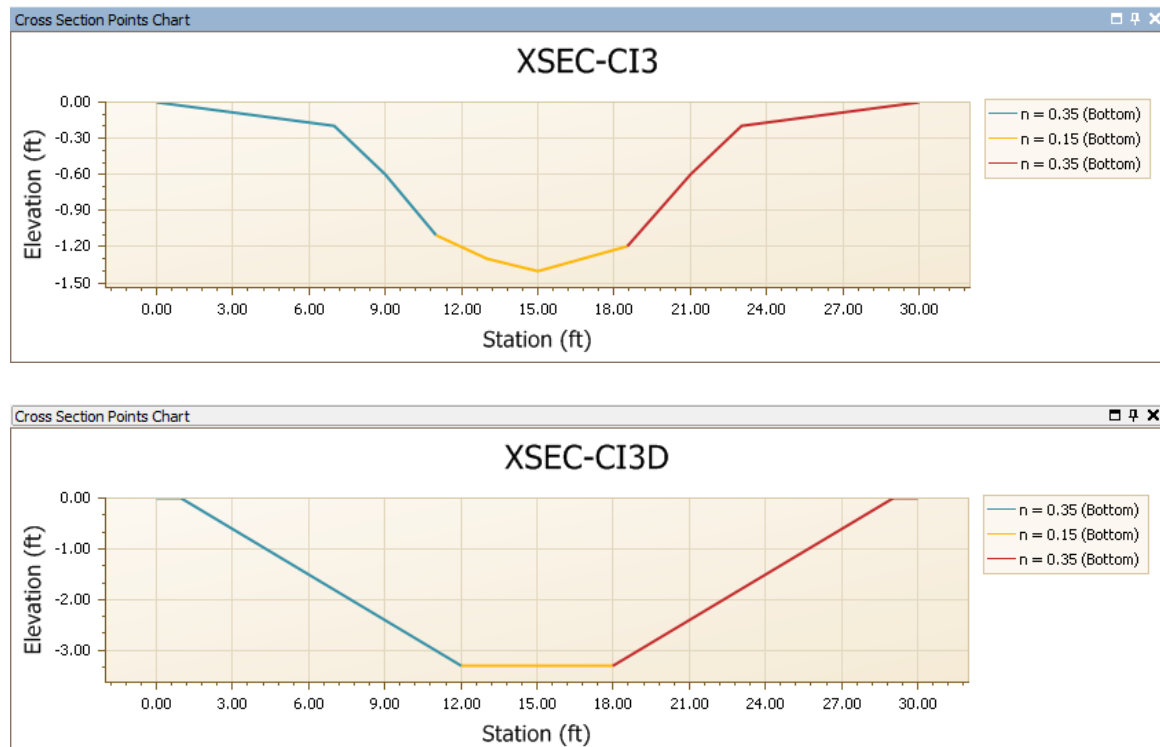


Figure 18. Proposed Condition 3: Example of dredging and muck removal; existing channel cross-section (top) and proposed channel cross section (bottom)

Two additional discharge pipes equipped with flash board risers were included in the South cell (Pipes T and U) to provide additional circulation of the surface water. The control elevation and weir invert elevation for the flash board riser structures were set to the optimum water elevation for each operational cell within the JBI (North cell structures set at elevation 0.41 ft-NAVD; South cell structures set at elevation 0.2 ft-NAVD).

The Proposed Condition 3 model was executed for two scenarios. The first scenario included operation of the two pump stations only with no design storm rainfall, with the North pump station operating for 9 hours and the South pump station operating for 6 hours. The second scenario included operation of the two pump stations (North station time of operation = 9 hours; South station time of operation = 6 hours) as well as the 2-year, 72 hour storm event (5.25 inches of rainfall) and the 25-year, 72-hour storm event (11 inches of rainfall).

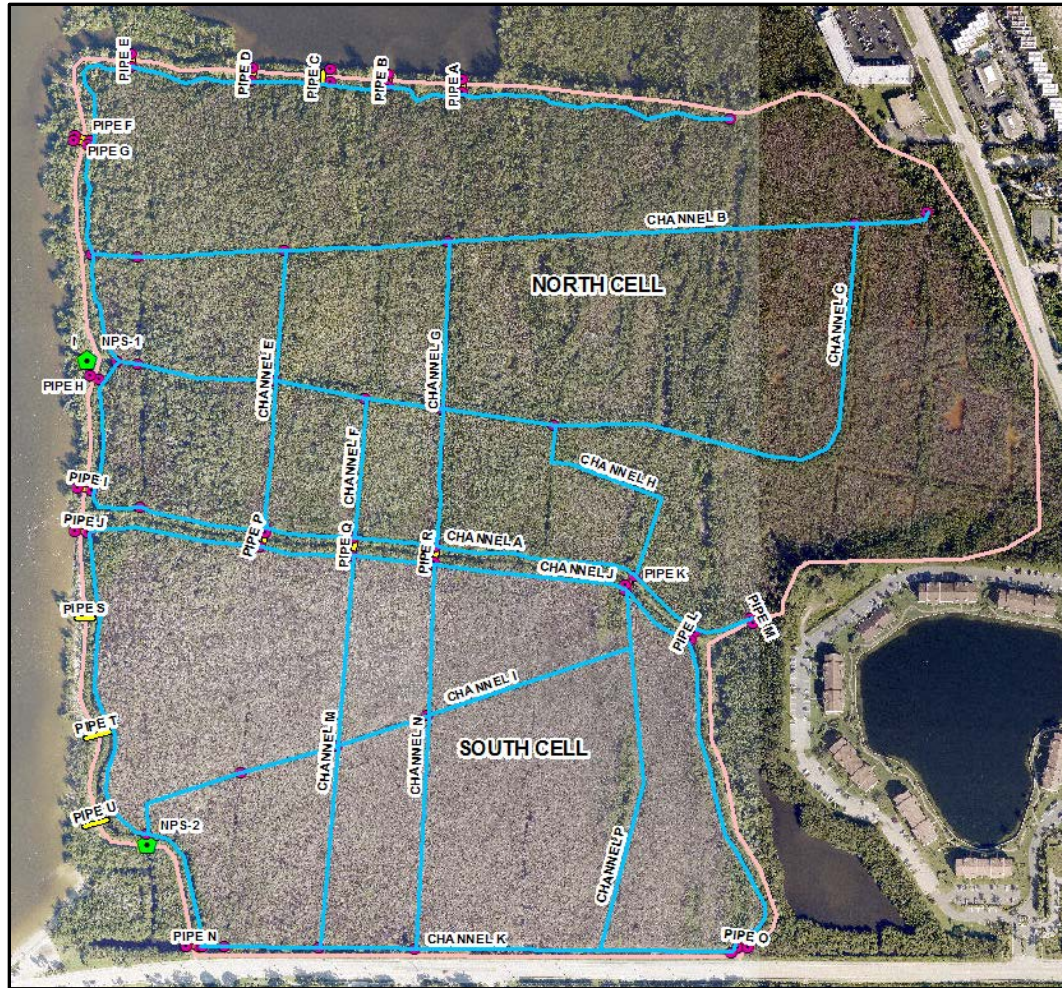


Figure 19. Proposed Condition 3 model domain

Proposed Condition 4 includes the channels from Proposed Conditions 3 plus Channels D and L, including the dredging of Channels B, C and I (7,616 LF total), and all of the pipes and discharge structures from Proposed Condition 3, as shown in **Figure 20**. The control elevation and weir invert elevation for the flash board riser structures were set to the optimum water elevation for each operational cell within the JBI (North cell structures set at elevation 0.41 ft-NAVD; South cell structures set at elevation 0.2 ft-NAVD).

The Proposed Condition 4 model was executed for two scenarios. The first scenario included operation of the two pump stations only with no design storm rainfall, with the North pump station operating for 9 hours and the South pump station operating for 6 hours. The second scenario included operation of the two pump stations (North station time of operation = 9 hours; South station time of operation = 6 hours) as well as the 2-year, 72 hour storm event (5.25 inches of rainfall) and the 25-year, 72-hour storm event (11 inches of rainfall).

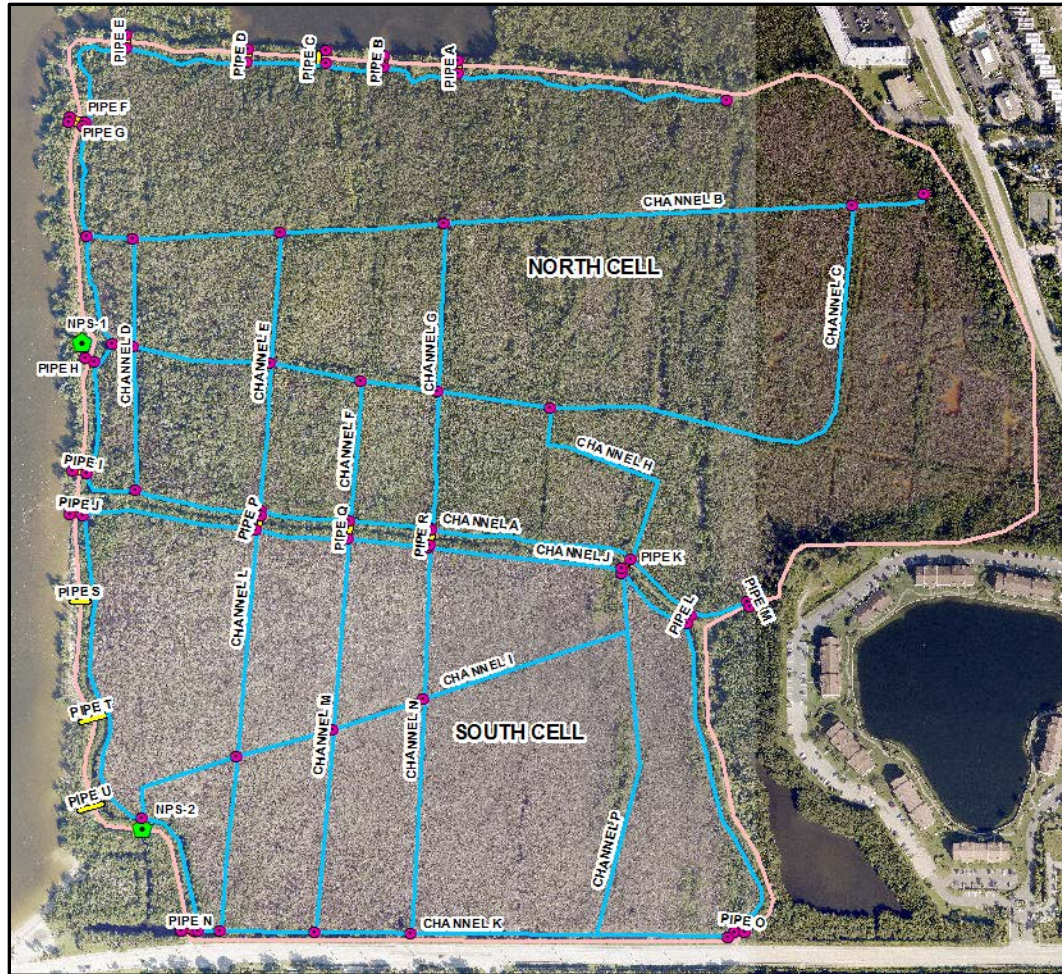


Figure 20. Proposed Condition 4 model domain

4.2 PROPOSED CONDITIONS RESULTS

The results of the Proposed Condition 2 model indicate that the water level within the North and South cells of the JBI can be maintained at their optimal operational elevations. Additionally, this simulation indicates that the desired flushing of the water and exchange of the volume of water contained within the cells can be completed within a 72-hour period. For this scenario there exist some pockets of the northeastern portion of the JBI as well as the eastern one-quarter of the South cell where the water elevation rises with the pumping and rainfall input but does not completely recover within the 72-hour period following the termination of pumping or the end of the 72-hour rainfall events. Time versus stage graphs of the results of the Proposed Condition 2 model are presented as **Figures 21 through 23**. Exhibits from the ICPR model execution of the Proposed Condition 2 model that show the change of water surface elevations through time across the two cells are included as **Appendix B**. The ICPR Input and Output Report for the Proposed Condition 2 model is presented as **Appendix G**.

Execution of the Proposed Condition 3 model indicates an overall improvement of circulation of surface water within both the North and South cells, with recovery of the water surface in each cell to the optimal water elevation within 72 hours of the termination of pumping or rainfall events. The addition of the new Channel P in the eastern portion of the South cell also allows the complete exchange of water within the cell and the turnover of the water volume within the 72-hour time frame required, an improvement over Proposed Condition 2. Similar improvements in circulation, exchange and turnover in the northeastern portion of the North cell were shown in the model results, due to the expanded capacity of dredged Channels B and C. Additionally, the inclusion of discharge Pipes T and U in the South cell greatly enhanced circulation within the cell, allow more complete turnover of water in the eastern portion of the South cell. Time versus stage graphs of the results of the Proposed Condition 3 model are presented as **Figures 24 through 26**. Exhibits from the ICPR model execution of the Proposed Condition 3 model that show the change of water surface elevations through time across the two cells are included as **Appendix C**. The ICPR Input and Output Report for the Proposed Condition 3 model is presented as **Appendix H**.

The results of the Proposed Condition 4 model indicate that the addition of Channels D and L on the western side of the North cell and South cell, respectively, does not produce an appreciable improvement in the rate of water volume turnover for both cells above that produced by Proposed Condition 3. Time versus stage graphs of the results of the Proposed Condition 3 model are presented as **Figures 27 through 29**. Exhibits from the ICPR model execution of the Proposed Condition 4 model that show the change of water surface elevations through time across the two cells are included as **Appendix D**. The ICPR Input and Output Report for the Proposed Condition 4 model is presented as **Appendix I**.

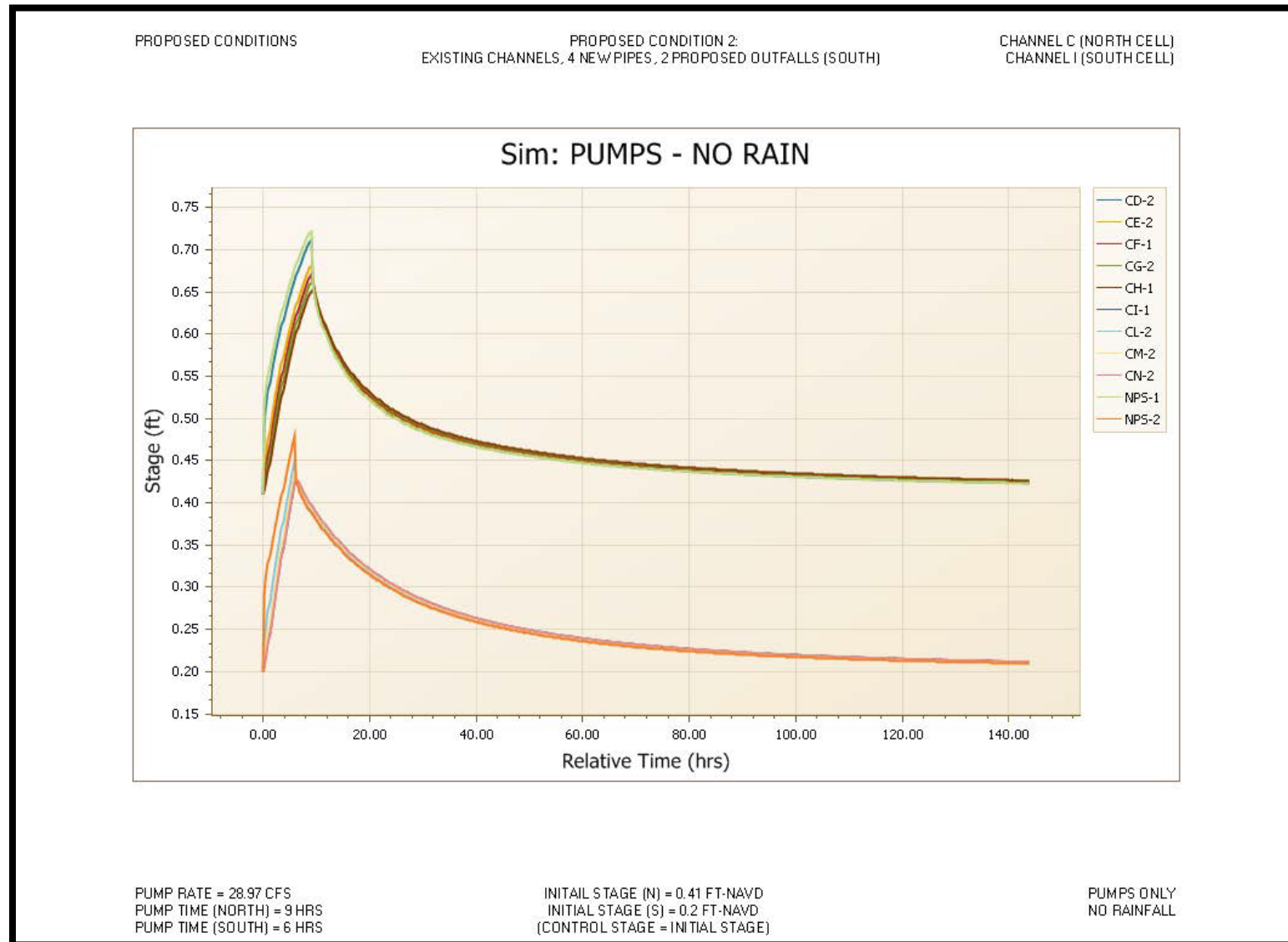


Figure 21. Proposed Condition 2: Time versus Stage graph for Channels C & I, Pumping only scenario



Figure 22. Proposed Condition 2: Time versus Stage graph for Channels C & I, Pumping plus 2-year, 72-hour storm event scenario



Figure 21. Proposed Condition 2: Time versus Stage graph for Channels C & I, Pumping plus 25-year, 72-hour storm event scenario

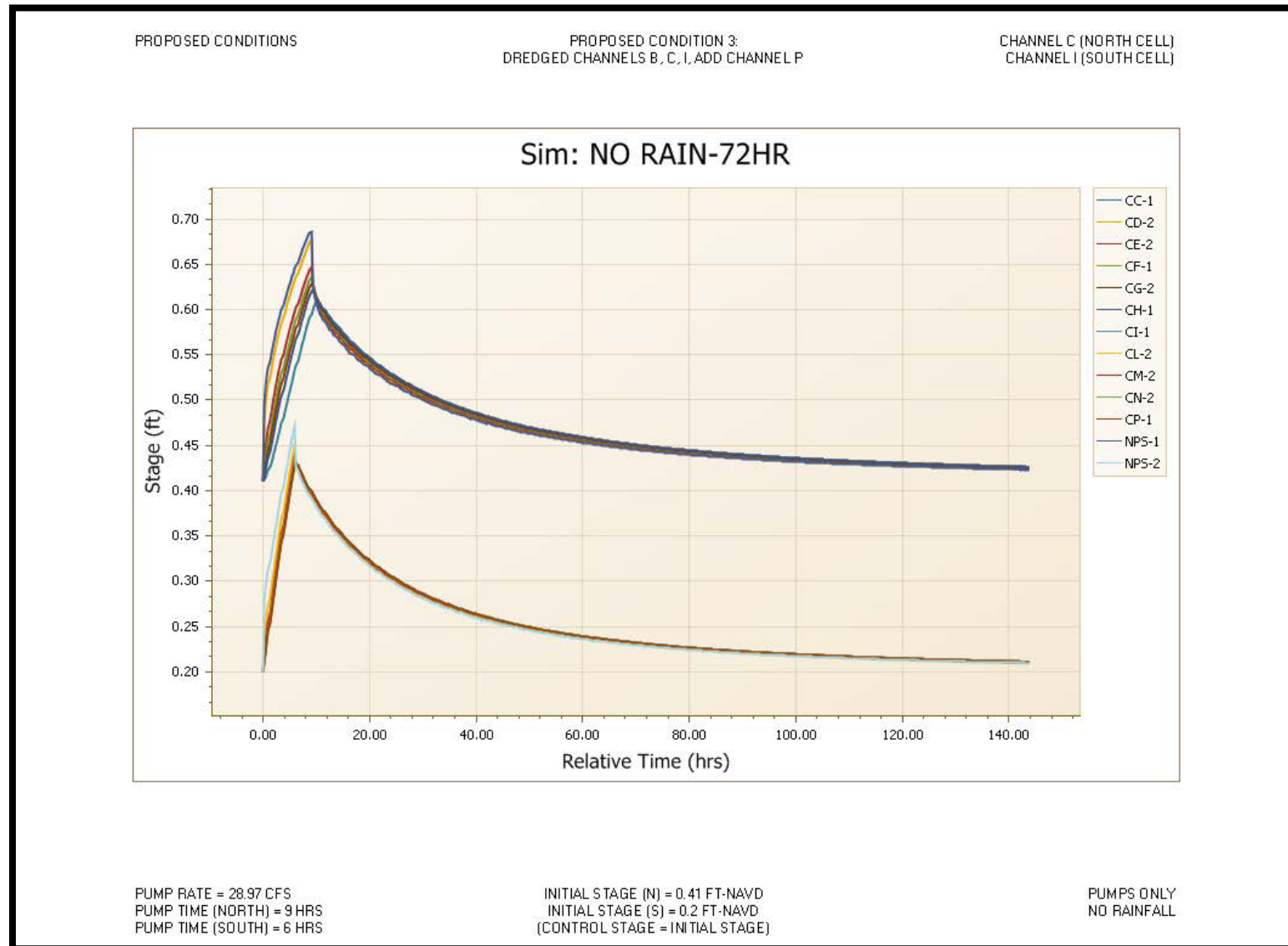


Figure 22. Proposed Condition 3: Time versus Stage graph for Channels C & I, Pumping only scenario

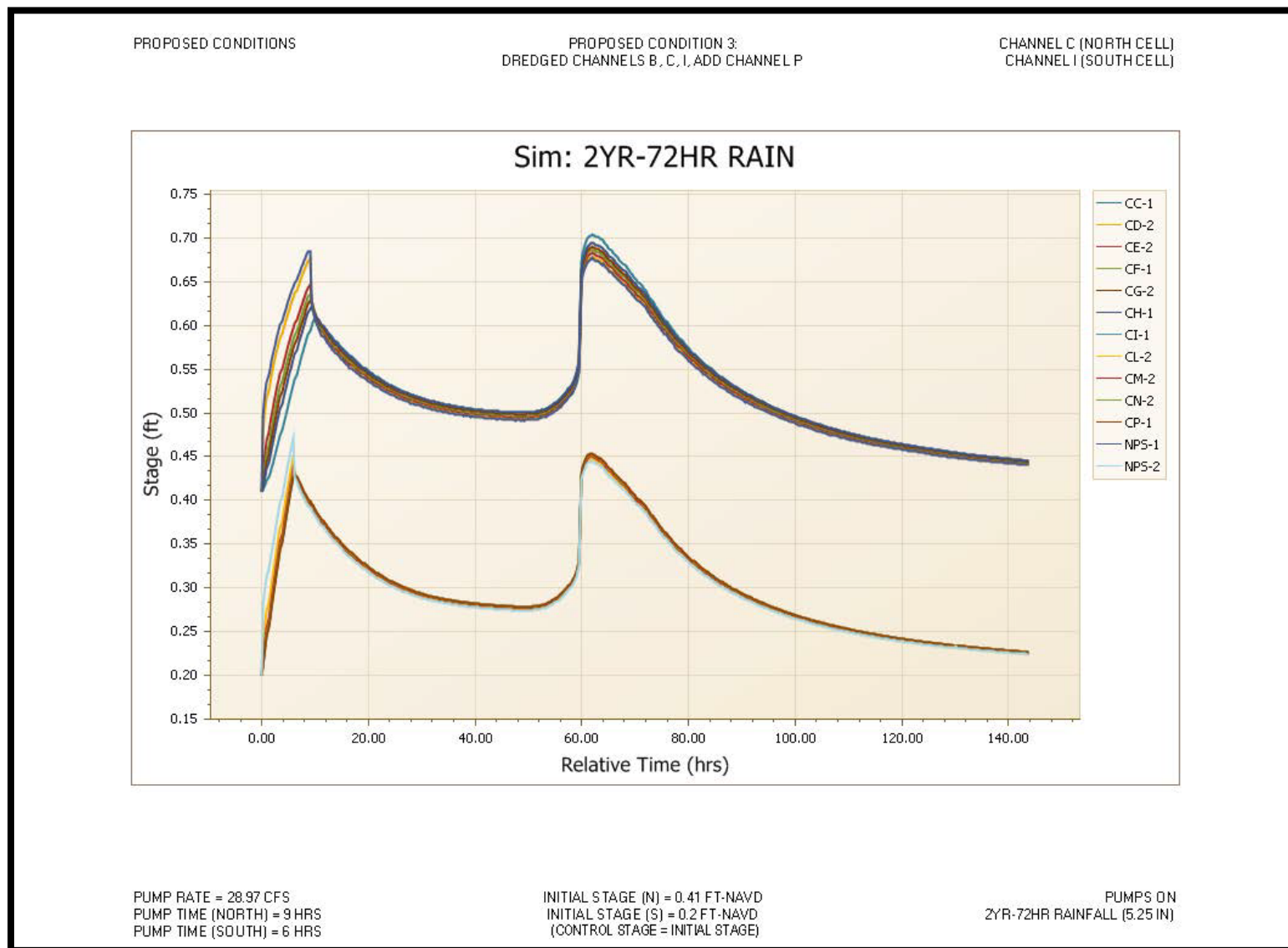


Figure 25. Proposed Condition 3: Time versus Stage graph for Channels C & I, Pumping plus 2-year, 72-hour storm event scenario

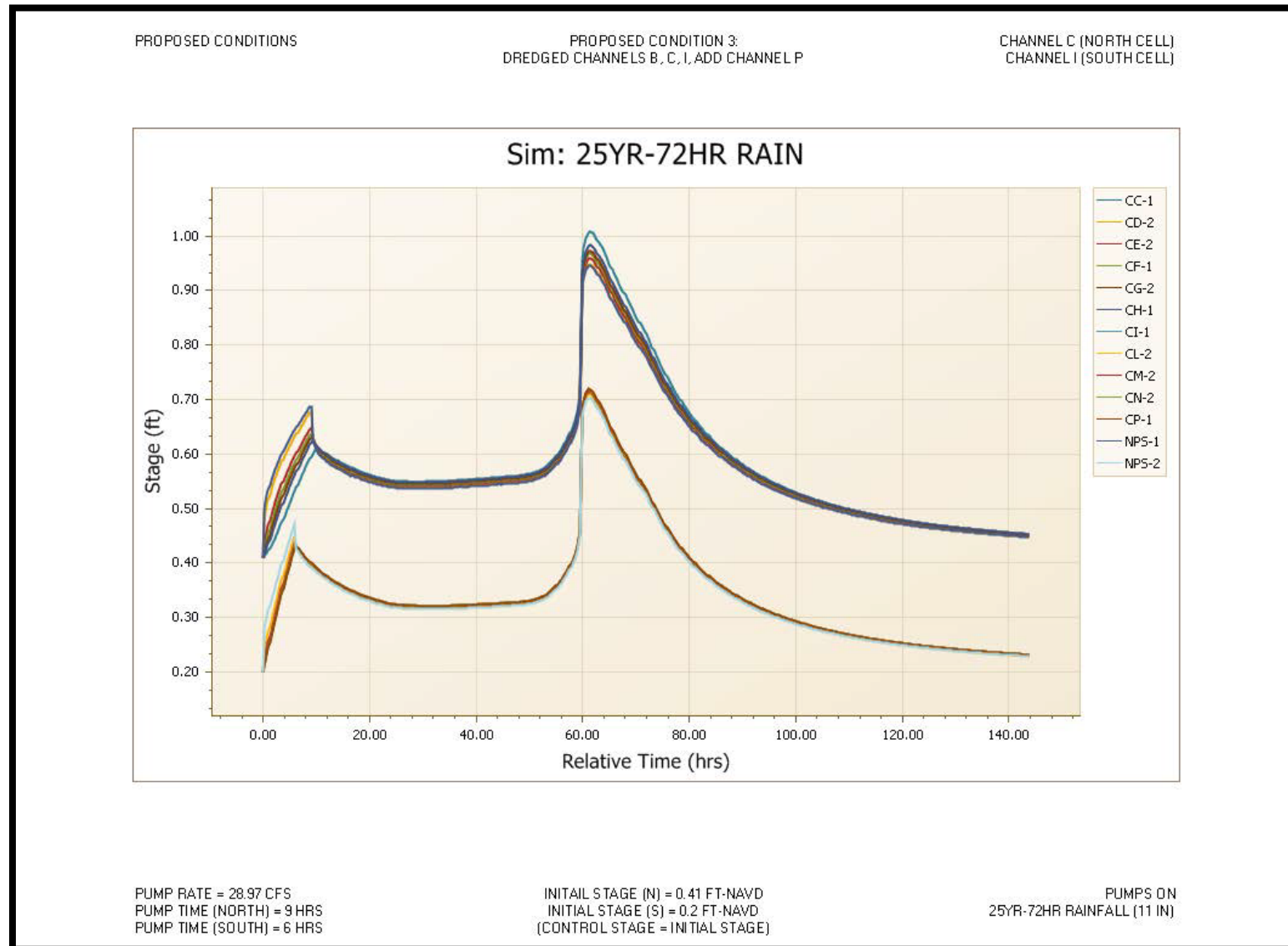


Figure 26. Proposed Condition 3: Time versus Stage graph for Channels C & I, Pumping plus 25-year, 72-hour storm event scenario

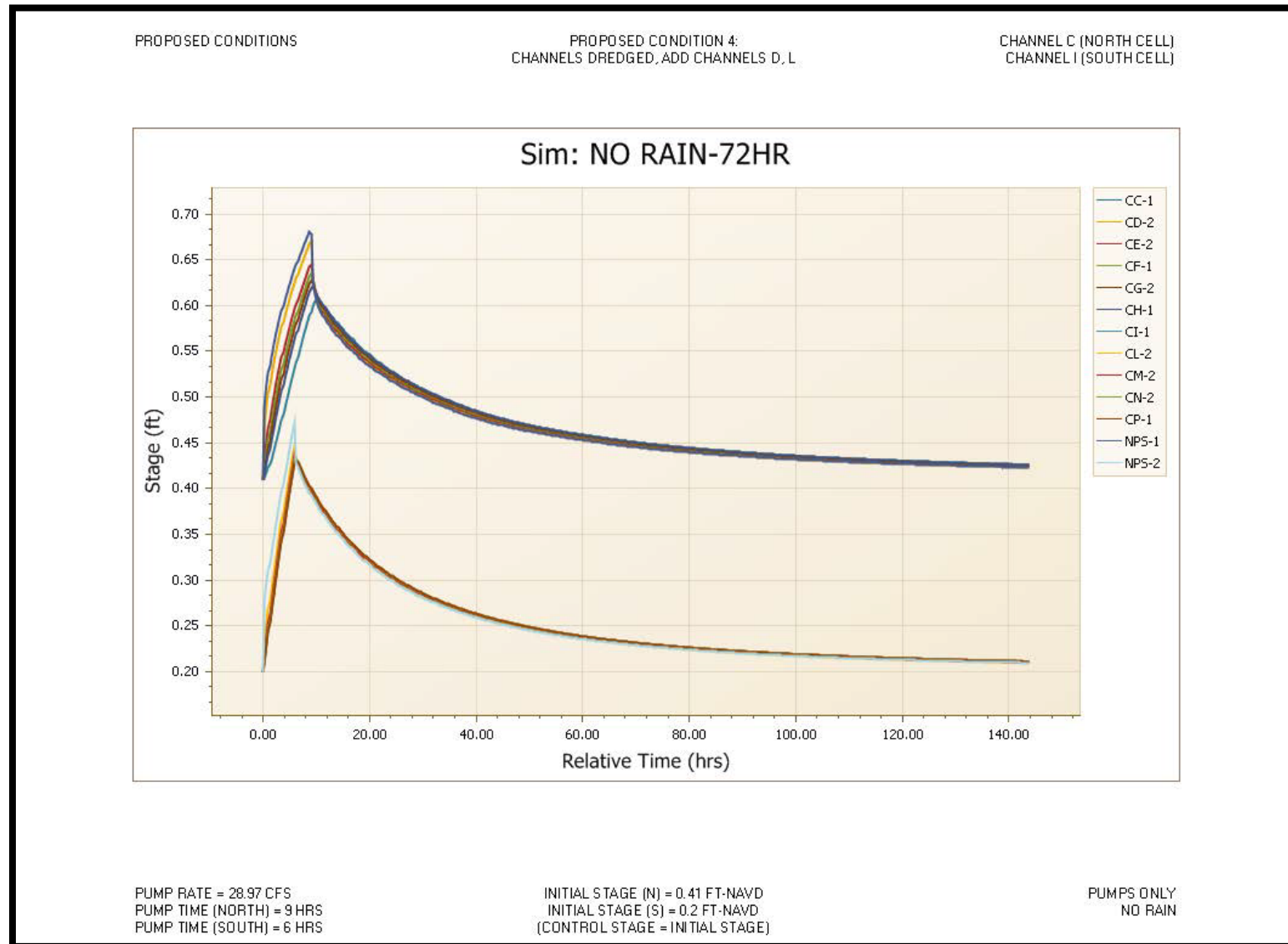


Figure 27. Proposed Condition 4: Time versus Stage graph for Channels C & I, Pumping only scenario

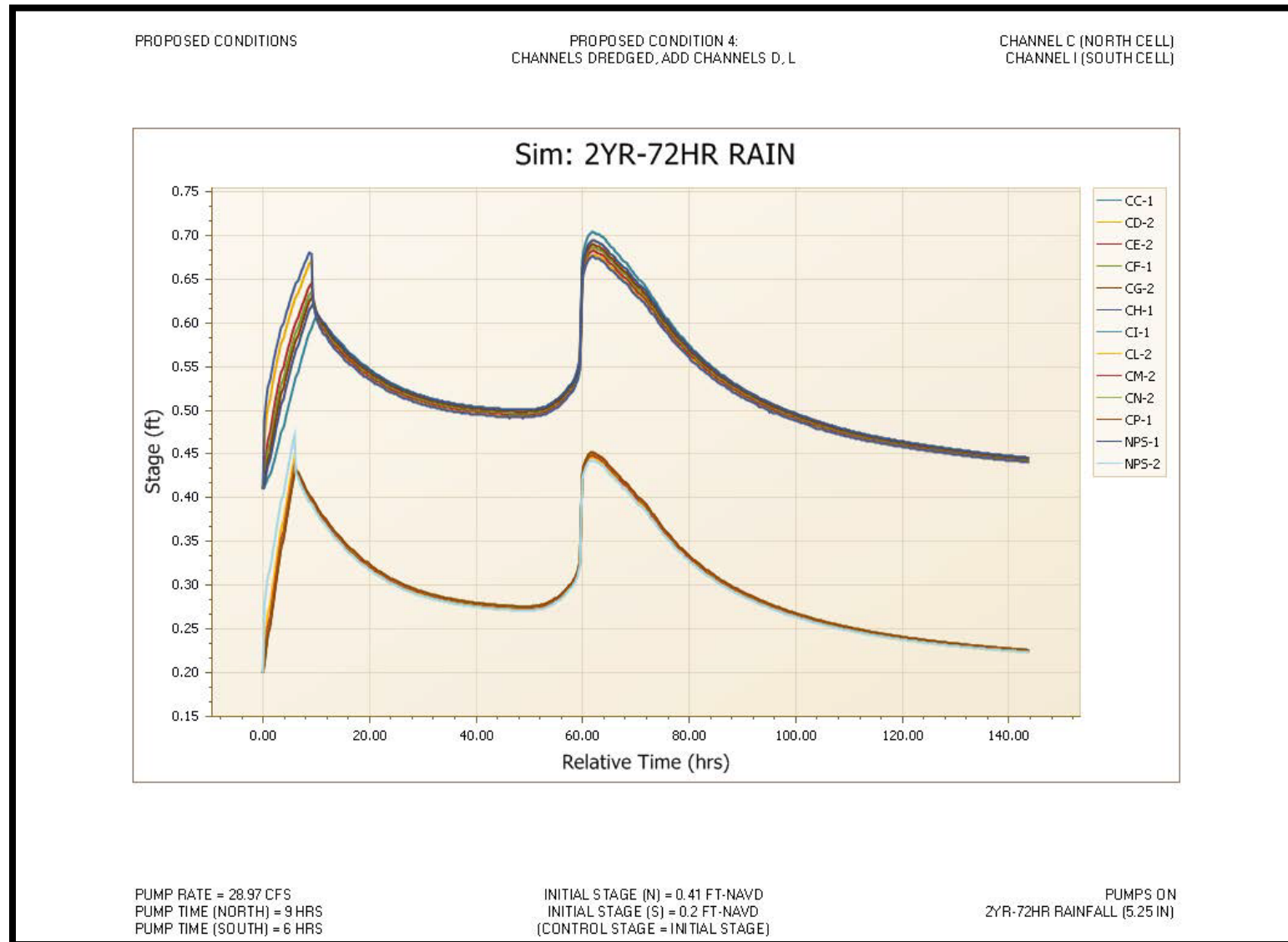


Figure 28. Proposed Condition 4: Time versus Stage graph for Channels C & I, Pumping plus 2-year, 72-hour storm event scenario

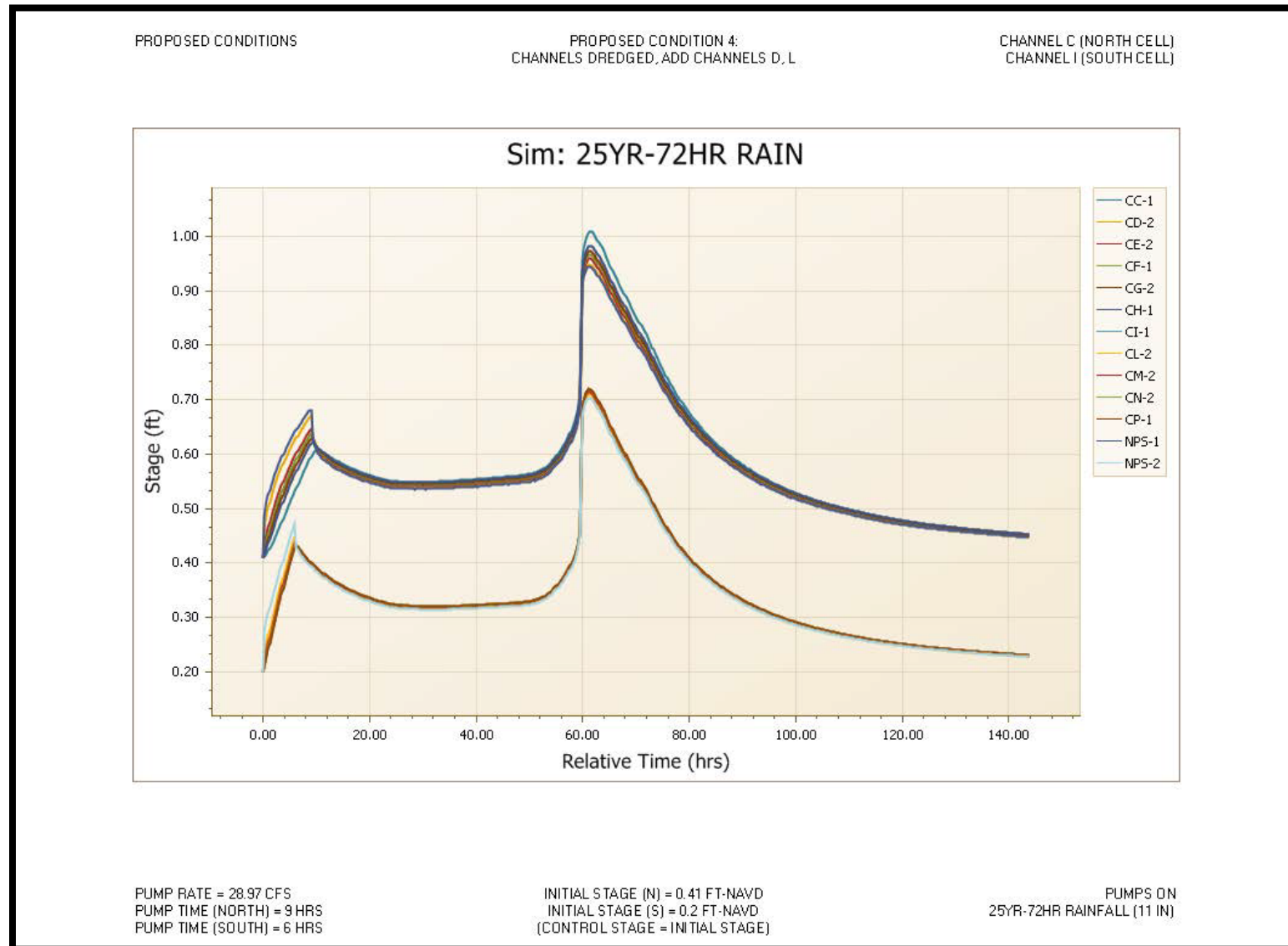


Figure 29. Proposed Condition 4: Time versus Stage graph for Channels C & I, Pumping plus 25-year, 72-hour storm event scenario

4.3 SELECTION OF PREFERRED ALTERNATIVE

Based upon the results of the Proposed Conditions model runs, it was determined that Proposed Condition 3 produced the best results in terms of control of water elevations within the two operational cells and turnover of a new volume of water in each cell within 72 hours. Proposed Condition 3 included the following aspects:

- Conversion of all outfall pipes to flash board riser drop structures
- Dredging of 7,616 LF of Channels B, C and I
- Inclusion of Channel P in the South cell (986 LF)
- Construction of two new outfall structures (Pipe T and Pipe U) in the South cell

The preferred alternative (Proposed Condition 3) was then tested with the predicted sea level rise within the IRL for the year 2070, an increase in tidal elevations of 0.9 ft-NAVD. The boundary conditions for the Proposed Condition 3 model were modified to include the predicted sea level rise and the model executed with pumping only and pumping plus design storm rainfall events as Proposed Condition 5.

4.4 PREFERRED ALTERNATIVE RESULTS

Execution of the Proposed Condition 5 model maintains the overall improvement of circulation of surface water within both the North and South cells from Proposed Condition 3, with recovery of the water surface in each cell to within 0.05 feet of the optimal water elevation within 72 hours of the termination of pumping for the pumping-only event or 144 hours for the pumping plus rainfall events. Due to the proposed sea level rise, there are periods where tide levels prevent discharge from the JBI to the IRL and, instead cause the inflow of water from the IRL to the JBI. Modification of the control elevations at the outfall structures may be required as sea level rise predictions become reality in the future, to the limits of the flash board riser structures themselves. Even with the added elevation of the tides influencing the rate of discharge to the IRL, the water elevations within the JBI did not approach the top of berm elevation that would signify a potential breach of the impoundment berm. Time versus stage graphs of the results of the Proposed Condition 5 model are presented as **Figures 30 through 32**. Exhibits from the ICPR model execution of the Proposed Condition 5 model that show the change of water surface elevations through time across the two cells are included as **Appendix E**. The ICPR Input and Output Report for the Proposed Condition 4 model is presented as **Appendix J**.

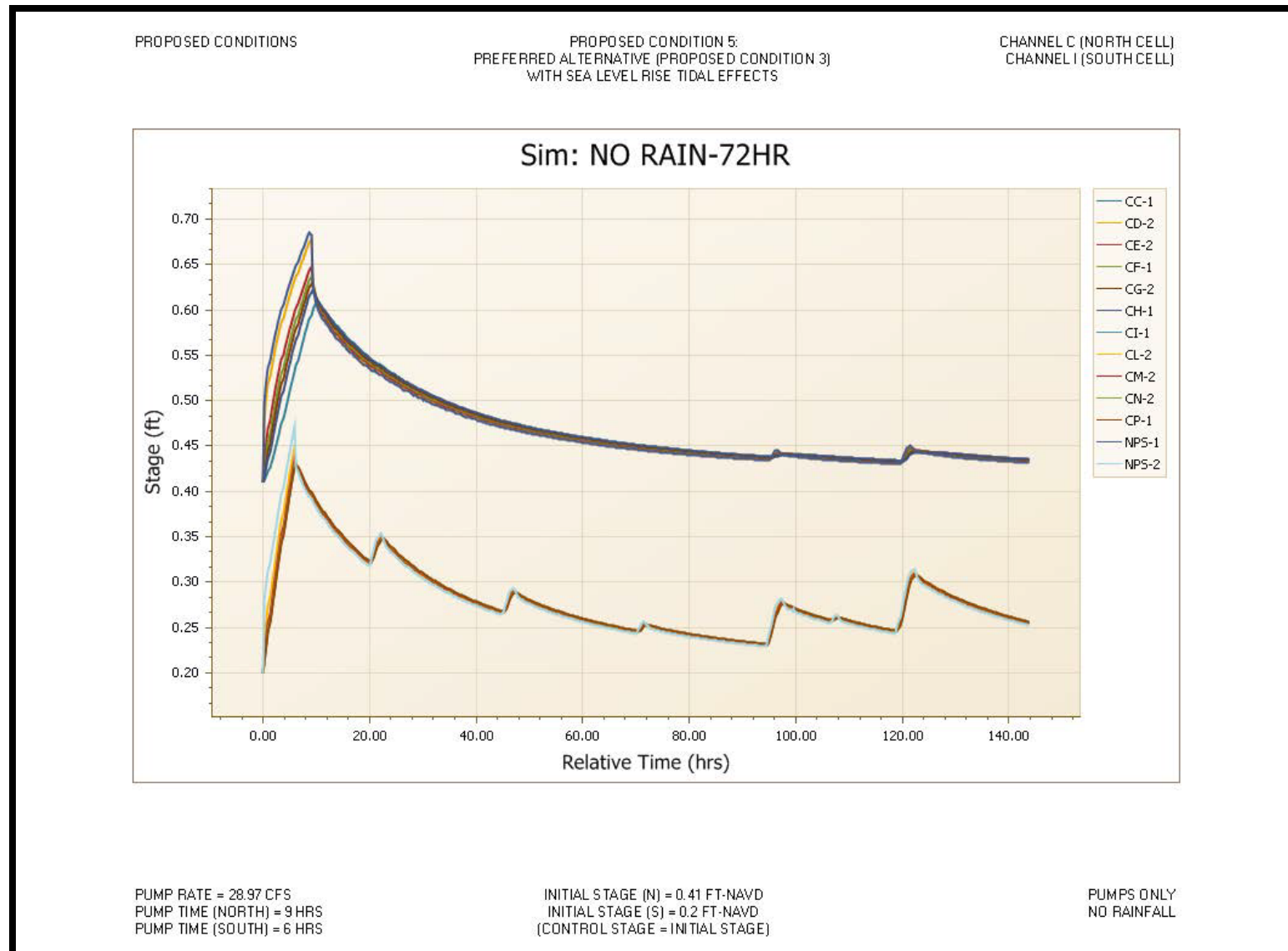


Figure 30. Proposed Condition 5: Time versus Stage graph for Channels C & I, Pumping only scenario

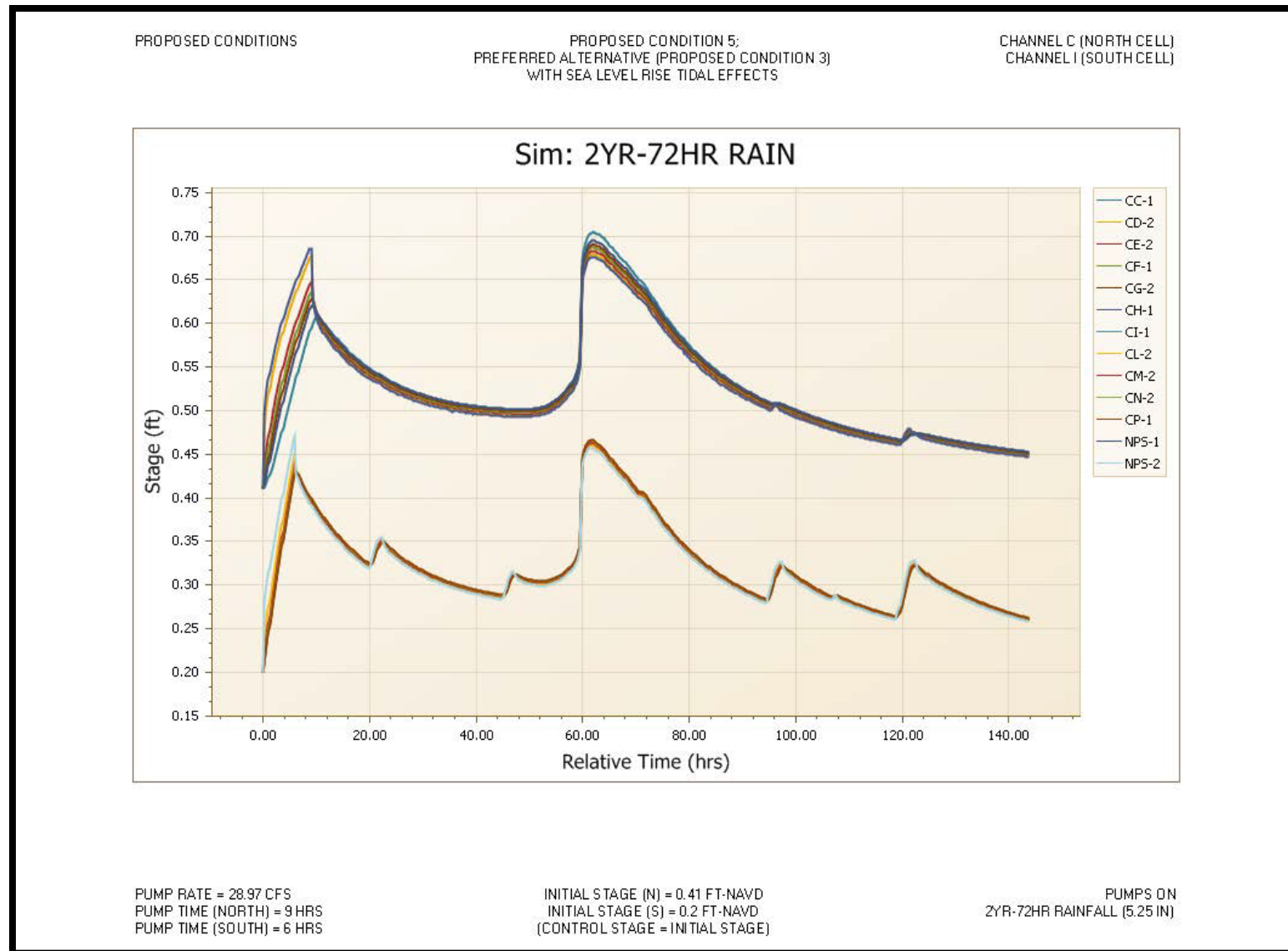


Figure 31. Proposed Condition 5: Time versus Stage graph for Channels C & I, Pumping plus 2-year, 72-hour storm event scenario

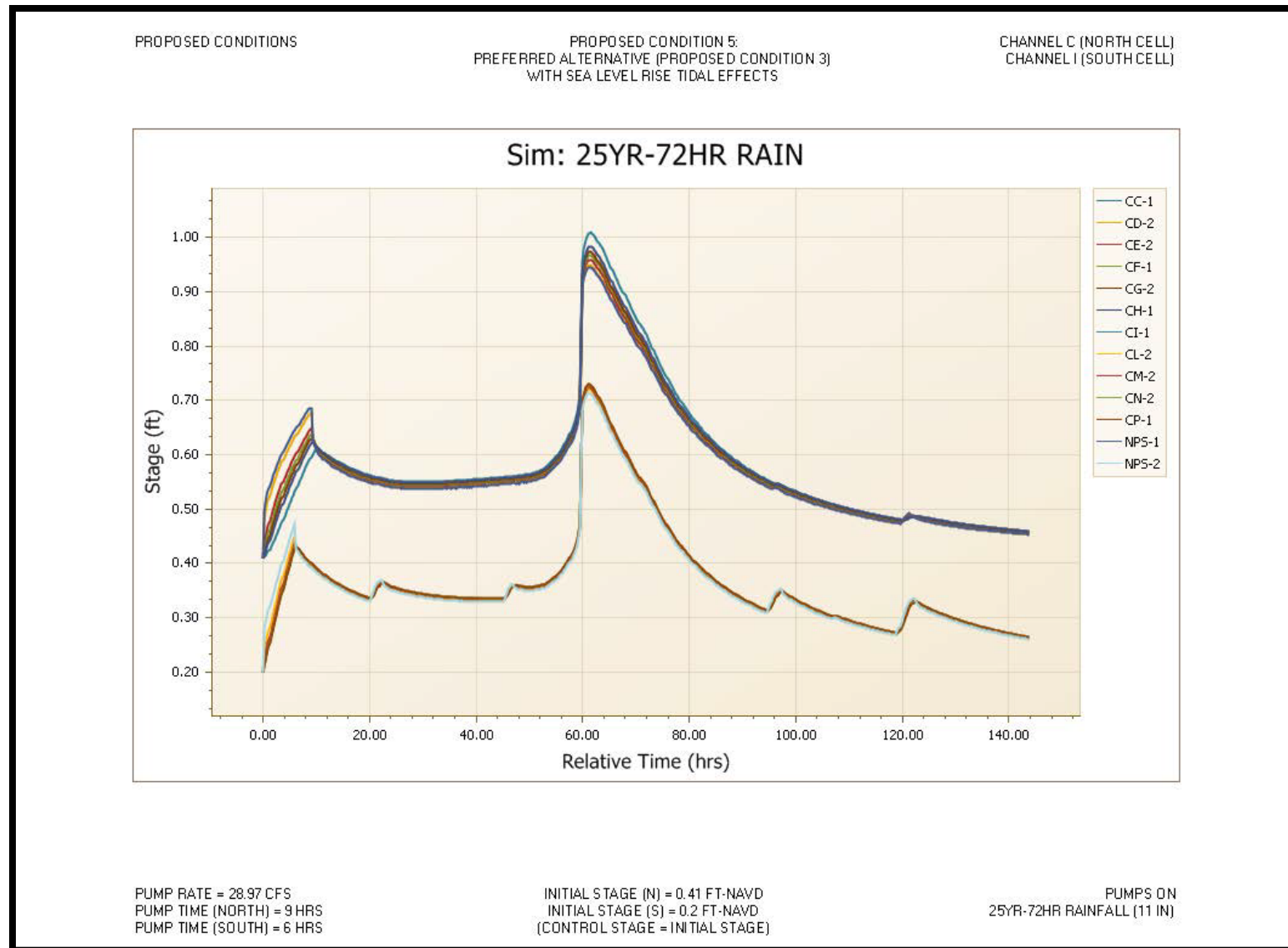


Figure 32. Proposed Condition 5: Time versus Stage graph for Channels C & I, Pumping plus 25-year, 72-hour storm event scenario

5.0 REFERENCES/BIBLIOGRAPHY

- Cahoon D., Lynch J. (1997) Vertical accretion and shallow subsidence in a mangrove forest of southwestern Florida, U.S.A. *Mangroves and Salt Marshes* 1:173-186.
- Ecological Associates, Inc. (EAI). 2018. Jensen Beach Mosquito Impoundment Surface Water and Sediment Sampling Report. Prepared for Martin County Engineering Department. March 2018.
- Lewis R.R. (2005) Ecological engineering for successful management and restoration of mangrove forests. *Ecological Engineering* 24(2005):403-418.
- Miller, John F. (1964) Technical Paper No. 49: Two- to Ten-Day Precipitation for return Periods of 2 to 100 Years in the Contiguous United States. U.S. Department of Commerce, U.S. Weather Bureau.
- Pathak, Chandra S. (2001) Technical Publication EMA #390: Frequency Analysis of Daily Rainfall Maxima for Central and South Florida. South Florida Water Management District.
- Southeast Florida Regional Climate Change Compact – Sea Level Rise Ad Hoc Working Group (2019) Unified Sea Level Rise Projection, Southeast Florida – 2019 Update.
- University of Florida Institute of Food and Agricultural Sciences (UF IFAS). 2020. Featured Creatures: Black Salt Marsh Mosquito.
http://entnemdept.ufl.edu/creatures/AQUATIC/aedes_taeniorhynchus.htm.
Accessed July 23, 2020.
- Van Loon A.F., Te Brake B., Van Huijgevoort M.H.J., Dijksma R. (2016) Hydrological Classification, a Practical Tool for Mangrove Restoration. *PLoS ONE* 11(3).

APPENDIX A

HISTORICAL CONDITIONS MODEL
EXHIBITS OF WATER SURFACE ELEVATION CHANGE

APPENDIX B

PROPOSED CONDITION 2 MODEL EXHIBITS OF WATER SURFACE ELEVATION CHANGE

APPENDIX C

PROPOSED CONDITION 3 MODEL EXHIBITS OF WATER SURFACE ELEVATION CHANGE

APPENDIX D

PROPOSED CONDITION 4 MODEL EXHIBITS OF WATER SURFACE ELEVATION CHANGE

APPENDIX E

PROPOSED CONDITION 5 MODEL EXHIBITS OF WATER SURFACE ELEVATION CHANGE

APPENDIX F

HISTORICAL CONDITIONS MODEL INPUT AND OUTPUT REPORT

APPENDIX G

PROPOSED CONDITION 2 MODEL
INPUT AND OUTPUT REPORT

APPENDIX H

PROPOSED CONDITION 3 MODEL
INPUT AND OUTPUT REPORT

APPENDIX I

PROPOSED CONDITION 4 MODEL
INPUT AND OUTPUT REPORT

APPENDIX J

PROPOSED CONDITION 5 MODEL
INPUT AND OUTPUT REPORT

JENSEN BEACH IMPOUNDMENT MANGROVE RESTORATION PROJECT

PREPARED FOR
**FLORIDA FISH AND WILDLIFE CONSERVATION
COMMISSION**



DIVISION OF HABITAT &
SPECIES CONSERVATION

PROJECT MANAGER/ CONTACT PERSON: MR. TAYLOR KROLL, P.E.
(TAYLOR.KROLL@MYFWC.COM, (352)-473-9088)

BY

ECT Environmental
Consulting &
Technology, Inc.

707 East Third Avenue
New Smyrna Beach, Florida 32169
Tel: (386) 427-0694 Fax: (386) 427-0889
E-mail: cfagerstrom@ectinc.com
<http://www.ectinc.com>

SURVEYOR



2035 Vista Parkway
West Palm Beach, Florida 33411
Tel: (866) 909-2220 Fax: (386) 427-0889
<http://www.wginc.com>
Cert No. 6091 - LB No. 7055

ECT PROJECT NUMBER 20-0248

**AUGUST 2020
100% PERMIT SET**



CITY OF JENSEN BEACH
MARTIN COUNTY, FL



FROM I-95S, TAKE EXIT 129 ONTO FL-70 E, TURN RIGHT ONTO S US
HWY 1, TURN LEFT ONTO SAVANNAH RD, TURN RIGHT ONTO S
INDIAN RIVER DR, TURN LEFT ONTO NE CAUSEWAY BLVD.

FROM I-95N, TAKE EXIT 101 ONTO FL-76 E, TURN LEFT ONTO N US
HWY 1, TURN RIGHT ONTO NW BAKER RD, TURN LEFT ONTO SE
GREEN RIVER PKWY, TURN RIGHT ONTO NW JENSEN BEACH BLVD,
TURN LEFT ONTO NE PINEAPPLE AVE, CONTINUE RIGHT ONTO NE
CAUSEWAY BLVD.

INDEX OF DRAWINGS

G1.01	COVER
S1.01 - S1.06	GENERAL NOTES & ABBREVIATIONS
EX1.01 - EX1.10	SURVEY DETAILS
C1.01	EXISTING CONDITIONS
C1.02 - C1.07	OVERALL PROPOSED CONDITIONS
C1.05 - C1.09	GENERAL PHASE 2 PROPOSED CONDITIONS
ESC1.01 - ESC1.02	GENERAL PHASE 1 PROPOSED CONDITIONS
CD1.01 - CD1.04	EROSION & SEDIMENT CONTROL PLAN
	CONSTRUCTION DETAILS

DEREK M. WAINSCOTT, P.E.
FLORIDA P.E. No. 58,405
NOT APPROVED FOR CONSTRUCTION
UNLESS SIGNED AND SEALED BY ENGINEER

RELEASED FOR PERMITTING

20-0248 JENSEN BEACH IMPOUNDMENT

EROSION CONTROL

1. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS AND ALL REGULATIONS CONTROLLING POLLUTION OF THE ENVIRONMENT.
2. THE CONTRACTOR SHALL DEVELOP AND IMPLEMENT A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) ACCORDING TO EPA/FDEP NPDES CRITERIA TO MINIMIZE EROSION AND INSURE PROPER FUNCTIONING OF STORM WATER MANAGEMENT SYSTEM UPON COMPLETION OF CONSTRUCTION. IN ADDITION TO MEETING EPA/FDEP NPDES CRITERIA, THE SWPPP SHALL BE SUBMITTED TO AND COMPLY WITH LOCAL AGENCY HAVING JURISDICTION'S MINIMUM EROSION CONTROL CRITERIA.
3. CONTRACTOR SHALL EXECUTE ALL MEASURES NECESSARY TO LIMIT THE TRANSPORTATION OF SEDIMENTS OUTSIDE THE LIMITS OF THE PROJECT TO THE VOLUME AND AMOUNT AS THOSE THAT EXIST PRIOR TO COMMENCEMENT OF CONSTRUCTION. THIS CONDITION MUST BE SATISFIED UNTIL PROJECT IS FULLY COMPLETED AND ACCEPTED. CONTRACTOR SHALL PROVIDE ROUTINE MAINTENANCE ON TEMPORARY EROSION CONTROL FEATURES AT HIS EXPENSE. PROVISION MUST BE MADE TO PRESERVE THE INTEGRITY AND CAPACITY OF CHECK WEIRS, SEDIMENT BASINS, SLOPE DRAINS, GRADING PATTERNS, ETC. REQUIRED TO MEET THIS PROVISION THROUGHOUT THE LIFE OF CONSTRUCTION. CONTRACTOR SHALL PROVIDE HAY BALES, SILT BARRIERS, MIRAFI FILTERS, TEMPORARY GRASSING, ETC., AS REQUIRED TO FULLY COMPLY WITH THE INTENT OF THIS SPECIFICATION. CONTRACTOR SHALL PROVIDE CONTINUOUS MONITORING OF EROSION AND SEDIMENT CONTROLS TAKEN AND SHALL DOCUMENT ALL CORRECTIVE MEASURES. A COPY OF THE APPROVED SWPPP SHALL BE KEPT ON SITE AT ALL TIMES FOR REVIEW BY OWNER'S REPRESENTATIVE AND BY NPDES INSPECTORS.
4. THE OWNER AND/OR CONTRACTOR SHALL PROVIDE A NOTICE OF INTENT IN ACCORDANCE WITH CRITERIA SET FORTH IN THE NPDES PERMIT REQUIREMENTS 48 HOURS PRIOR TO BEGINNING CONSTRUCTION, CLEARING, OR DEMOLITION.
5. PROVIDE EFFECTIVE TEMPORARY AND PERMANENT EROSION CONTROL FOLLOWING THE REQUIREMENTS IN SECTION 104 OF THE STATE DEPT. OF TRANSPORTATION STANDARDS SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION. (F.D.O.T. SECTION 104)
6. DRAINAGE CONTROL STRUCTURES, INLETS, CATCH BASINS, AND ANY OTHER DRAINAGE FEATURES SHALL BE PROTECTED FROM SEDIMENTATION RESULTING FROM SURFACE RUNOFF UNTIL COMPLETION OF ALL CONSTRUCTION OPERATION THAT MAY CAUSE SEDIMENT RUNOFF. FILTER FABRIC SHALL BE PLACED AND MAINTAINED UNDER THE GRATE AND FILTER SOCKS PLACED IN FRONT OF THE THROAT OF CURB INLETS, DURING CONSTRUCTION. HAY BALES ARE NOT PERMITTED.
7. TURBIDITY BARRIERS MUST BE INSTALLED AT ALL LOCATIONS WHERE THE POSSIBILITY OF TRANSFERRING SEDIMENTS AND SUSPENDED SOLIDS INTO THE RECEIVING WATER BODY EXISTS DUE TO CONSTRUCTION. TURBIDITY BARRIERS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED, SOILS ARE STABILIZED AND VEGETATION HAS BEEN ESTABLISHED.
8. ALL SLOPES 5:1 OR GREATER SHALL BE SODDED. ALL POND SLOPES AND RIGHTS-OF-WAY SHALL BE SODDED.
9. IN ACCORDANCE WITH FDEP AND WATER MANAGEMENT DISTRICT PERMITS, ALL DISTURBED AREAS SHALL BE SODDED OR SEEDDED AND MULCHED WITHIN 7 DAYS OF NO CONSTRUCTION ACTIVITIES.

PAVING, GRADING & DRAINAGE

1. THE CONTRACTOR SHALL PERFORM ALL WORK PERTAINING TO GRADING INCLUDING EXCAVATION OF STORMWATER MANAGEMENT PONDS OR EQUIVALENT FACILITIES PRIOR TO THE COMMENCEMENT OF OTHER WORK INCLUDED IN THESE PLANS.
2. THE CONTRACTOR SHALL STAKE ALL IMPROVEMENTS USING THE RECORD PLAT. THE CONTRACTOR SHALL VERIFY WITH THE ENGINEER THAT THE PLAT IS CORRECT PRIOR TO ANY CONSTRUCTION. IF A PLAT DOES NOT EXIST, CONTRACTOR IS TO VERIFY USE OF THE SURVEY FOR LAYOUT WITH ENGINEER PRIOR TO STARTING WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLETELY STAKE AND CHECK ALL IMPROVEMENTS TO ENSURE CORRECT POSITIONING, BOTH HORIZONTAL AND VERTICAL, INCLUDING MINIMUM BUILDING SETBACKS PRIOR TO THE INSTALLATION OF ANY IMPROVEMENT. ANY DISCREPANCY BETWEEN PLATTED INFORMATION AND THE PLANS SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY AND IN WRITING.
3. PRIOR TO INITIATING ANY EXCAVATION (INCLUDING BUT NOT LIMITED TO TUNNELS, DITCHES, STORM WATER PONDS, CANALS, ARTIFICIAL LAKES) CONTRACTOR SHALL INSTALL FENCES AND TAKE ALL OTHER REASONABLE AND PRUDENT STEPS TO ENSURE THAT ACCESS TO EXCAVATION BY UNAUTHORIZED PERSONNEL IS PREVENTED.
4. ALL DRAINAGE STRUCTURES ARE TO BE TRAFFIC BEARING UNLESS OTHERWISE NOTED. ALL PRECAST CIRCULAR STRUCTURES SHALL BE CONSTRUCTED WITH A MINIMUM 5-INCH WALL THICKNESS.
5. ALL PROPOSED PAVING SURFACES IN INTERSECTIONS AND ADJACENT EXISTING SECTIONS SHALL BE GRADED TO DRAIN POSITIVELY IN THE DIRECTION SHOWN BY THE PROPOSED GRADES AND FLOW ARROWS ON THE PLANS AND TO PROVIDE A SMOOTHLY TRANSITIONED DRIVING SURFACE FOR VEHICLES WITH NO SHARP BREAKS IN GRADE, AND NO UNUSUALLY STEEP OR REVERSE CROSS SLOPES. APPROACHES TO INTERSECTIONS AND ENTRANCE AND EXIT GRADES TO INTERSECTIONS MAY REQUIRE MINOR LOCAL FIELD ADJUSTMENTS SHOULD ACTUAL CONDITIONS VARY FROM THE SURVEYED INFORMATION THE DESIGN WAS BASED UPON IN ORDER TO ACCOMPLISH THE INTENT OF THE PLANS. IN ADDITION, THE STANDARD CROWN WILL HAVE TO BE CHANGED IN ORDER TO DRAIN POSITIVELY IN THE AREA OF INTERSECTIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH THE ABOVE AND CONSULT THE ENGINEER AS NEEDED TO MAKE ANY AND ALL REQUIRED INTERPRETATIONS OF THE PLANS OR GIVE SUPPLEMENTARY INSTRUCTIONS SHOULD THE INTENT OF THE PLANS BE UNCLEAR.
6. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ANY EXCESS CUTS OR SUPPLYING FILL AS NECESSARY TO GRADE THE SITE TO THE PROPOSED ELEVATIONS AS DESIGNED WITHIN THE CONSTRUCTION DOCUMENTS.
7. IF LIMESTONE BEDROCK IS ENCOUNTERED DURING EXCAVATION OF THE RETENTION BASINS OR A SINKHOLE OR SOLUTION CAVITY FORMS DURING CONSTRUCTION, EXCAVATION OF THE BASIN MUST BE HALTED IMMEDIATELY. THE OWNER, ENGINEER, AND MARTIN COUNTY, AND THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION MUST BE NOTIFIED, AND REMEDIAL ACTION WILL BE REQUIRED. THE PERMITEE MUST INSPECT ALL PERMITTED SURFACE WATER MANAGEMENT BASINS MONTHLY FOR THE OCCURRENCE OF SINKHOLES AND DOCUMENT THESE INSPECTIONS. THE PERMITEE MUST REPORT ANY SINKHOLE THAT DEVELOPS WITHIN THE SURFACE WATER MANAGEMENT SYSTEM. THE PERMITEE MUST NOTIFY THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AND LOCAL AGENCY HAVING JURISDICTION OF ANY SINKHOLE DEVELOPMENT IN THE SURFACE WATER MANAGEMENT SYSTEM WITHIN 48 HOURS OF ITS DISCOVERY AND COMPLETE SINKHOLE REPAIR WITHIN 10 DAYS OF SUCH DISCOVERY USING A DISTRICT APPROVED METHODOLOGY.
8. THE CONTRACTOR SHALL INSURE THAT A MINIMUM SOIL DENSITY OF 98% COMPACTION IS ACHIEVED UNLESS OTHERWISE NOTED FOR PLACEMENT OF ALL HEADWALLS AND ENDWALL FOOTINGS, RETAINING WALL FOOTINGS, AND IN GENERAL, ANY FOOTING SUPPORT DESCRIBED ON THESE PLANS. IT WILL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT SUFFICIENT GEOTECHNICAL TESTING AND DESIGN HAS BEEN PERFORMED PRIOR TO CONSTRUCTION.
9. BLUE REFLECTIVE PAVEMENT MARKERS SHALL BE PLACED IN THE CENTER OF THE DRIVING LANE OPPOSITE EACH FIRE HYDRANT.
10. STORM PIPE LENGTHS SHOWN ON THE PLANS INCLUDE MITERED END SECTIONS. IF THE CONTRACTOR ELECTS TO USE AN APPROVED ALTERNATE, THE PIPE LENGTHS MUST BE ADJUSTED.
11. INLET OFFSETS ARE TO THE CENTERLINES SHOWN ON F.D.O.T. DESIGN STANDARDS INDEXES.
12. THE CONTRACTOR IS RESPONSIBLE FOR PAVING ALL ROADWAYS TO DRAIN POSITIVELY. INTERSECTIONS SHALL BE TRANSITIONED TO PROVIDE A SMOOTH DRIVING SURFACE WHILE MAINTAINING POSITIVE DRAINAGE. IF AN AREA OF POOR DRAINAGE IS OBSERVED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO PAVING SO THAT A SOLUTION OR RECOMMENDATION FOR CORRECTION MAY BE MADE.
13. ALL REINFORCED CONCRETE PIPE (R.C.P.) SHALL BE MINIMUM CLASS III, UNLESS OTHERWISE APPROVED OR NOTED ON THE PLANS OR SPECIFICATIONS.
14. ALL STORMWATER PIPE JOINTS SHALL BE WRAPPED WITH FILTER FABRIC.

GRADING AND STORMWATER MANAGEMENT SYSTEM NOTES

1. SHOP DRAWINGS AND DESIGN CALCULATIONS FOR EACH PRECAST STRUCTURE SHALL BE SUBMITTED TO THE ENGINEER BY THE CONTRACTOR FOR THE ENGINEER'S REVIEW PRIOR TO PURCHASE. THE CONTRACTOR SHALL SUBMIT THE SIGNED AND SEALED DESIGN CALCULATIONS AND DRAWINGS REFERENCING STATEMENT OF RESPONSIBILITY PER FLORIDA ADMINISTRATIVE CODE RULE No. 21H-19.001.
2. IF STRUCTURES ARE FABRICATED BEFORE THE ENGINEER HAS APPROVED THE SHOP DRAWINGS IT SHALL BE AT THE SOLE RISK OF THE CONTRACTOR. NO STRUCTURE WHICH DOES NOT CONFORM TO THE PLANS AND APPROVED SHOP DRAWINGS SHALL BE INSTALLED.
3. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THE LATEST STANDARDS AND REQUIREMENTS OF MARTIN COUNTY., FL.
4. THE CONTRACTOR SHALL ABIDE BY THE EROSION AND SEDIMENT CONTROL PLAN /SWPPP APPROVED FOR THE PROJECT UNLESS OTHERWISE APPROVED BY THE ENGINEER.
5. EXISTING TREES SCHEDULED TO REMAIN SHALL BE PROTECTED DURING CONSTRUCTION.
6. MAXIMUM PERMISSIBLE SIDE SLOPE IS 2:1 (HORIZONTAL:VERTICAL) FOR ANY FINISHED GRADING UNLESS OTHERWISE INDICATED.
7. CONTRACTOR SHALL BACKFILL OR PROTECT ALL TRENCHES AT THE END OF EACH DAY. NO TRENCH SHALL BE LEFT OPEN OR UNPROTECTED FOR LONG PERIODS OF TIME OR OVERNIGHT.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY TEMPORARY CONTROL STRUCTURES REQUIRED TO MAINTAIN SUITABLE AND SAFE WORKING CONDITIONS AT ALL TIMES.
9. THE CONTRACTOR SHALL STORE CONSTRUCTION EQUIPMENT AND MATERIALS IN AREAS APPROVED BY THE OWNER. SECURITY OF EQUIPMENT AND MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
10. ALL DISTURBED UNPAVED AREAS SHALL BE SODDED WITH BAHIA OR COVERED WITH SEED AND MULCH, UNLESS SPECIFIED OTHERWISE.

MANGROVE CLEARING NOTES

1. ALL CLEARING FOR THIS PROJECT MUST BE COMPLETED BY A STATE OF FLORIDA AUTHORIZED PROFESSIONAL MANGROVE TRIMMER (PMT).
2. A PMT IS A PERSON WHO HAS MET THE QUALIFICATIONS UNDER THE MANGROVE ACT (403.9329, F.S.). PMTS ARE REQUIRED FOR ALL GENERAL PERMITS AND CERTAIN EXEMPT ACTIVITIES. THEY ARE ALSO RECOMMENDED FOR INDIVIDUAL PERMITS USED FOR TRIMMING. CONTACT YOUR DISTRICT OFFICE OR DELEGATION FOR MORE INFORMATION.
3. THE FOLLOWING PERSONS ARE AUTOMATICALLY CONSIDERED AS PMTS, IN ACCORDANCE WITH PARAGRAPHS 403.9329(1)(A-E) F.S., OF THE 1996 MANGROVE ACT:
 - 3.1. ARBORISTS CERTIFIED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE
 - 3.2. PROFESSIONAL WETLAND SCIENTISTS CERTIFIED BY THE SOCIETY OF WETLAND SCIENTISTS
 - 3.3. ENVIRONMENTAL PROFESSIONALS CERTIFIED BY THE ACADEMY OF BOARD-CERTIFIED ENVIRONMENTAL PROFESSIONALS
 - 3.4. ECOLOGISTS CERTIFIED BY THE ECOLOGICAL SOCIETY OF AMERICA
 - 3.5. LANDSCAPE ARCHITECTS CURRENTLY LICENSED IN FLORIDA UNDER PART II OF CHAPTER 481, F.S.
4. "MANGROVE" MEANS ANY SPECIMEN OF THE SPECIES LAGUNCULARIA RACEMOSA (WHITE MANGROVE), RHIZOPHORA MANGLE (RED MANGROVE), OR AVICENNIA GERMINANS (BLACK MANGROVE).
5. THE USE OF HERBICIDES OR OTHER CHEMICALS FOR THE PURPOSE OF REMOVING LEAVES FROM A MANGROVE IS STRICTLY PROHIBITED.
6. TRIMMING OF MANGROVES MAY ONLY OCCUR WITHIN THE IMPOUNDMENT. FOR THIS PROJECT, THE IMPOUNDMENT IS WITHIN THE PERIMETER ACCESS ROAD. CLEARING IS NOT PERMITTED, WEST OR NORTH OF THE PERIMETER ROAD.

STANDARD ABBREVIATIONS

(P) – PROPOSED
(E) – EXISTING
INV – INVERT ELEVATION
SS – SANITARY SEWER
RW – REUSE WATER
DP – STORM DRAINAGE PIPE
EWM – EXISTING WATER MAIN
ERW – EXISTING REUSE WATER MAIN
WM – WATER MAIN
STP – STORM PIPE
CONC – CONCRETE
FM – FORCE MAIN
CB – CATCH BASIN
STP – STORM PIPE
TYP – TYPICAL
EL. – ELEVATION
T.C. – TOP OF CONCRETE
MES – MITERED END SECTION



707 East Third Ave., New Smyrna Beach, FL 32189
Phone: (386) 427-0894 Fax: (386) 427-0889

JENSEN BEACH
IMPOUNDMENT
MANGROVE
RESTORATION

CONSTRUCTION NOTES

SCALE:	N.T.S.
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020

DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF

RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX
REVISION:	△ DATE: XX-XX-XXXX

REVISION:	△ DATE: XX-XX-XXXX
-----------	--------------------

REVISION:	△ DATE: XX-XX-XXXX
-----------	--------------------

REVISION:	△ DATE: XX-XX-XXXX
-----------	--------------------

G1.01

100% SUBMITTAL

[Signature]

#58205

9/10/2020

[Signature]



LEGEND

- COUNTY LINE
- PROPERTY LINE
- CELL BOUNDARY
- EXISTING PIPES
- EXISTING CHANNEL
- EXISTING PUMPS
- PIPE ID
- SURVEY DETAIL ID
SEE SHEETS S1.02- S1.06
- FLOW DIRECTION



707 East Third Ave., New Smyrna Beach, FL 32169
Phone: (386) 427-0894 Fax: (386) 427-0889

JENSEN BEACH
IMPOUNDMENT
MANGROVE
RESTORATION

SURVEY LOCATION
KEY MAP



SCALE:	1" = 200' @ 24" x 36"
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020

DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF

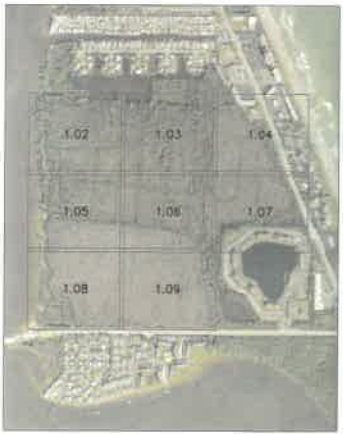
RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

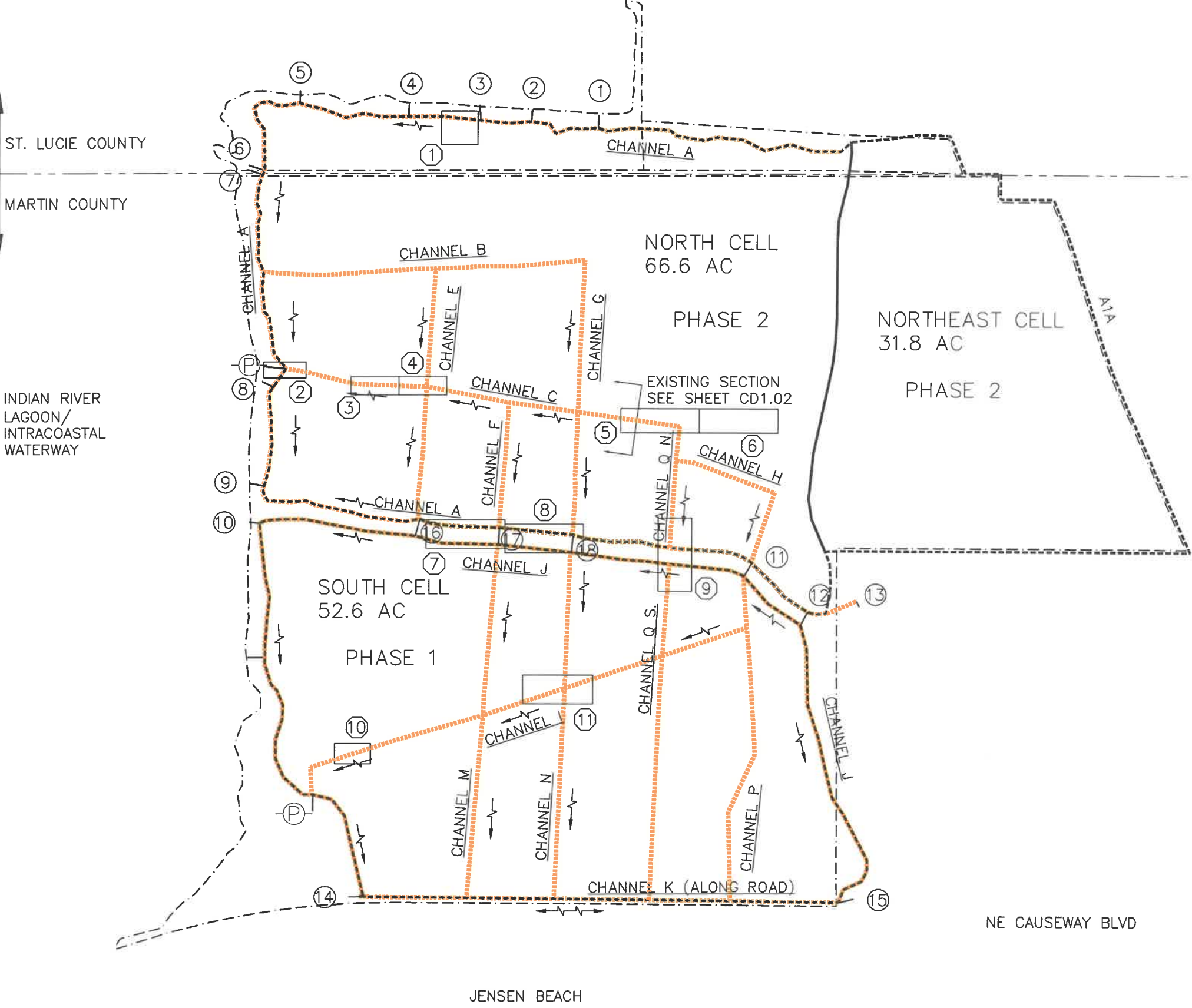
MAP KEY



S1.01

100% SUBMITTAL

[Signature]
#58205
9/10/2020



**JENSEN BEACH
IMPOUNDMENT
MANGROVE
RESTORATION**

SURVEY DETAILS



SCALE:	1" = 10' @ 24" x 36"
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020

DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF

RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

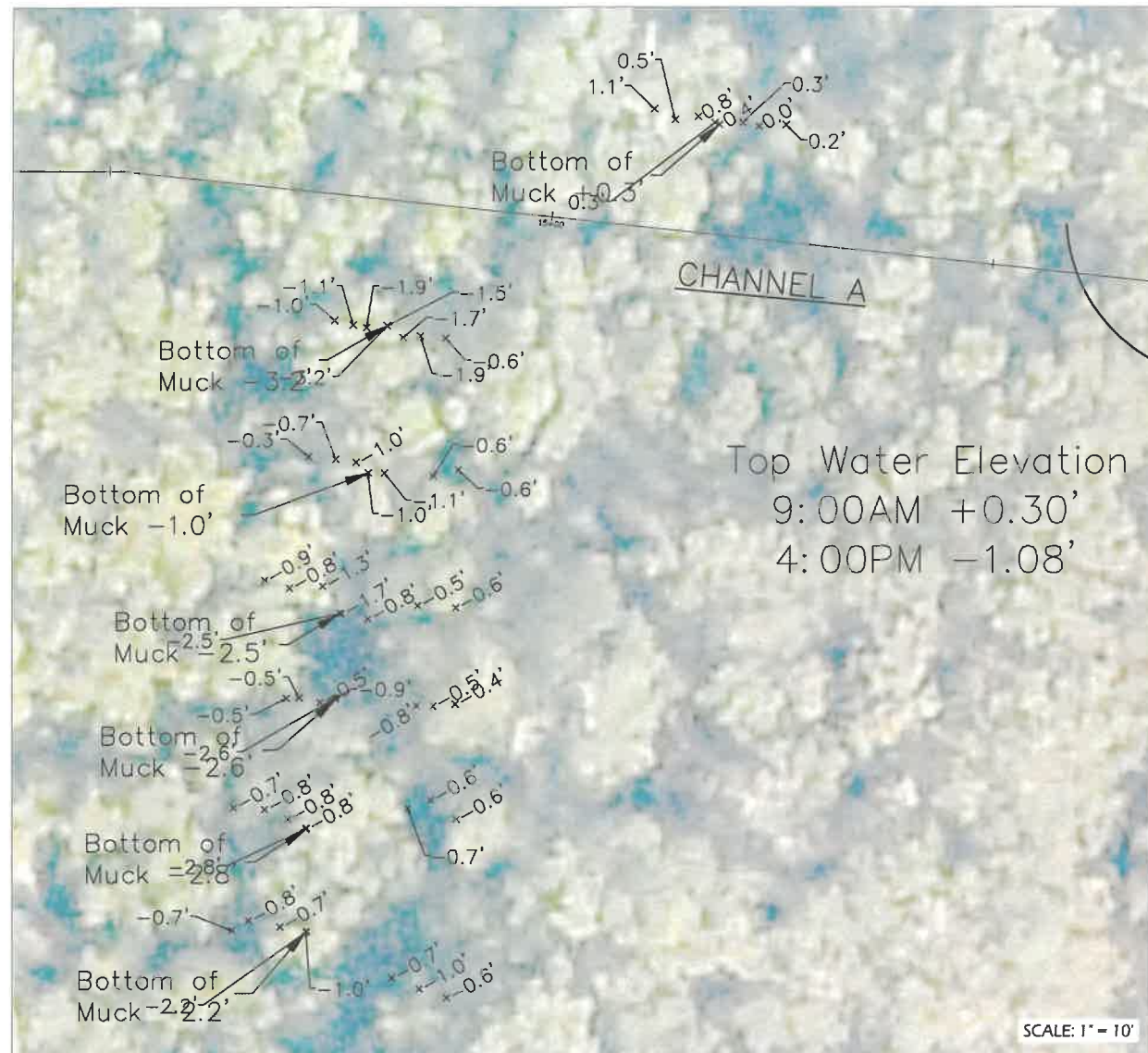
REVISION:	DATE: XX-XX-XXXX
-----------	------------------

\$1.02

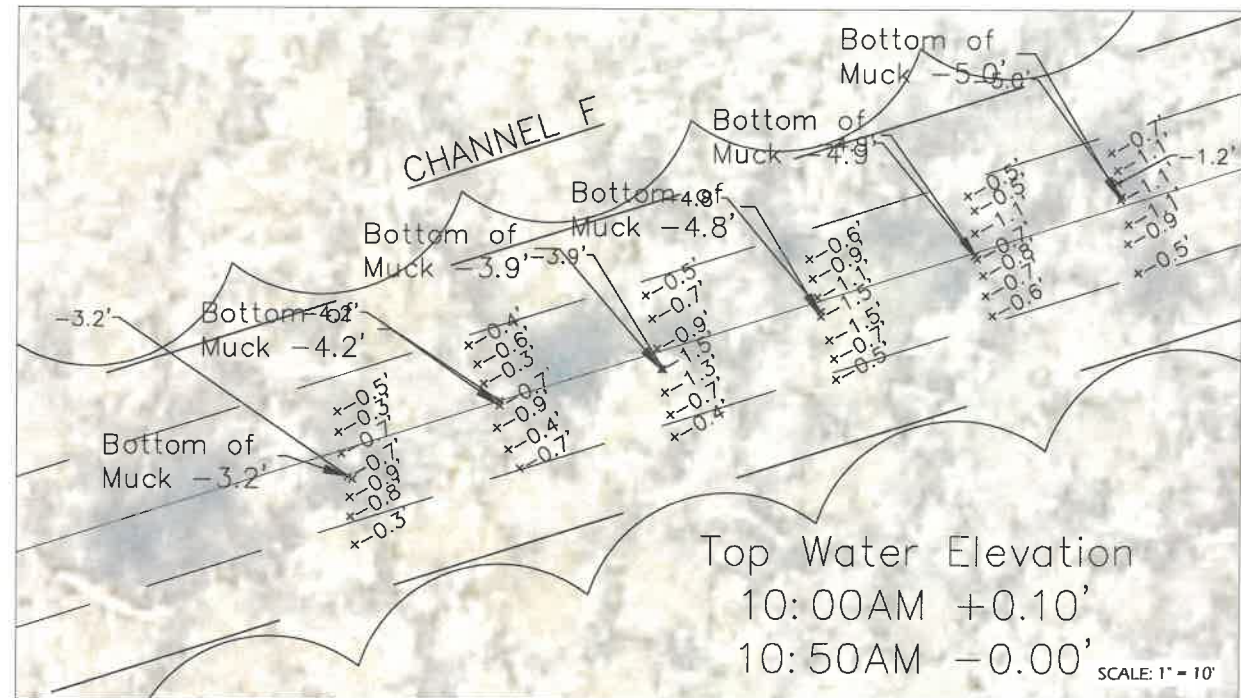
100% SUBMITTAL

#1' 205

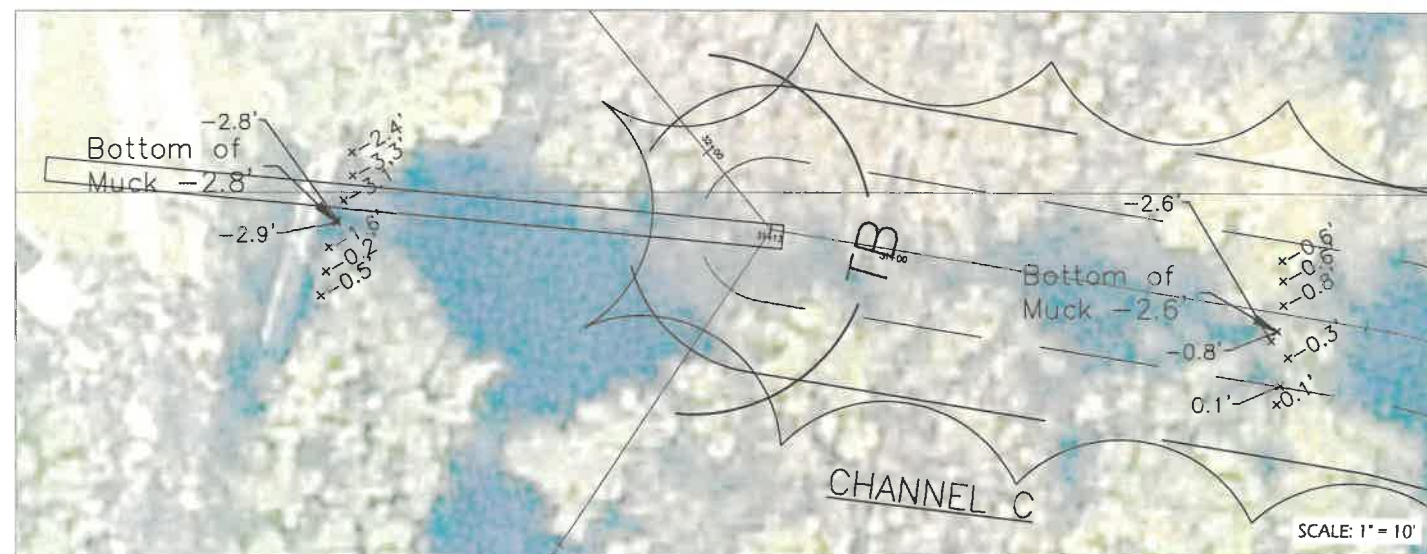
9/10/2020



INSET ①



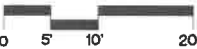
INSET ⑪



INSET ②

JENSEN BEACH
IMPOUNDMENT
MANGROVE
RESTORATION

SURVEY DETAILS



SCALE:	1" = 10' @ 24" x 36"
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020

DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF

RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX

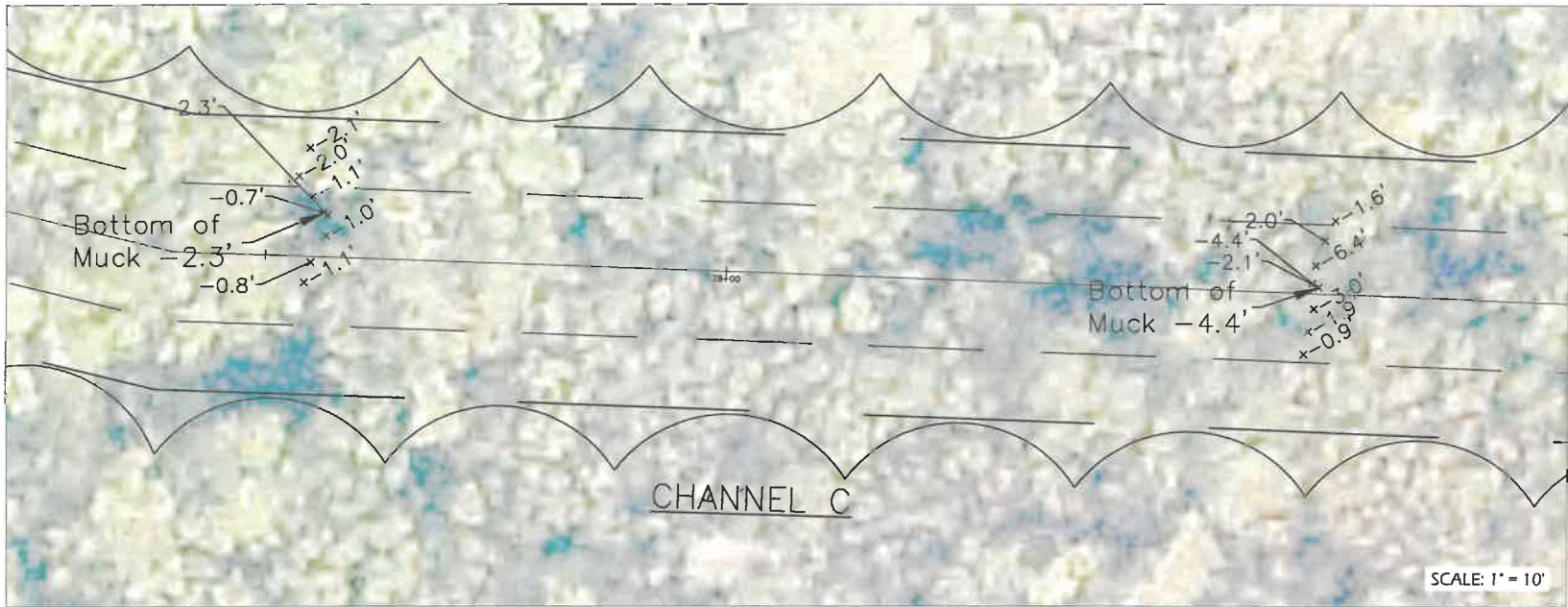
REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

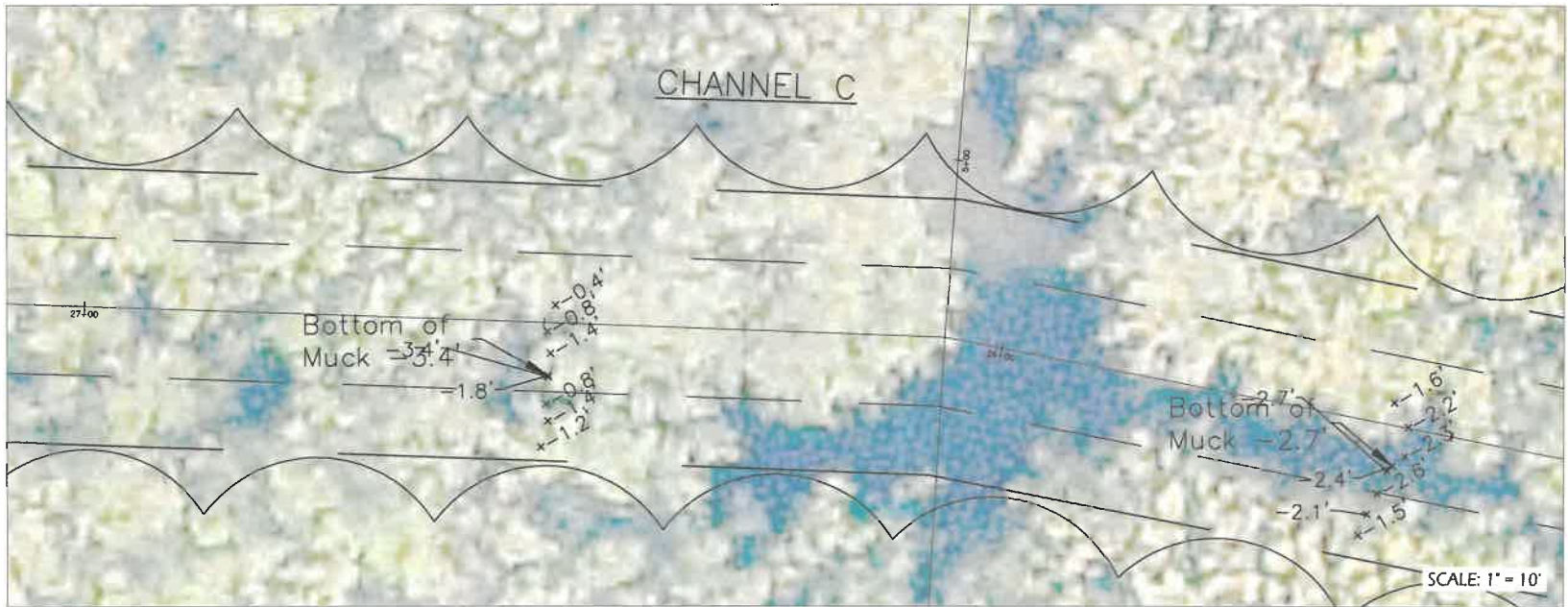
REVISION:	DATE: XX-XX-XXXX
-----------	------------------

S1.03
100% SUBMITTAL

[Signature]
5820's
11/10/2020
Date

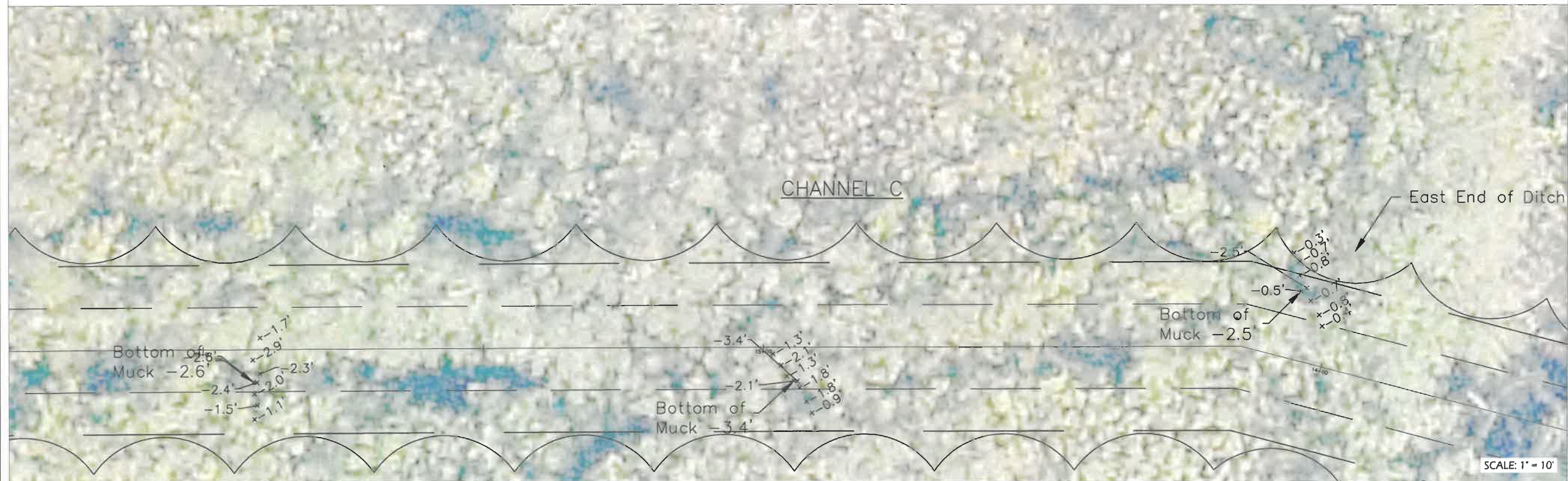


INSET ③



INSET ④

INSET 5



INSET 6

ECT Environmental Consulting & Technology, Inc.

707 East Third Ave., New Smyrna Beach, FL 32189
Phone: (386) 427-0894 Fax: (386) 427-0880

JENSEN BEACH IMPOUNDMENT MANGROVE RESTORATION

SURVEY DETAILS



SCALE:	1" = 10' @ 24" x 36"
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020
DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF

RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

S1.04

100% SUBMITTAL

[Signature]
#58205
11/11/2020
D:\4

**JENSEN BEACH
IMPOUNDMENT
MANGROVE
RESTORATION**

SURVEY DETAILS



SCALE:	1" = 10' @ 24" x 36"
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020

DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF

RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

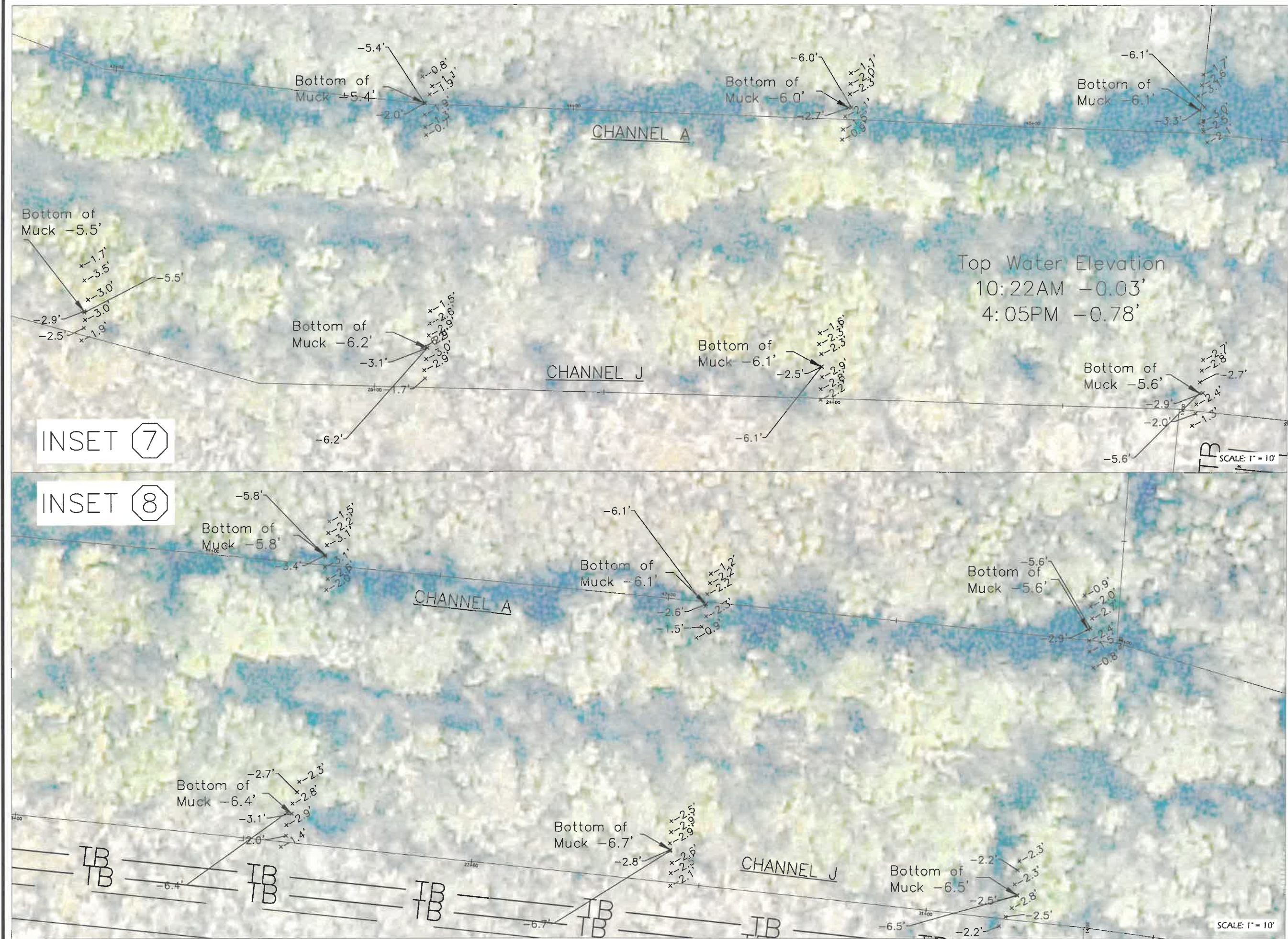
REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

\$1.05

100% SUBMITTAL

[Signature]
#58205
9/16/2020
Date



**JENSEN BEACH
IMPOUNDMENT
MANGROVE
RESTORATION**

SURVEY DETAILS



SCALE:	1" = 10' @ 24" x 36"
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020

DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF

RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

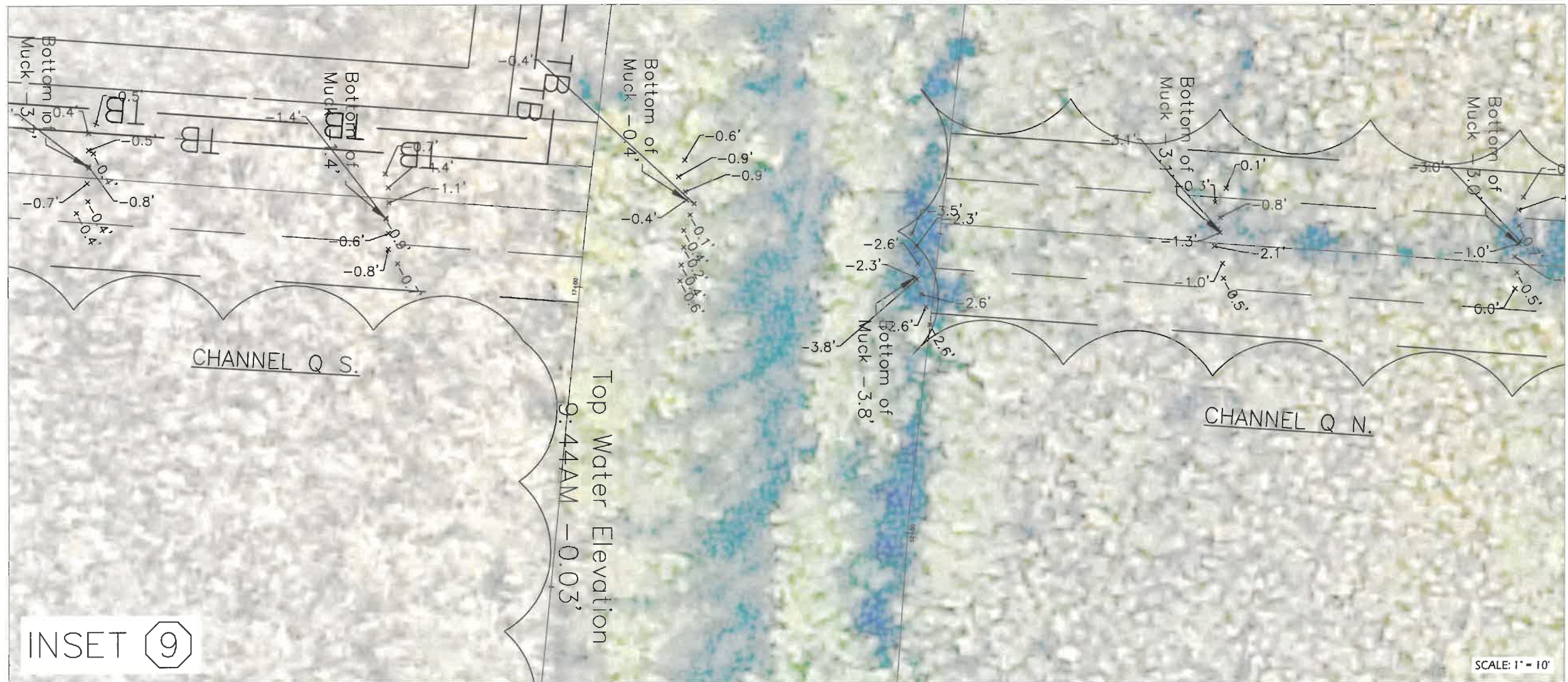
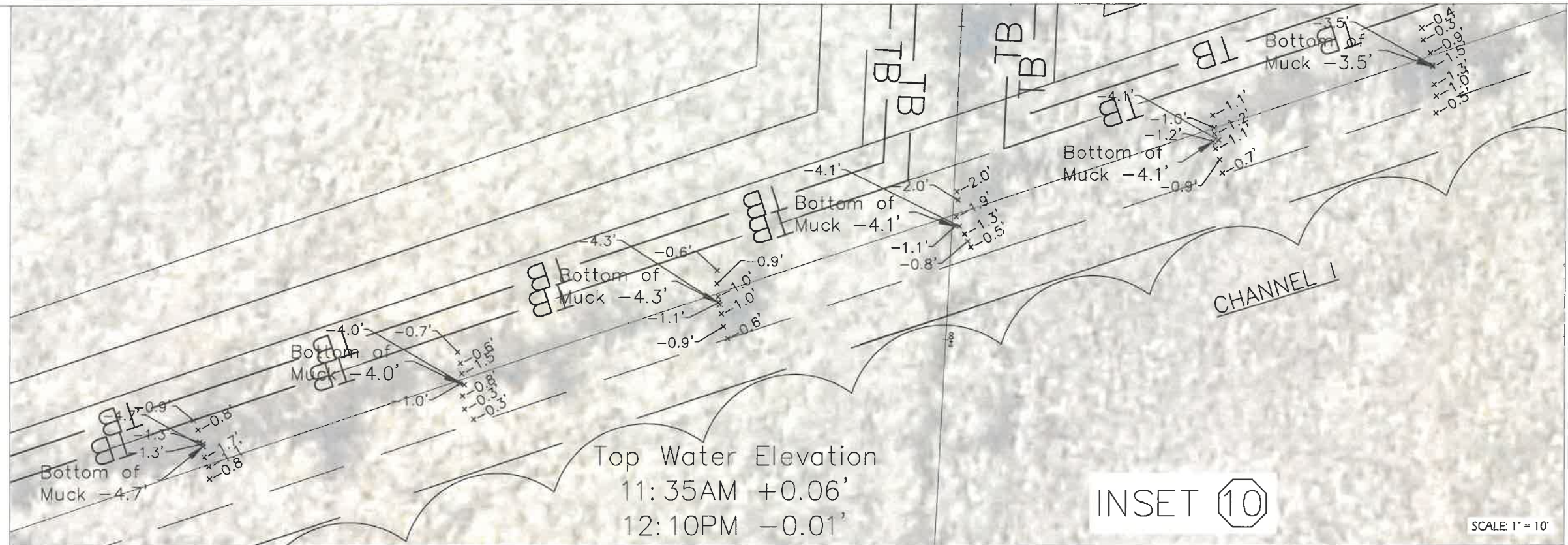
REVISION:	DATE: XX-XX-XXXX
-----------	------------------

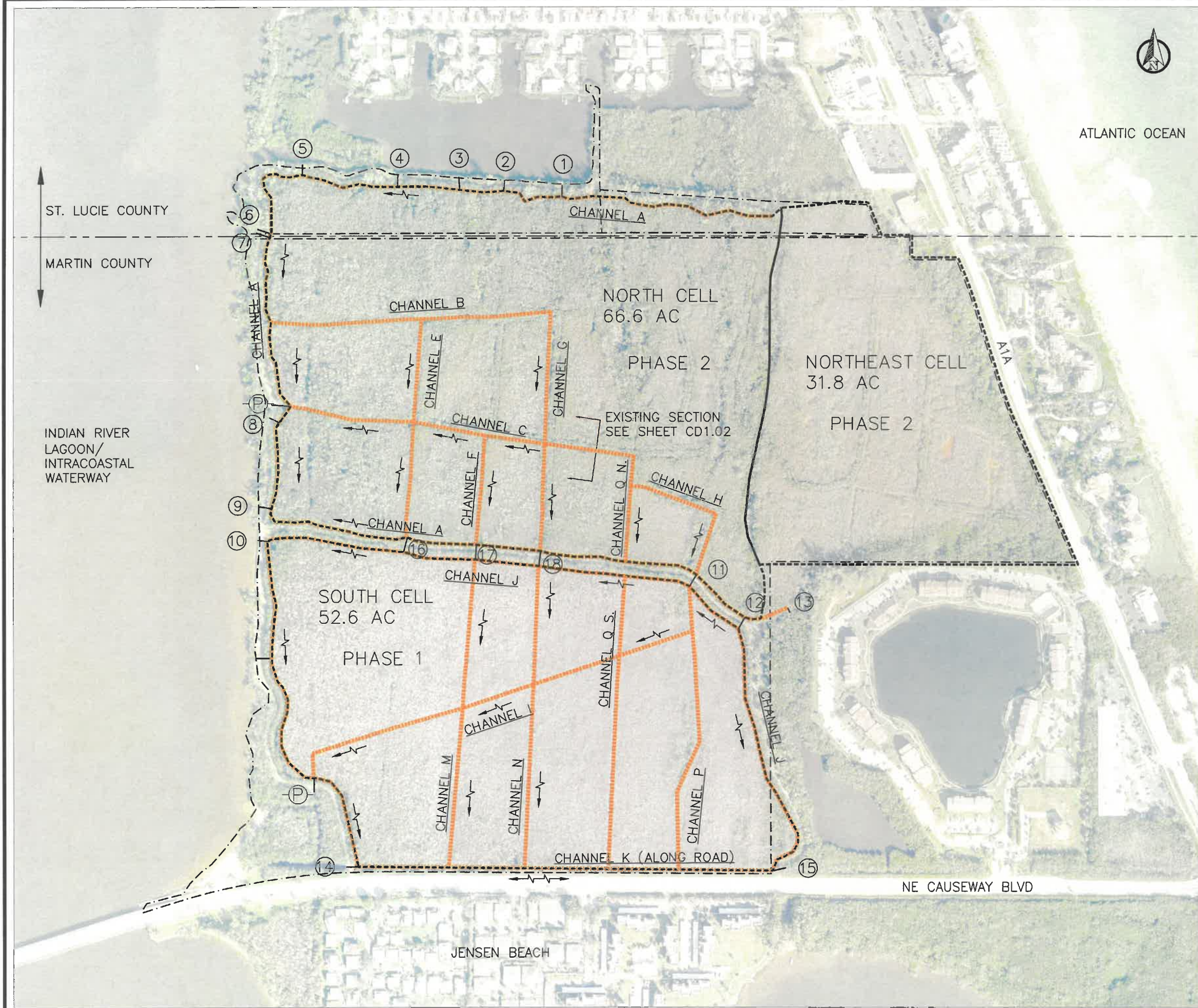
REVISION:	DATE: XX-XX-XXXX
-----------	------------------

S1.06

100% SUBMITTAL

[Signature]
#58205
7/10/2020
Date





LEGEND

COUNTY LINE

PROPERTY LINE

CELL BOUNDARY

EXISTING PIPES

EXISTING CHANNEL

(P)

EXISTING PUMPS

(1)

PIPE ID

(1)

SURVEY DETAIL ID
SEE SHEETS S1.02-S1.06

→

FLOW DIRECTION

MAP KEY

ECT Environmental Consulting & Technology, Inc.
707 East Third Ave., New Smyrna Beach, FL 32169
Phone: (386) 427-0694 Fax: (386) 427-0889

**JENSEN BEACH
IMPOUNDMENT
MANGROVE
RESTORATION**

EXISTING CONDITIONS

SCALE: 1" = 200' @ 24" x 36"

PROJECT NO.: 20-0248

PROJECT DATE: 07-2020

DESIGNED BY: DMW

DRAWN BY: JAK

CHECKED BY: DMW

APPROVED BY: CRF

RELEASED FOR PERMIT: 08-28-2020

RELEASED FOR BID: XX-XX-XXXX

RELEASED FOR CONSTRUCTION: XX-XX-XXXX

REVISION: Δ DATE: XX-XX-XXXX

REVISION: Δ DATE: XX-XX-XXXX

REVISION: Δ DATE: XX-XX-XXXX

REVISION: Δ DATE: XX-XX-XXXX

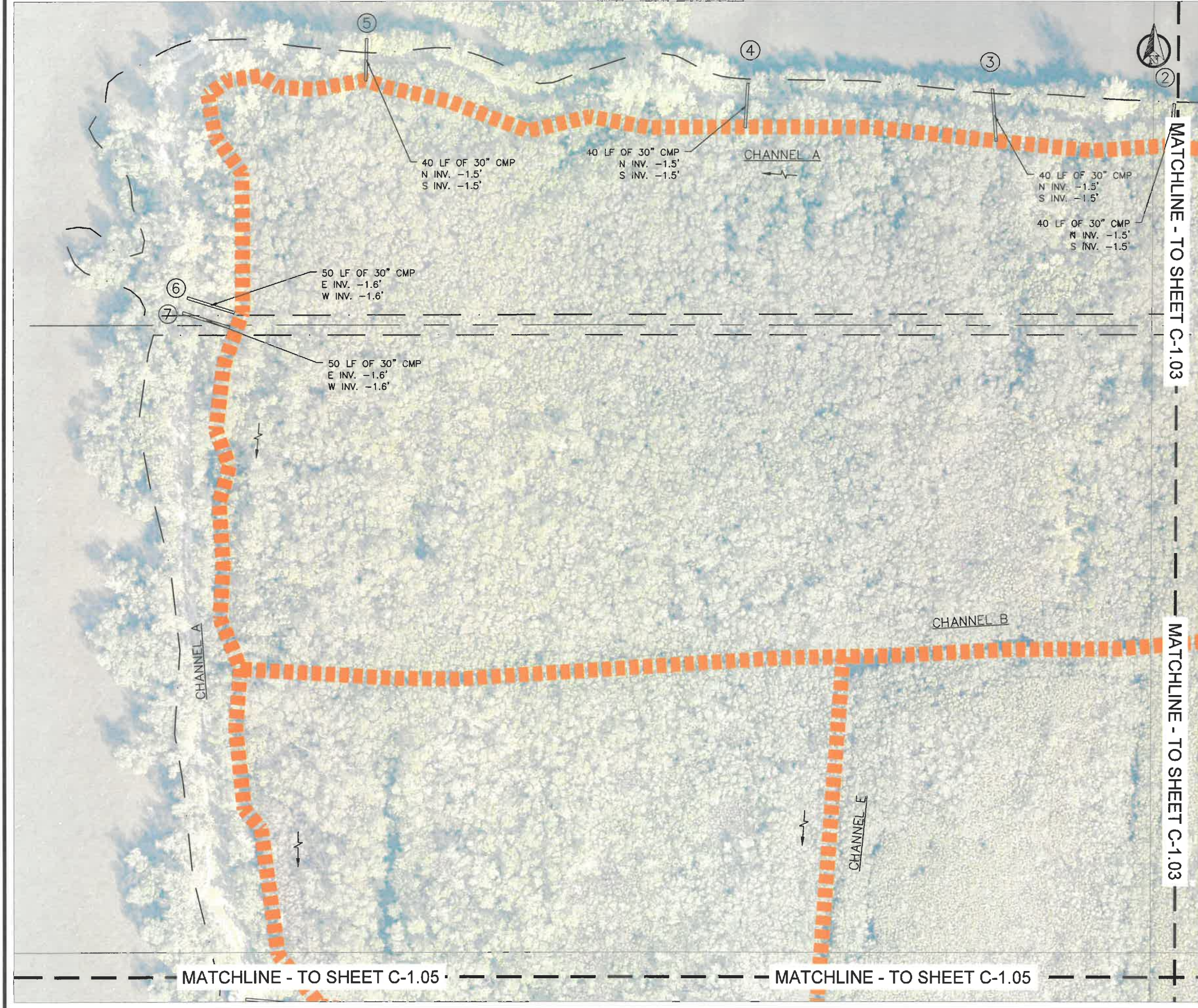
EX1.01

100% SUBMITTAL

#58205

9/10/2020

Date



LEGEND

COUNTY LINE

PROPERTY LINE

EXISTING PIPES

EXISTING CHANNEL

EXISTING PUMPS

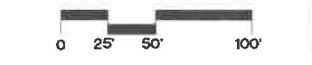
PIPE ID

FLOW DIRECTION

MAP KEY

JENSEN BEACH
IMPOUNDMENT
MANGROVE
RESTORATION

EXISTING CONDITIONS



SCALE:	1" = 50' @ 24" x 36"
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020

DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF

RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX

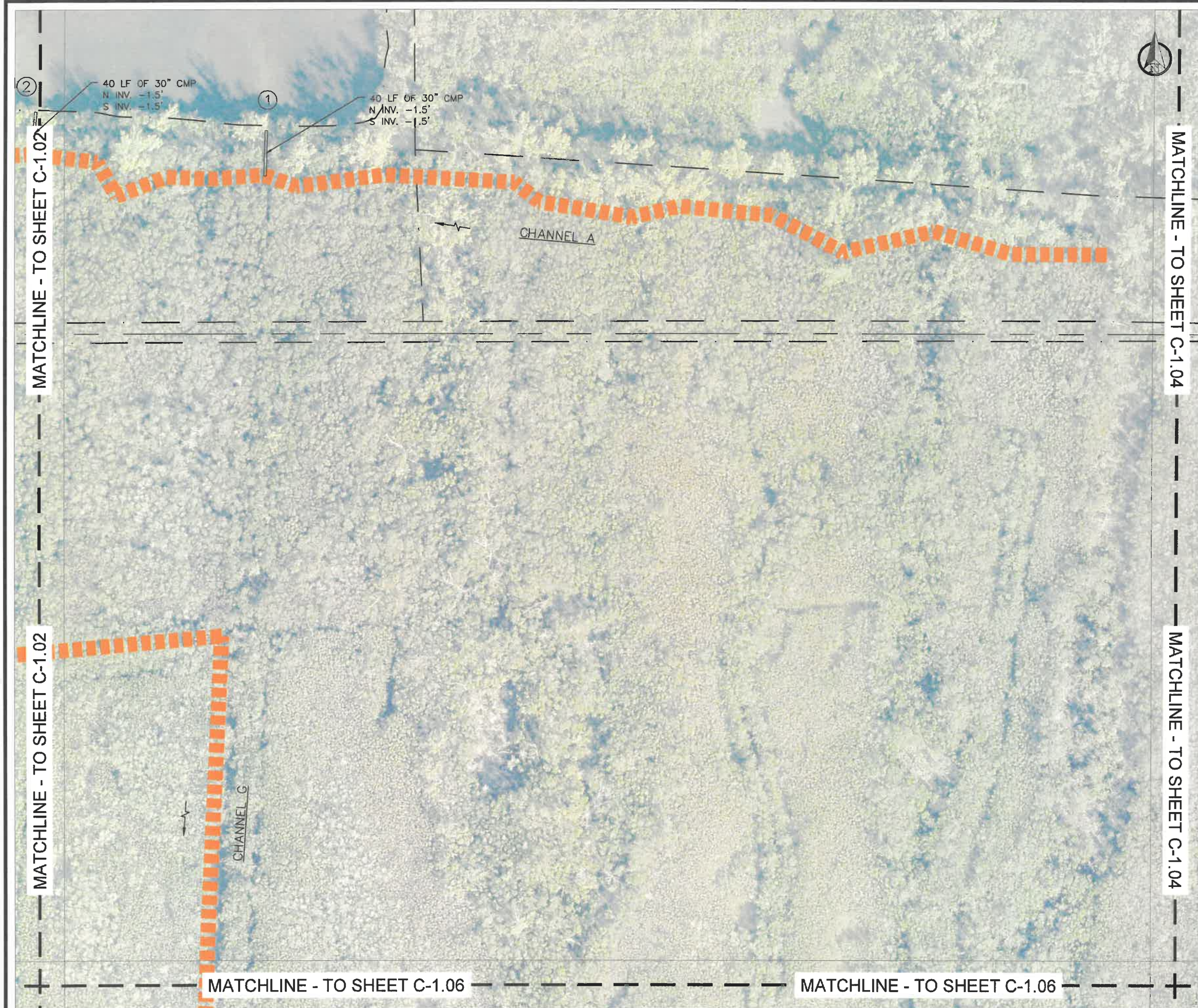
REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

EX1.02
100% SUBMITTAL

#58205
9/10/2020
Date



LEGEND

COUNTY LINE

PROPERTY LINE

EXISTING PIPES

EXISTING CHANNEL

EXISTING PUMPS

PIPE ID

FLOW DIRECTION

MAP KEY

ECT Environmental Consulting & Technology, Inc.

707 East Third Ave., New Smyrna Beach, FL 32169
Phone: (386) 427-0894 Fax: (386) 427-0899

JENSEN BEACH IMPOUNDMENT MANGROVE RESTORATION

EXISTING CONDITIONS

0 25' 50' 100'

SCALE:	1" = 50' @ 24" x 36"
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020
DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF
RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX

EX1.03

100% SUBMITTAL

#58205

9/10/2020

Date



LEGEND

- COUNTY LINE
- PROPERTY LINE
- EXISTING PIPES
- EXISTING CHANNEL
- EXISTING PUMPS
- PIPE ID
- FLOW DIRECTION



707 East Third Ave., New Smyrna Beach, FL 32189
Phone: (386) 427-0694 Fax: (386) 427-0889

JENSEN BEACH
IMPOUNDMENT
MANGROVE
RESTORATION

EXISTING CONDITIONS



SCALE:	1" = 50' @ 24" x 36"
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020

DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF

RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

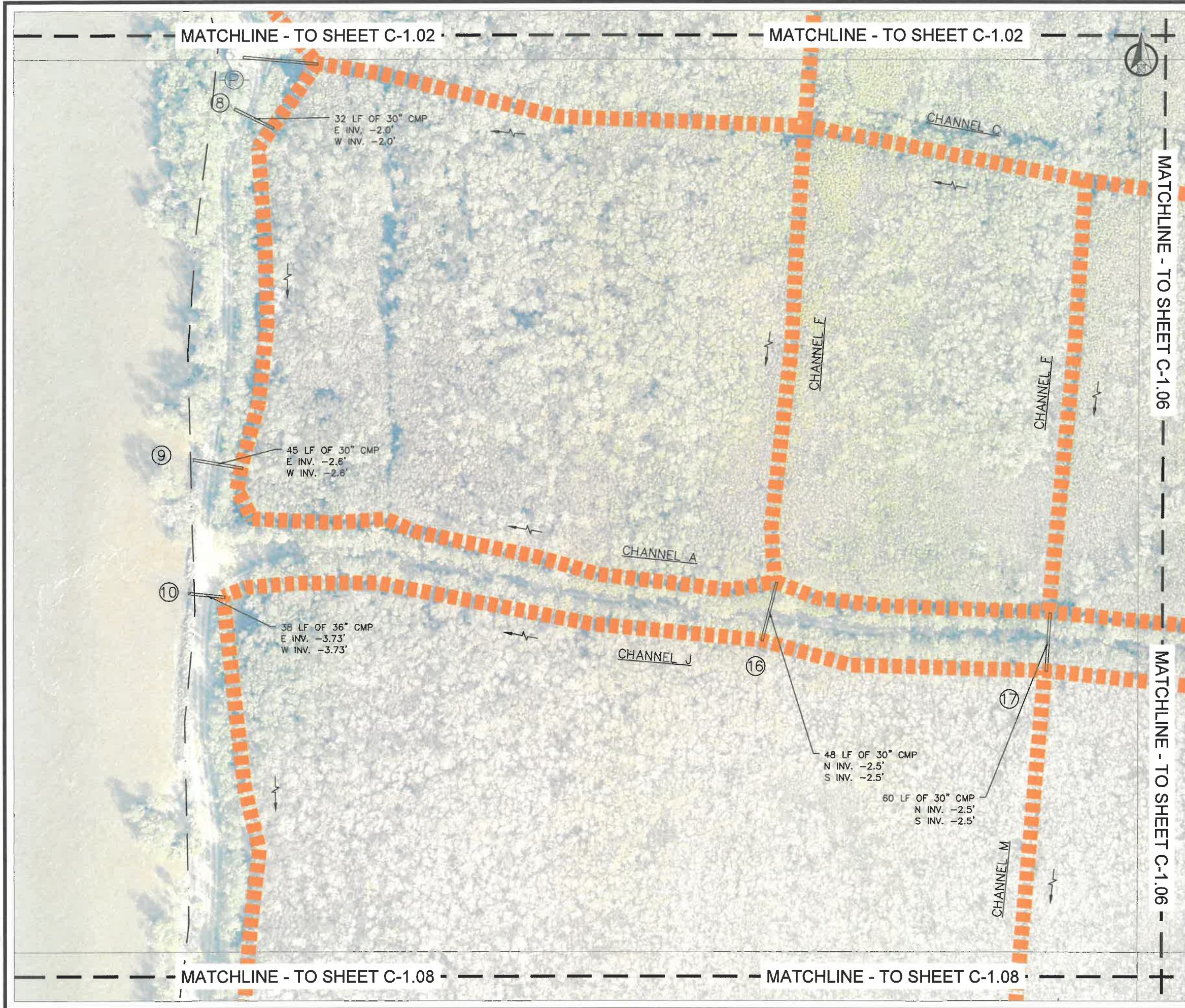
REVISION:	DATE: XX-XX-XXXX
-----------	------------------

MAP KEY



EX1.04
100% SUBMITTAL

[Signature]
#53205
2/10/2020
Date



LEGEND

COUNTY LINE

PROPERTY LINE

EXISTING PIPES

EXISTING CHANNEL

EXISTING PUMPS

PIPE ID

FLOW DIRECTION

MAP KEY

ECT Environmental Consulting & Technology, Inc.

707 East Third Ave., New Smyrna Beach, FL 32189
Phone: (386) 427-0894 Fax: (386) 427-0889

JENSEN BEACH IMPOUNDMENT MANGROVE RESTORATION

EXISTING CONDITIONS

0 25' 50' 100'

SCALE:	1" = 50' @ 24" x 36"
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020
DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF
RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX

EX1.05

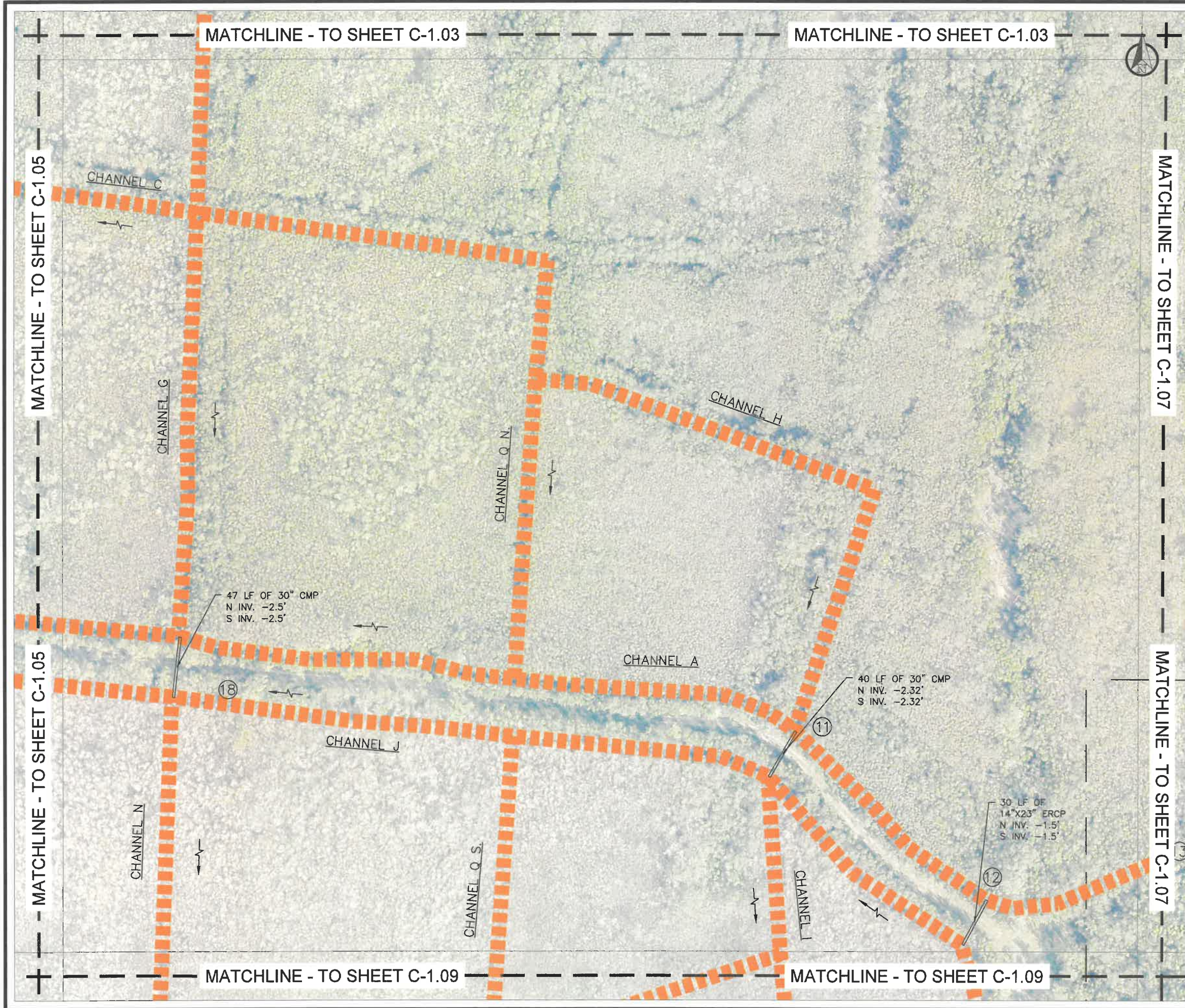
100% SUBMITTAL

[Signature]

#58205

2/10/2020

Date



LEGEND

COUNTY LINE

PROPERTY LINE

EXISTING PIPES

EXISTING CHANNEL

EXISTING PUMPS

PIPE ID

FLOW DIRECTION

MAP KEY

ECT Environmental Consulting & Technology, Inc.

707 East Third Ave., New Smyrna Beach, FL 32189
Phone: (386) 427-0694 Fax: (386) 427-0889

JENSEN BEACH IMPOUNDMENT MANGROVE RESTORATION

EXISTING CONDITIONS

0 25' 50' 100'

SCALE:	1" = 50' @ 24" x 36"
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020
DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF

RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX

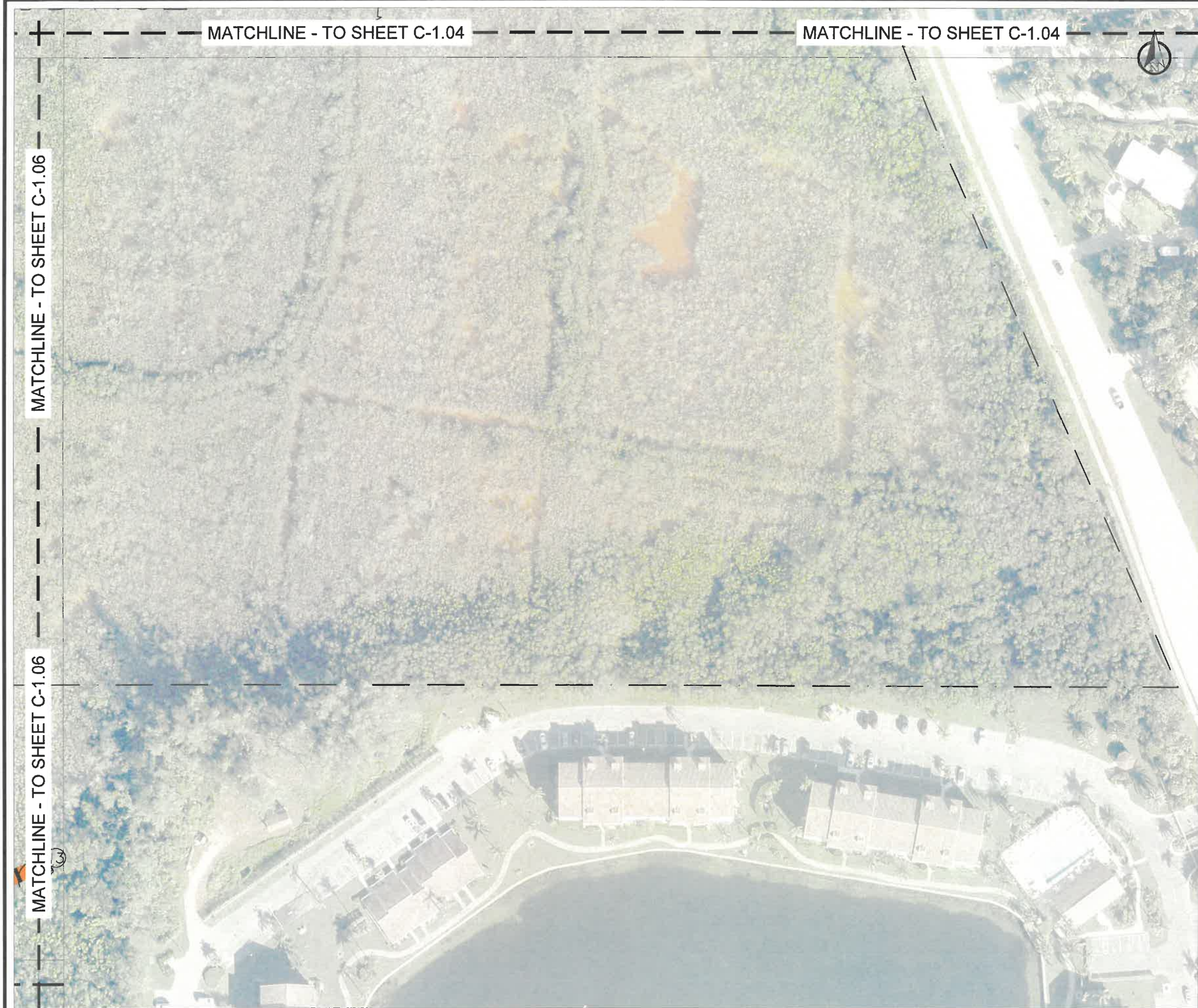
EX1.06

100% SUBMITTAL

#58205

9/10/2020

Date



LEGEND

COUNTY LINE

PROPERTY LINE

EXISTING PIPES

EXISTING CHANNEL

EXISTING PUMPS

PIPE ID

FLOW DIRECTION

MAP KEY

ECT Environmental Consulting & Technology, Inc.

707 East Third Ave., New Smyrna Beach, FL 32169
Phone: (386) 427-0894 Fax: (386) 427-0889

**JENSEN BEACH
IMPOUNDMENT
MANGROVE
RESTORATION**

EXISTING CONDITIONS

0 25' 50' 100'

SCALE:	1" = 50' @ 24" x 36"
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020
DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF
RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX

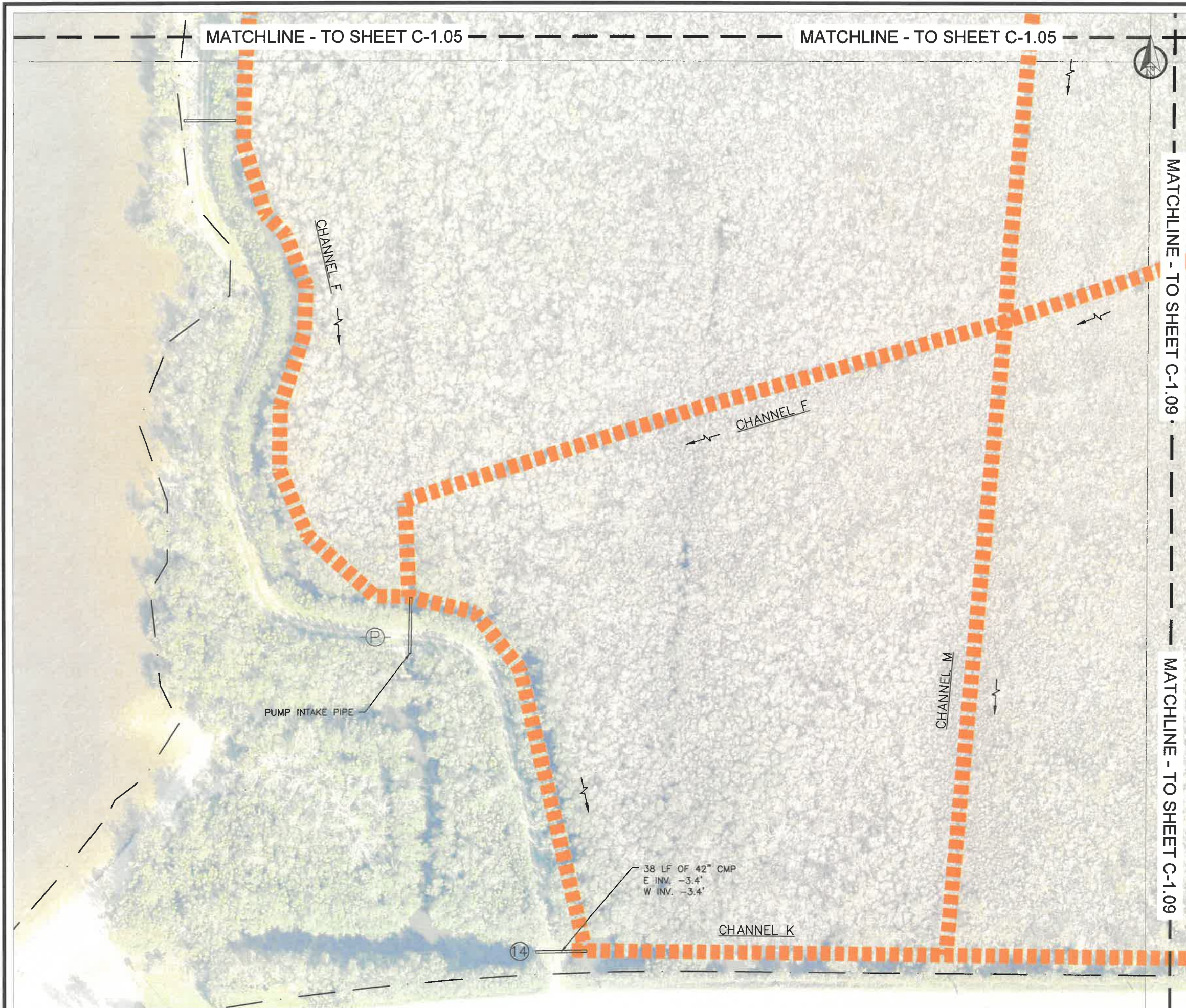
EX1.07

100% SUBMITTAL

#58205

7/10/2020

Date



LEGEND

COUNTY LINE

PROPERTY LINE

EXISTING PIPES

EXISTING CHANNEL

EXISTING PUMPS

PIPE ID

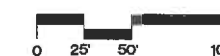
FLOW DIRECTION

ECT Environmental
Consulting &
Technology, Inc.

707 East Third Ave., New Smyrna Beach, FL 32189
Phone: (386) 427-0694 Fax: (386) 427-0889

JENSEN BEACH IMPOUNDMENT MANGROVE RESTORATION

EXISTING CONDITIONS



SCALE:	1" = 50' @ 24" x 36"
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020

DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF

RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

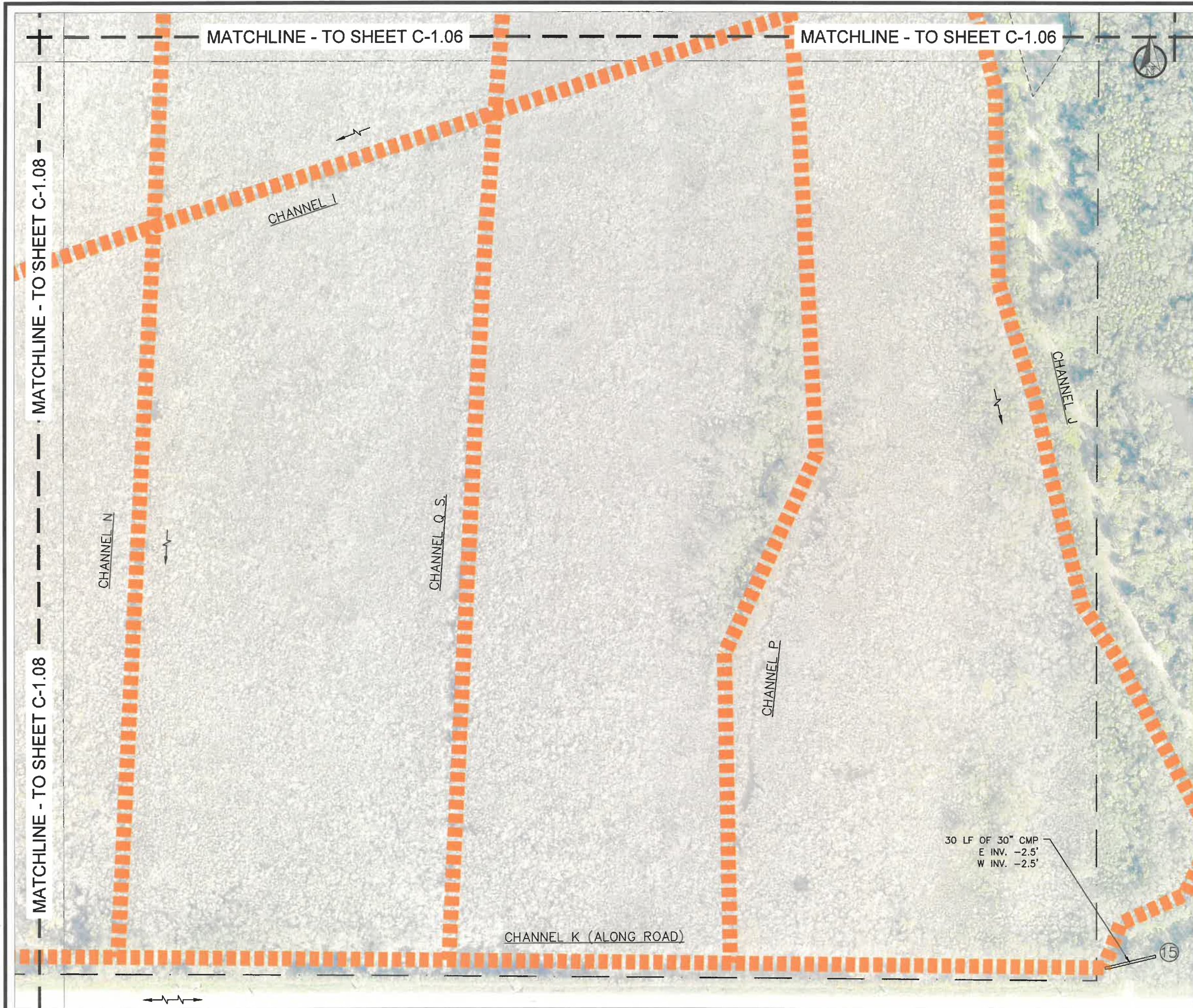
MAP KEY



EX1.08

100% SUBMITTAL

[Signature]
#58205
11/10/2020
Date



LEGEND

COUNTY LINE

PROPERTY LINE

EXISTING PIPES

EXISTING CHANNEL

EXISTING PUMPS

PIPE ID

FLOW DIRECTION

MAP KEY

ECT Environmental Consulting & Technology, Inc.

707 East Third Ave., New Smyrna Beach, FL 32189
Phone: (386) 427-0694 Fax: (386) 427-0889

JENSEN BEACH IMPOUNDMENT MANGROVE RESTORATION

EXISTING CONDITIONS

0 25' 50' 100'

SCALE:	1" = 50' @ 24" x 36"
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020
DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF
RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX

EX1.09

100% SUBMITTAL

[Signature]

#58205

[Signature]

Date: *[Signature]*



JENSEN BEACH
IMPOUNDMENT
MANGROVE
RESTORATION

EXISTING CONDITIONS



SCALE:	1" = 200' @ 24" x 36"
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020

DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF

RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

EX1.10
100% SUBMITTAL

[Signature]

REVISED

[Signature]

Date

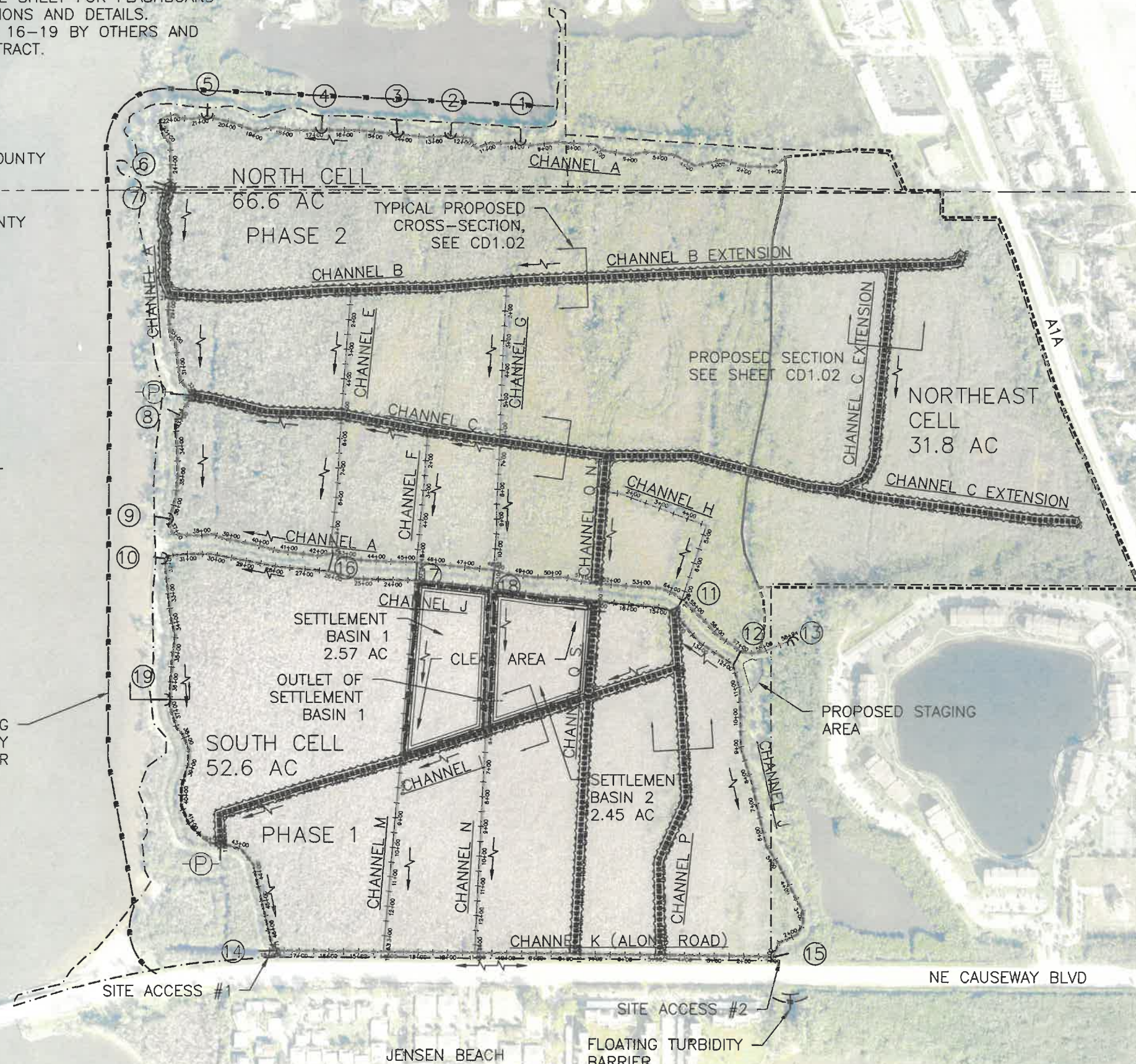
STRUCTURES 1-10 AND 14-15 TO BE MODIFIED PER DETAIL ON SHEET CD1.04. SEE SHEET FOR FLASHBOARD RISER LOCATIONS AND DETAILS. STRUCTURES 16-19 BY OTHERS AND NOT IN CONTRACT.

ST. LUCIE COUNTY

MARTIN COUNTY

INDIAN RIVER LAGOON/
INTRACOASTAL
WATERWAY

FLOATING
TURBIDITY
BARRIER



ATLANTIC OCEAN

NE CAUSEWAY BLVD

JENSEN BEACH

FLOATING TURBIDITY
BARRIER



LEGEND

- COUNTY LINE
- PROPERTY LINE
- EXISTING PIPES
- EXISTING CHANNEL
- CHANNEL CENTER LINE
- EXISTING PUMPS
- PIPE ID
- PROPOSED LIMITS OF CLEARING
- DITCH TO BE DREDGED
- PROPOSED DITCH TOB
- PROPOSED DREDGED TOS
- TURBIDITY BARRIER
- FLOW DIRECTION

MAP KEY



ECT Environmental
Consulting &
Technology, Inc.

707 East Third Ave., New Smyrna Beach, FL 32169
Phone: (386) 427-0694 Fax: (386) 427-0889

JENSEN BEACH IMPOUNDMENT MANGROVE RESTORATION

PROPOSED CONDITIONS OVERALL PLAN



SCALE:	1" = 200' @ 24" x 36"
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020

DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF

RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

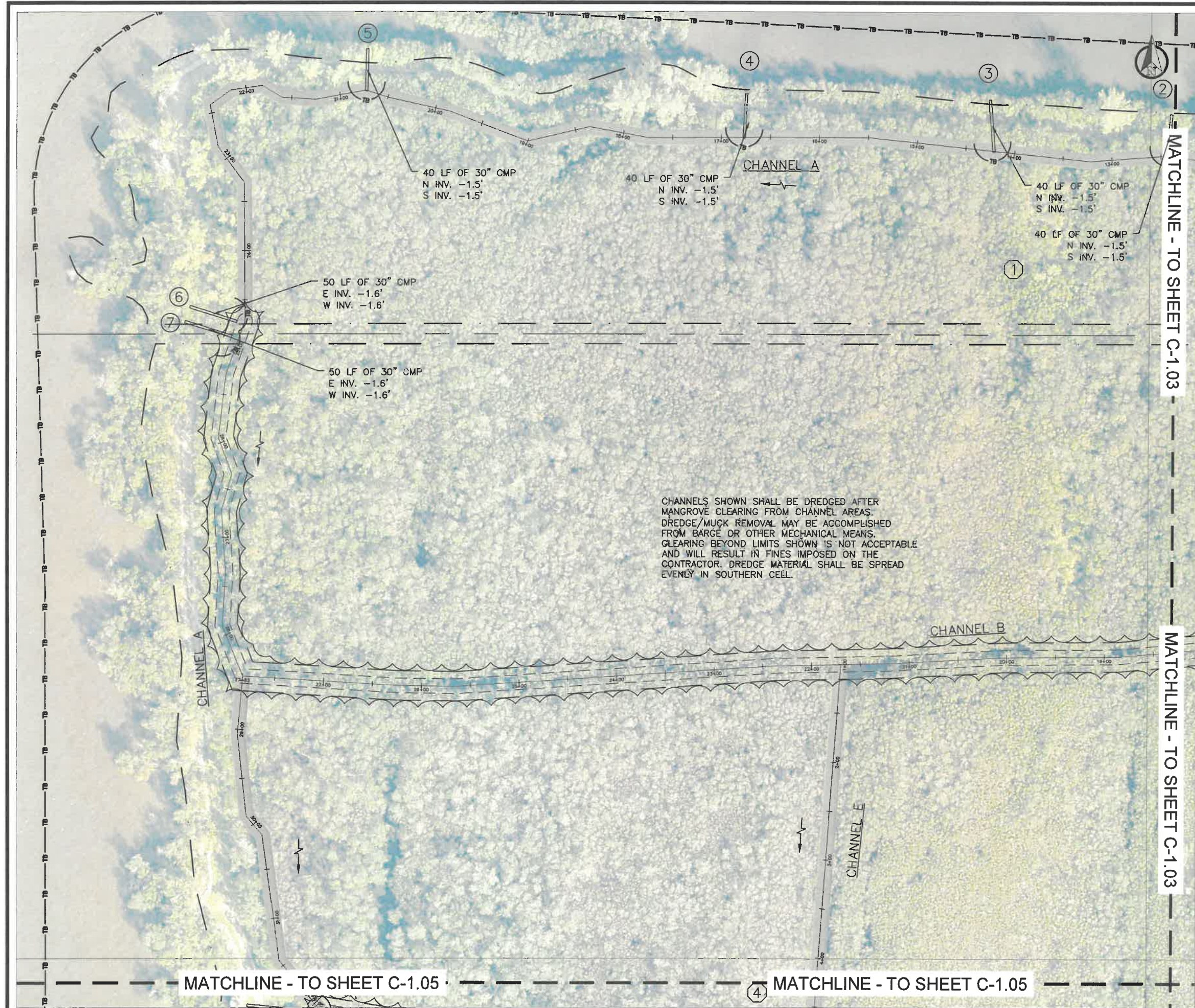
C1.01

100% SUBMITTAL

Signature

#58205

01/10/2020
Date



LEGEND

COUNTY LINE

PROPERTY LINE

EXISTING PIPES

EXISTING CHANNEL

CHANNEL CENTERLINE

EXISTING PUMPS

PIPE ID

PROPOSED LIMITS OF CLEARING

PROPOSED DITCH TOB

PROPOSED DREDGED TOS

TURBIDITY BARRIER

FLOW DIRECTION

MAP KEY



ECT Environmental Consulting & Technology, Inc.

707 East Third Ave., New Smyrna Beach, FL 32189
Phone: (386) 427-0694 Fax: (386) 427-0889

JENSEN BEACH IMPOUNDMENT MANGROVE RESTORATION

PROPOSED CONDITIONS



SCALE:	1" = 50' @ 24" x 36"
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020

DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF

RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

C1.02

100% SUBMITTAL

[Signature]
#58205
9/10/2020
Date



LEGEND

- COUNTY LINE
- PROPERTY LINE
- EXISTING PIPES
- EXISTING CHANNEL
- CHANNEL CENTERLINE
- EXISTING PUMPS
- PIPE ID
- PROPOSED LIMITS OF CLEARING
- PROPOSED DITCH TOB
- PROPOSED DREDGED TOS
- TURBIDITY BARRIER
- FLOW DIRECTION

MAP KEY



707 East Third Ave., New Smyrna Beach, FL 32169
Phone: (386) 427-0694 Fax: (386) 427-0889

JENSEN BEACH
IMPOUNDMENT
MANGROVE
RESTORATION

PROPOSED CONDITIONS



SCALE:	1" = 50' @ 24" x 36"
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020

DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF

RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

C1.03

100% SUBMITTAL

Signature

#58205

9/16/2020
Date



LEGEND

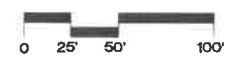
- COUNTY LINE
- PROPERTY LINE
- EXISTING PIPES
- EXISTING CHANNEL
- CHANNEL CENTERLINE
- EXISTING PUMPS
- PIPE ID
- PROPOSED LIMITS OF CLEARING
- PROPOSED DITCH TOB
- PROPOSED DREDGED TOS
- TURBIDITY BARRIER
- FLOW DIRECTION



707 East Third Ave., New Smyrna Beach, FL 32169
Phone: (386) 427-0694 Fax: (386) 427-0889

JENSEN BEACH IMPOUNDMENT MANGROVE RESTORATION

PROPOSED CONDITIONS



SCALE:	1" = 50' @ 24" x 36"
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020

DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF

RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

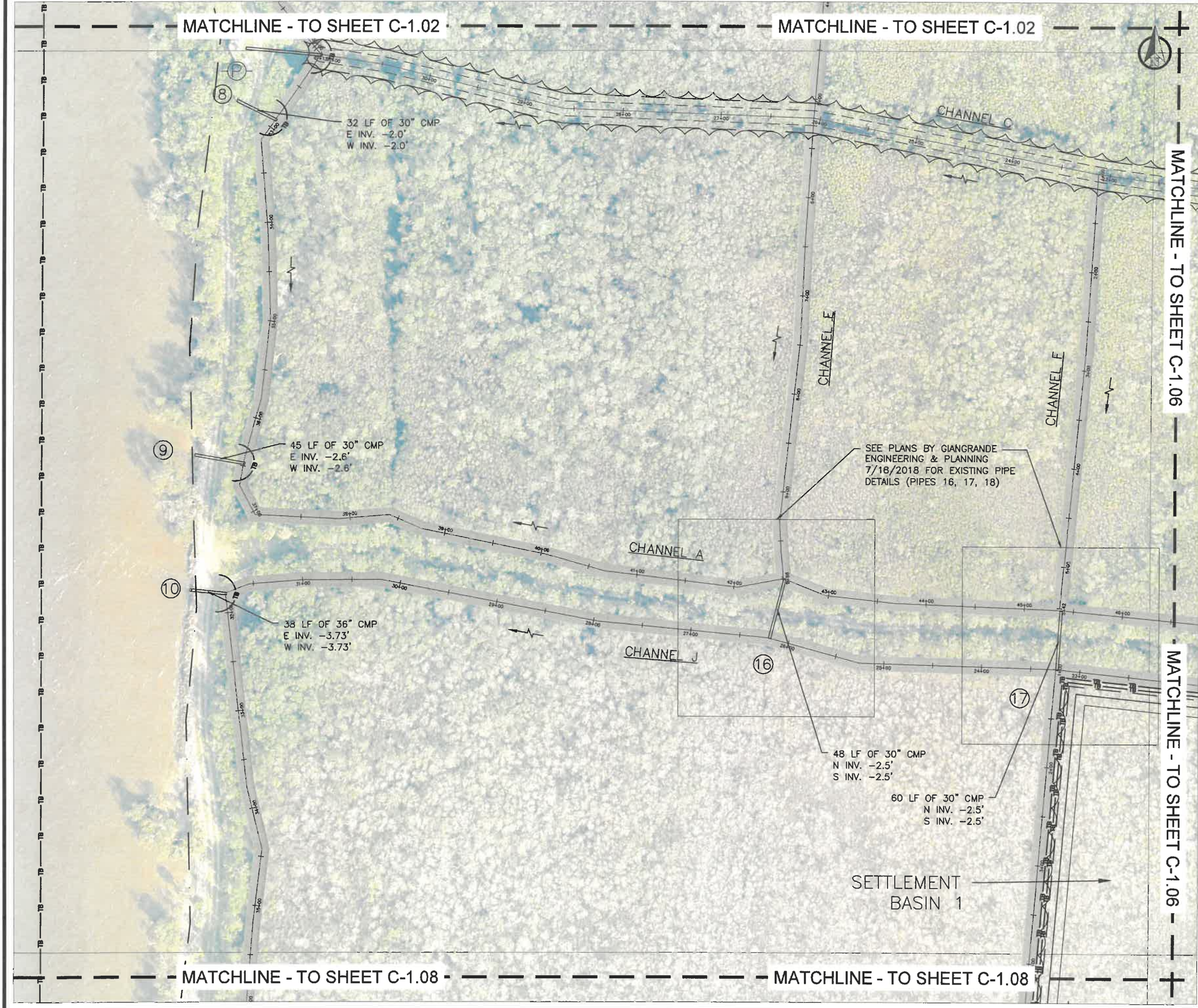
REVISION:	DATE: XX-XX-XXXX
-----------	------------------

MAP KEY



C1.04
100% SUBMITTAL

[Signature]
#58205
at 10/10/2020
Date



LEGEND

- COUNTY LINE
- PROPERTY LINE
- EXISTING PIPES
- EXISTING CHANNEL
- CHANNEL CENTERLINE
- EXISTING PUMPS
- PIPE ID
- PROPOSED LIMITS OF CLEARING
- PROPOSED DITCH TOB
- PROPOSED DREDGED TOS
- TURBIDITY BARRIER
- FLOW DIRECTION

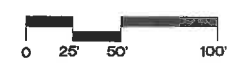
MAP KEY



707 East Third Ave., New Smyrna Beach, FL 32169
Phone: (386) 427-0894 Fax: (386) 427-0889

**JENSEN BEACH
IMPOUNDMENT
MANGROVE
RESTORATION**

PROPOSED CONDITIONS



SCALE:	1" = 50' @ 24" x 36"
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020

DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF

RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

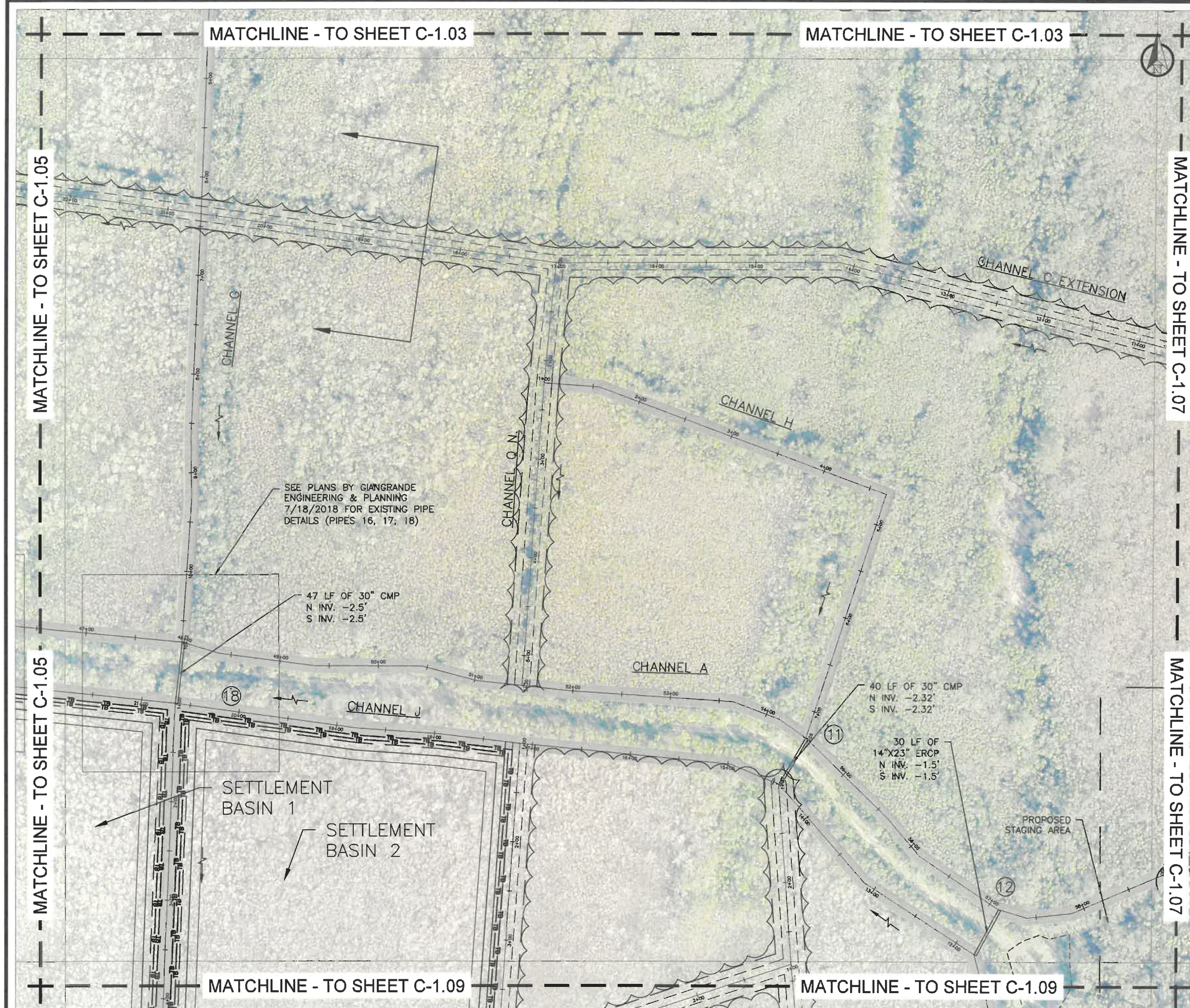
REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

**C1.05
100% SUBMITTAL**

[Signature]

#58205
a/10/2020
Date



LEGEND

COUNTY LINE

PROPERTY LINE

EXISTING PIPES

EXISTING CHANNEL

CHANNEL CENTERLINE

EXISTING PUMPS

PIPE ID

PROPOSED LIMITS OF CLEARING

PROPOSED DITCH TOB

PROPOSED DREDGED TOS

TURBIDITY BARRIER

FLOW DIRECTION

MAP KEY



707 East Third Ave., New Smyrna Beach, FL 32189
Phone: (386) 427-0894 Fax: (386) 427-0889

JENSEN BEACH IMPOUNDMENT MANGROVE RESTORATION

PROPOSED CONDITIONS



SCALE:	1" = 50' @ 24" x 36"
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020

DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF

RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

C1.06
100% SUBMITTAL

[Signature]
#58205
Date



LEGEND

- COUNTY LINE
- PROPERTY LINE
- EXISTING PIPES
- EXISTING CHANNEL
- CHANNEL CENTERLINE
- EXISTING PUMPS
- PIPE ID
- PROPOSED LIMITS OF CLEARING
- PROPOSED DITCH TOB
- PROPOSED DREDGED TOS
- TURBIDITY BARRIER
- FLOW DIRECTION

MAP KEY



ECT Environmental Consulting & Technology, Inc.
707 East Third Ave., New Smyrna Beach, FL 32189
Phone: (386) 427-0694 Fax: (386) 427-0889

JENSEN BEACH IMPOUNDMENT MANGROVE RESTORATION

PROPOSED CONDITIONS



SCALE:	1" = 50' @ 24" x 36"
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020

DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF

RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX

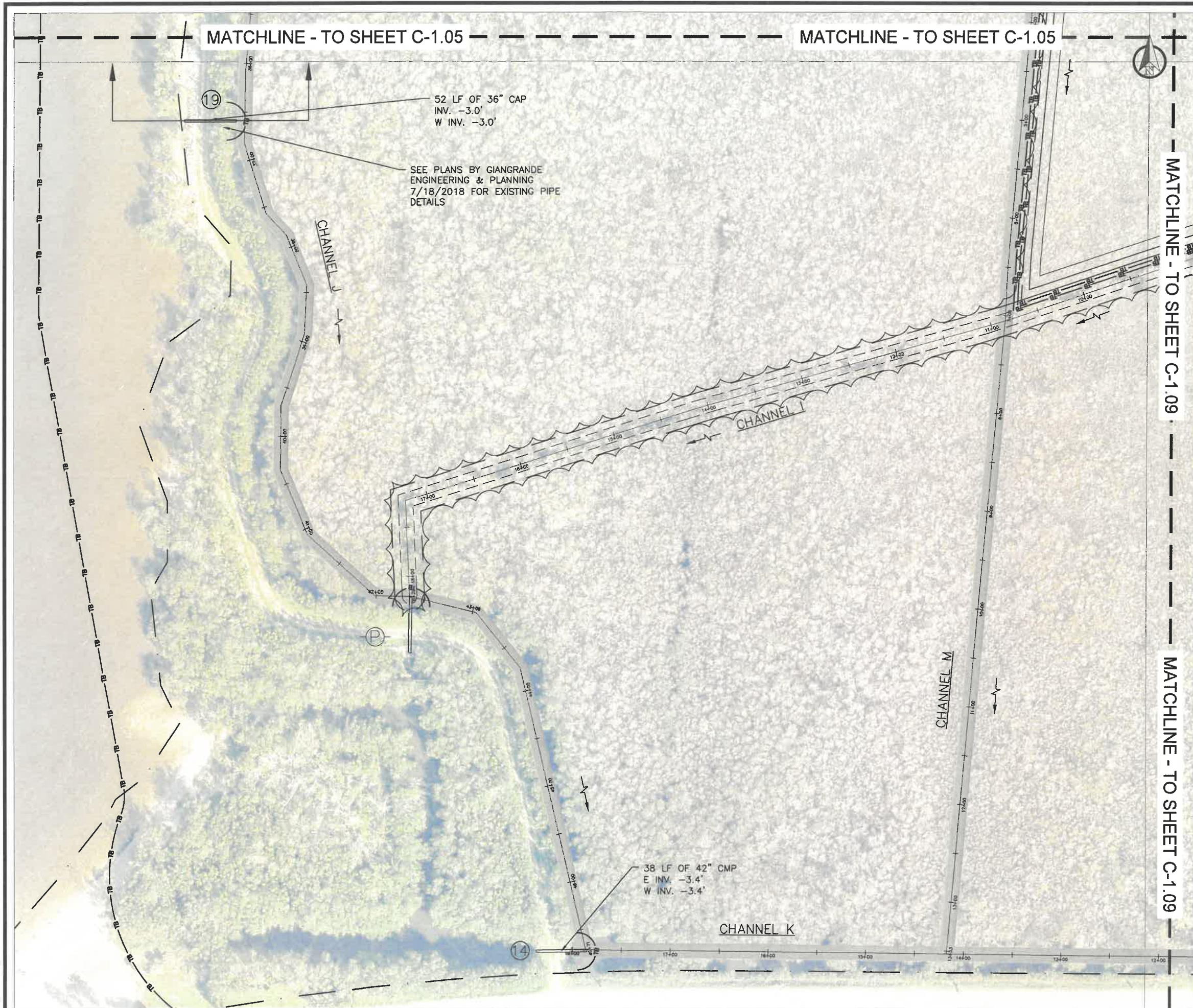
REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

C1.07
100% SUBMITTAL

Qill
#58205
9/10/2020



LEGEND

COUNTY LINE

PROPERTY LINE

EXISTING PIPES

EXISTING CHANNEL

CHANNEL CENTERLINE

EXISTING PUMPS

PIPE ID

PROPOSED LIMITS OF CLEARING

PROPOSED DITCH TOB

PROPOSED DREDGED TOS

TURBIDITY BARRIER

FLOW DIRECTION

MAP KEY

ECT Environmental
Consulting &
Technology, Inc.

707 East Third Ave., New Smyrna Beach, FL 32189
Phone: (386) 427-0694 Fax: (386) 427-0889

**JENSEN BEACH
IMPOUNDMENT
MANGROVE
RESTORATION**

PROPOSED CONDITIONS



SCALE:	1" = 50' @ 24" x 36"
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020

DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF

RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX

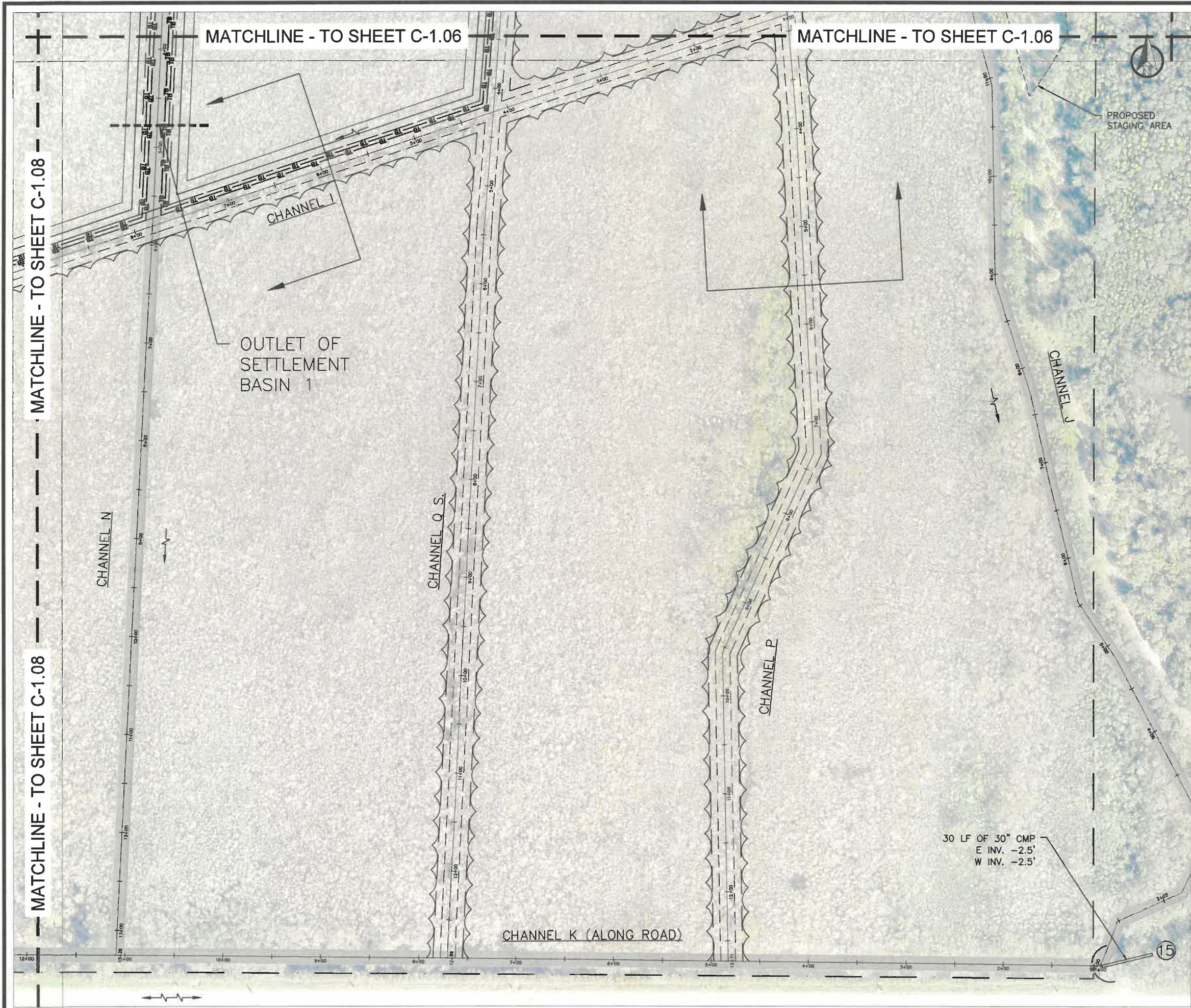
REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

C1.08
100% SUBMITTAL

[Signature]
#58205
9/10/2020
Date



LEGEND

COUNTY LINE

PROPERTY LINE

EXISTING PIPES

EXISTING CHANNEL

CHANNEL CENTERLINE

EXISTING PUMPS

PIPE ID

PROPOSED LIMITS OF CLEARING

PROPOSED DITCH TOB

PROPOSED DREDGED TOS

TURBIDITY BARRIER

FLOW DIRECTION

MAP KEY

ECT Environmental Consulting & Technology, Inc.
707 East Third Ave., New Smyrna Beach, FL 32169
Phone: (386) 427-0694 Fax: (386) 427-0889

JENSEN BEACH IMPOUNDMENT MANGROVE RESTORATION

PROPOSED CONDITIONS

SCALE: 1" = 50' @ 24" x 36"

PROJECT NO.: 20-0248

PROJECT DATE: 07-2020

DESIGNED BY: DMW

DRAWN BY: JAK

CHECKED BY: DMW

APPROVED BY: CRF

RELEASED FOR PERMIT: 08-28-2020

RELEASED FOR BID: XX-XX-XXXX

RELEASED FOR CONSTRUCTION: XX-XX-XXXX

REVISION: DATE: XX-XX-XXXX

REVISION: DATE: XX-XX-XXXX

REVISION: DATE: XX-XX-XXXX

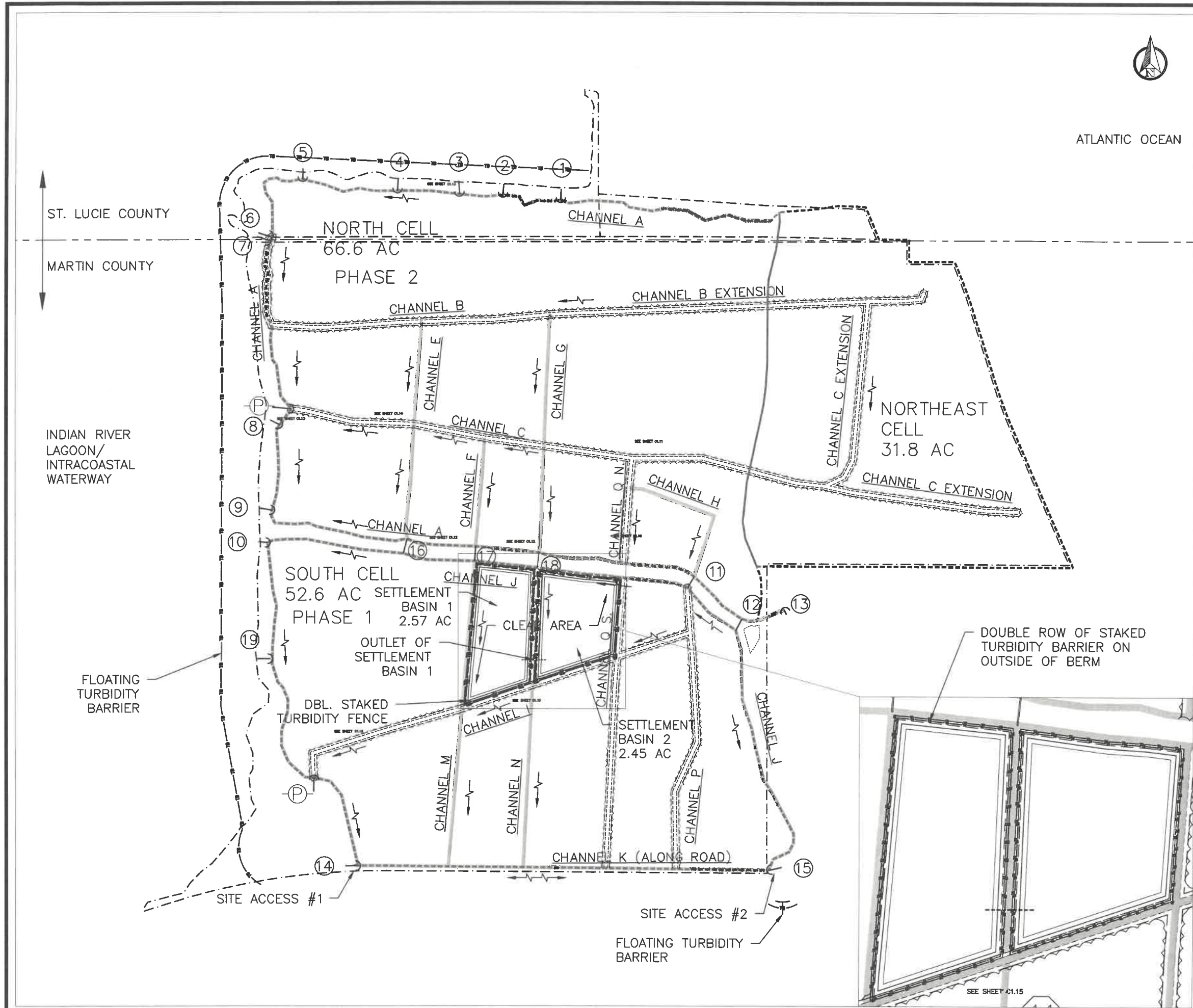
REVISION: DATE: XX-XX-XXXX

C1.09

100% SUBMITTAL

9/10/2020

Date



ATLANTIC OCEAN

ST. LUCIE COUNTY

MARTIN COUNTY

INDIAN RIVER LAGOON/
INTRACOASTAL WATERWAY

LEGEND

- COUNTY LINE
- PROPERTY LINE
- EXISTING PIPES
- EXISTING CHANNEL
- CHANNEL CENTER LINE
- EXISTING PUMPS
- PIPE ID
- PROPOSED LIMITS OF CLEARING
- DITCH TO BE DREDGED
- PROPOSED DITCH TOB
- PROPOSED DREDGED TOS
- TURBIDITY BARRIER
- FLOW DIRECTION

ECT Environmental Consulting & Technology, Inc.

707 East Third Ave., New Smyrna Beach, FL 32169
Phone: (386) 427-0694 Fax: (386) 427-0889

JENSEN BEACH IMPOUNDMENT MANGROVE RESTORATION

EROSION & SEDIMENT CONTROL PLAN



SCALE:	1" = 200' @ 24" x 36"
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020

DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF

RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX

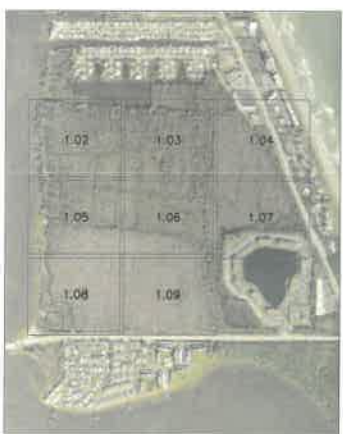
REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

MAP KEY



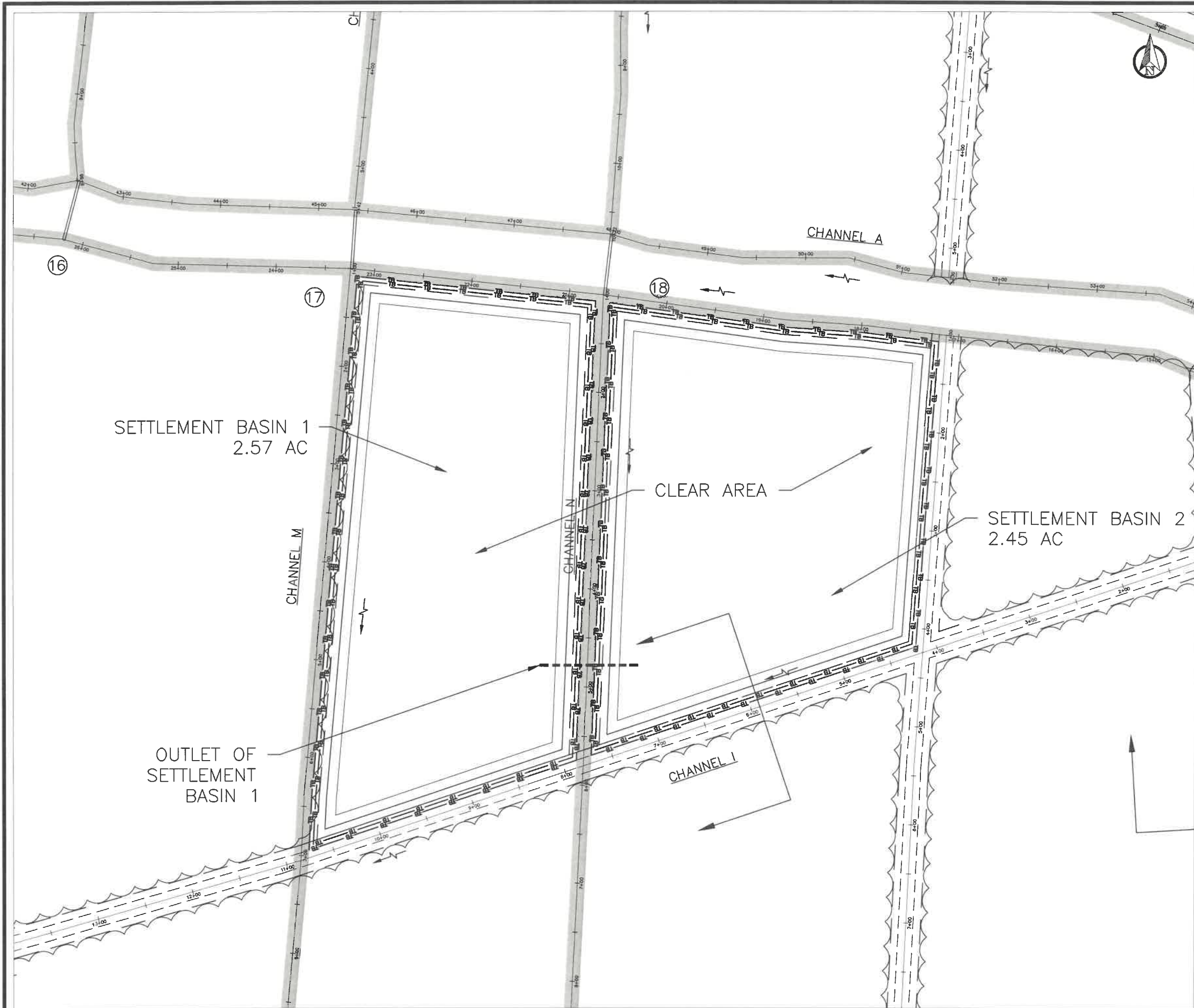
ESC1.01

100% SUBMITTAL

[Signature]

#58205

[Signature]
Date



LEGEND

COUNTY LINE

PROPERTY LINE

EXISTING PIPES

EXISTING CHANNEL

CHANNEL CENTERLINE

EXISTING PUMPS

PIPE ID

PROPOSED LIMITS OF CLEARING

PROPOSED DITCH TOB

PROPOSED DREDGED TOS

TURBIDITY BARRIER

FLOW DIRECTION

MAP KEY

ECT Environmental Consulting & Technology, Inc.
707 East Third Ave., New Smyrna Beach, FL 32169
Phone: (386) 427-0694 Fax: (386) 427-0889

**JENSEN BEACH
IMPOUNDMENT
MANGROVE
RESTORATION**

**EROSION & SEDIMENT
CONTROL PLAN**



SCALE:	1" = 50' @ 24" x 36"
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020

DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF

RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

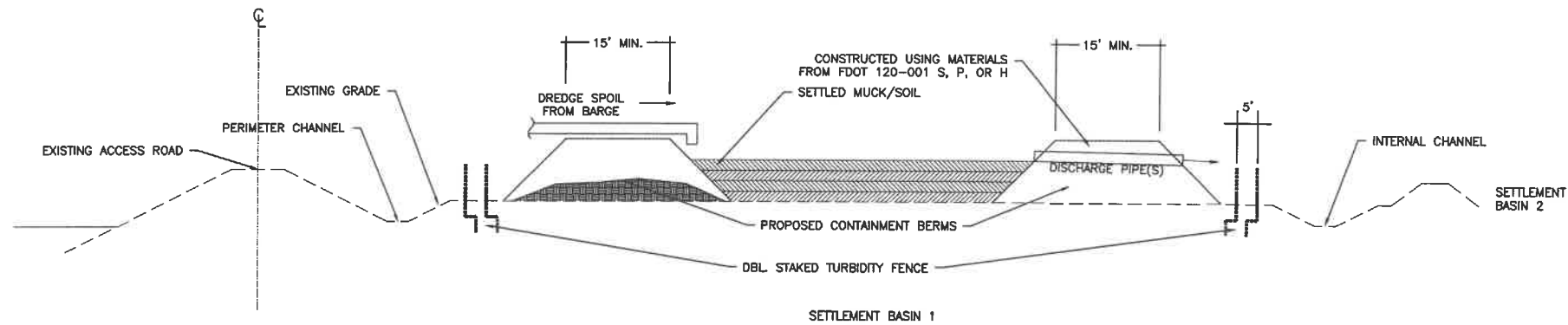
REVISION:	DATE: XX-XX-XXXX
-----------	------------------

**ESC1.02
100% SUBMITTAL**

#58205
Date

**JENSEN BEACH
IMPOUNDMENT
MANGROVE
RESTORATION**

**CONSTRUCTION
DETAILS**



**DREDGING SETTLEMENT BASIN
CONCEPTUAL SECTION VIEW**
NTS

SCALE:	N.T.S.
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020

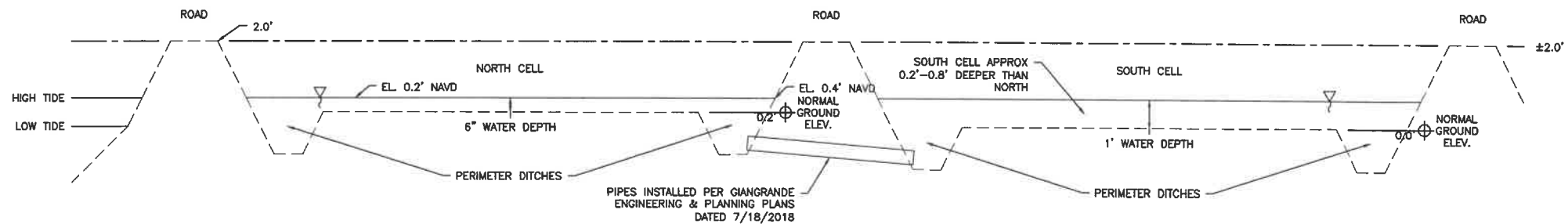
DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF

RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------



**NORTH & SOUTH IMPOUNDMENT AREAS
CONCEPTUAL SECTION VIEW**
NTS

	NC	SC
PUMP PEAK STAGE	0.61±	0.43±
25YR PEAK STAGE	0.98±	0.71±
APPARENT GROUND ELEV.	0.2±	0.0±

CD1.01

100% SUBMITTAL

#58205

9/10/2020

Date

**JENSEN BEACH
IMPOUNDMENT
MANGROVE
RESTORATION**

**CONSTRUCTION
DETAILS**

SCALE:	N.T.S.
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020

DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF

RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

CD1.02

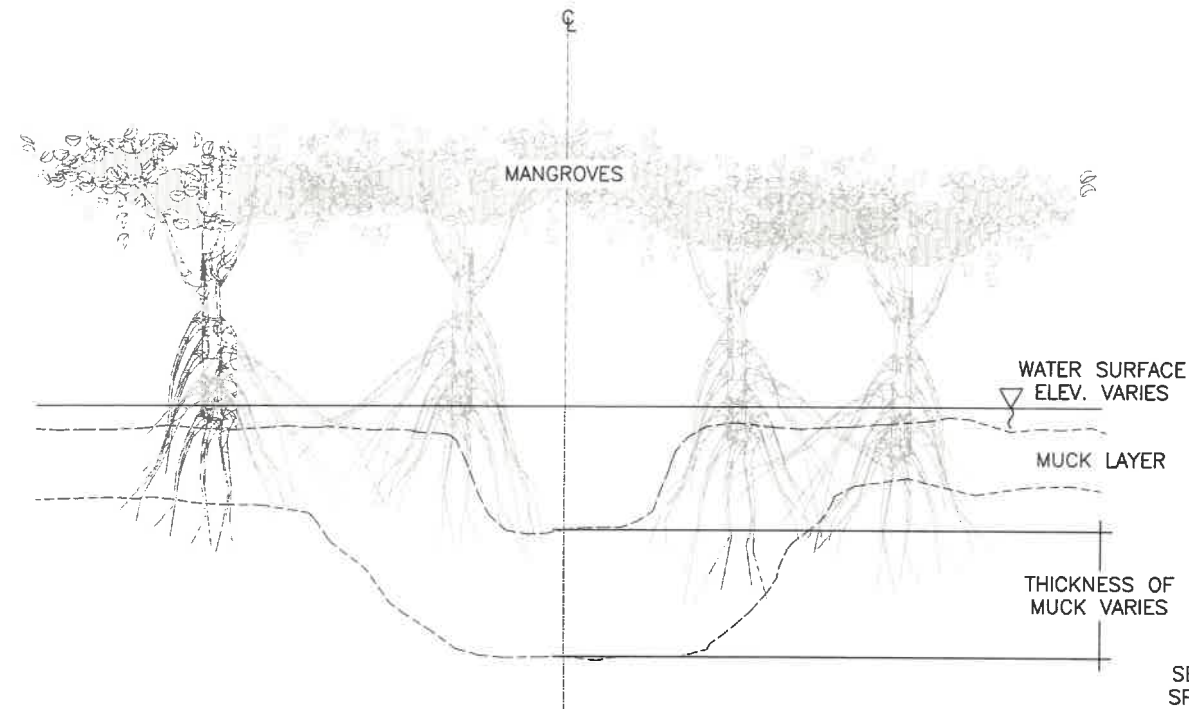
100% SUBMITTAL

[Signature]

#8205

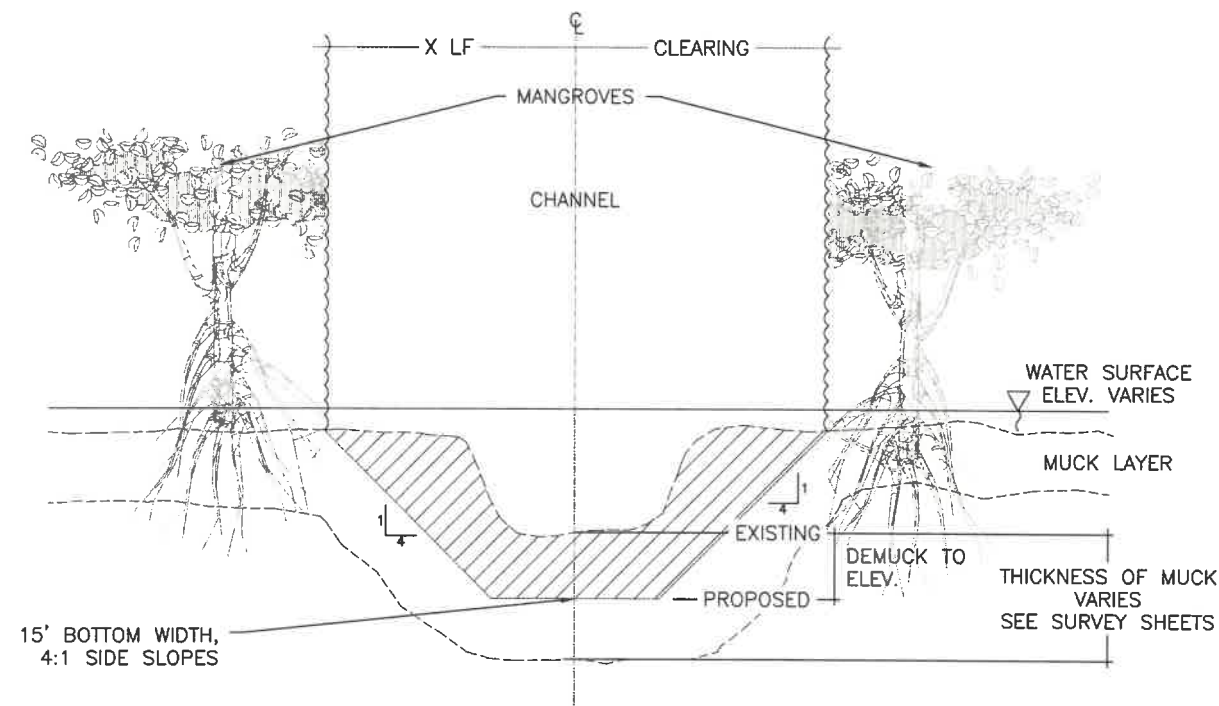
9/10/2020

Gals



SEE SURVEY SHEETS FOR
SPECIFIC DEPTH OF MUCK

TYPICAL EXISTING CHANNEL SECTION
NTS

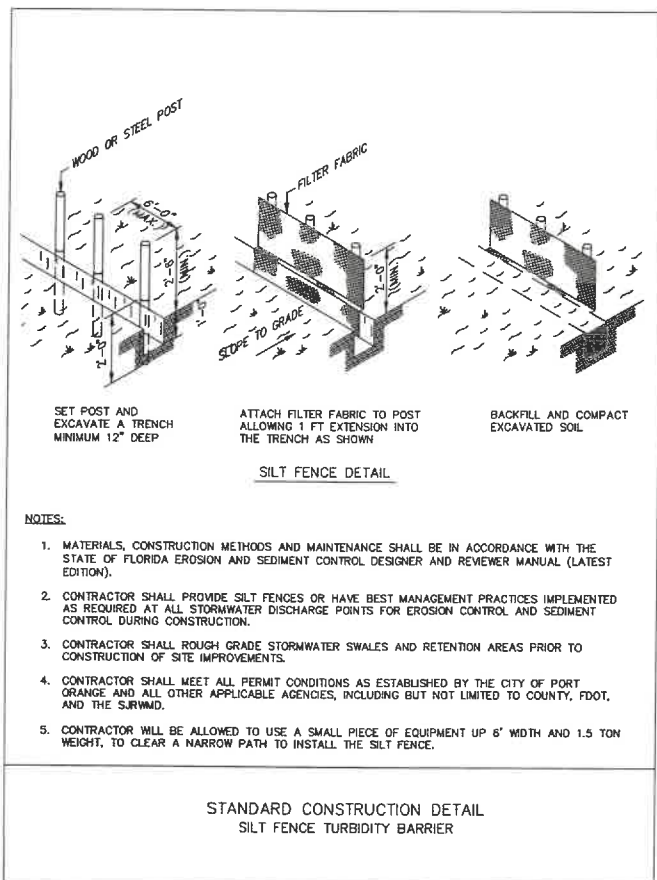
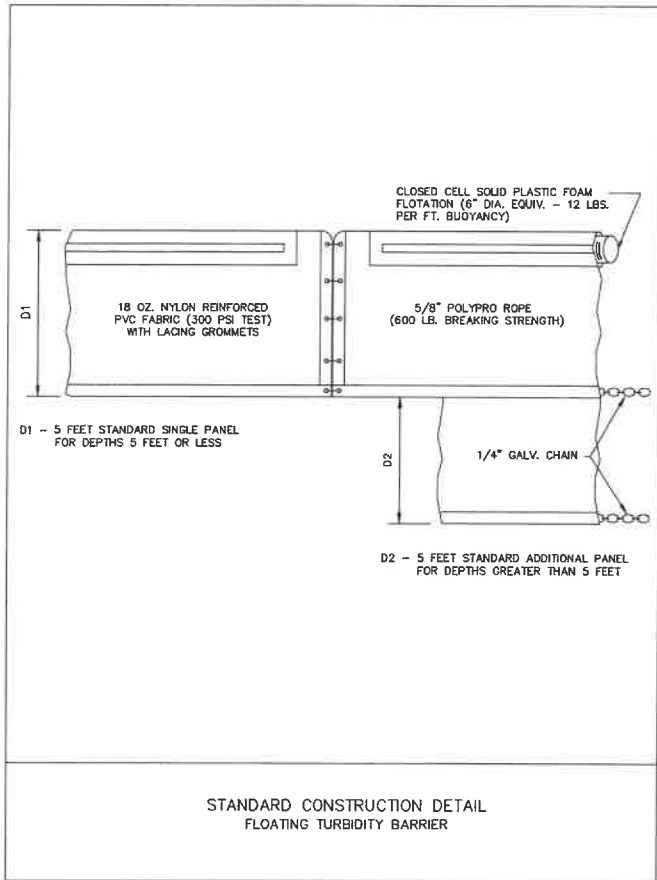
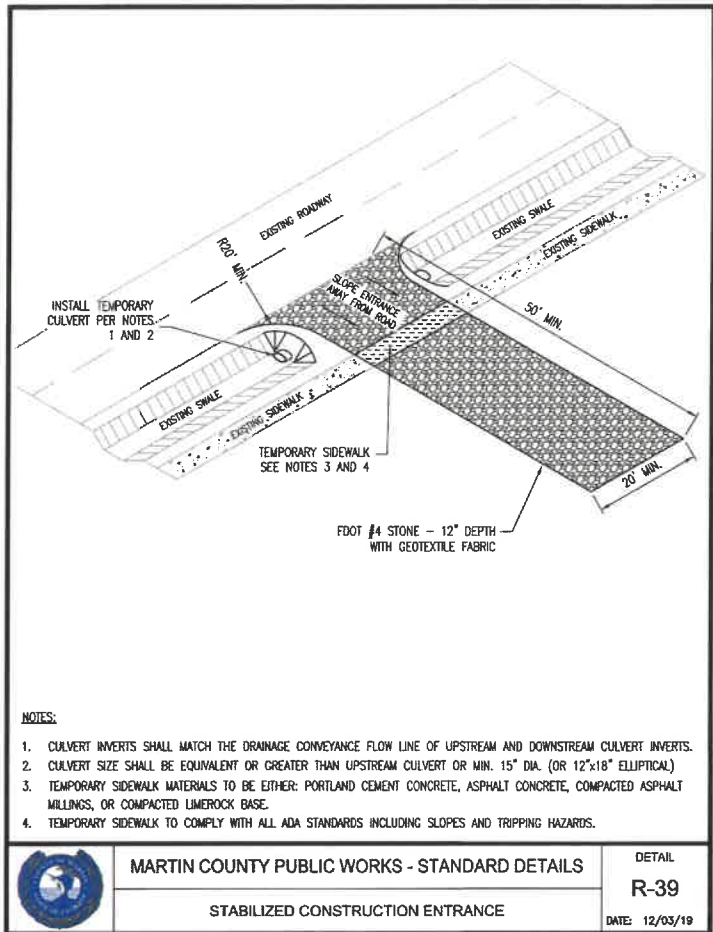


APPROX. CHANNEL ELEVATIONS		
NORTH CELL		
	EXISTING	PROPOSED
CHANNEL B	-1.6	-1.9
CHANNEL C	-1.8	-2.5
CHANNEL Q N.	N/A	-2.5
SOUTH CELL		
	EXISTING	PROPOSED
CHANNEL I	-1.4	-3.3
CHANNEL K	-3.5	-3.5
CHANNEL P	N/A	-3.4
CHANNEL Q S.	N/A	-3.4

NOTES:

1. DEMUCKING OF CLEARED CHANNELS, REMOVAL TO X ELEV.
2. MOVE DREDGE SPOIL MATERIAL TO SETTLING BASIN(S) OR SPREAD IN SOUTHERN CELL.
3. DREDGE MATERIAL TO BE MANAGED SO THAT IT DOES NOT ACCUMULATE IN SOUTHERN CELL DITCHES.

TYPICAL PROPOSED CHANNEL SECTION
NTS



FURNISH AND INSTALL SOD, OR SEED AND MULCH, THE LIMITS CALLED FOR ON THE CONSTRUCTION DRAWINGS. AT A MINIMUM, ALL WORK SHALL MEET THE MINIMUM STANDARDS OF SECTION 570 OF FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION, AND MINIMUM REQUIREMENTS OF THE CITY, AS OUTLINED BELOW.

SEED

SEED SHALL BE PRE-MIXED BY A SEED COMPANY TO THE PERCENTAGES DESCRIBED BELOW, WITH CERTIFICATION FROM THE SUPPLIER PROVIDED TO THE CITY'S DESIGNATED LANDSCAPE INSPECTOR PRIOR TO USE. THE GRASS SEED MIXTURE SHALL BE:

PENSACOLA BAHIA (USE 50% SCARIFIED SEED)	50%
HULLED BERMUDA	25%
BROWN TOP MILLET	25%

MULCH

STRAW OR HAY CONSISTING OF OATS, RYE, OR WHEAT STRAW, OR OF PANGOLA, PEANUT, COASTAL BERMUDA OR BAHIA GRASS HAY. MULCH SHALL BE FREE FROM WEED AND OTHER UNDESIRABLE GRASS. APPROXIMATELY ONE INCH (1"), LOOSE THICKNESS, OF MULCH MATERIAL SHALL BE APPLIED UNIFORMLY OVER THE SEEDED AREAS (APPROXIMATELY ONE AND ONE-HALF (1-1/2) BALES PER 1000 SQUARE FEET). THE MULCH MATERIAL SHALL BE CUT INTO THE SOIL WITH A DISC HARROW OR OTHERWISE ANCHORED DOWN UNDER PROPER CIRCUMSTANCES, CONTRACTOR MAY REQUEST OPTION TO INSTALL HYDRO-SEEDING, SUBJECT TO THE APPROVAL OF THE PROJECT LANDSCAPE ARCHITECT AND THE CITY.

METHOD

GRASSING SHALL BE DONE IMMEDIATELY UPON COMPLETION OF THE FINE GRADING OPERATION. HOWEVER, NO SEEDING SHALL BE DONE WHEN THE GROUND IS FROZEN OR UNDULY WET. THE RATE OF SPREAD FOR THE SEED MATERIAL SHALL BE ONE HUNDRED AND THIRTY (130) POUNDS PER ACRE.

THE FOLLOWING MEASURES REPRESENT MINIMUM STANDARDS TO BE ADHERED TO BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION OF A PROJECT. THE CITY RESERVES THE RIGHT TO REQUIRE ADDITIONAL MEASURES TO BE EMPLOYED WHEN WARRANTED BY CONDITIONS AND/OR THE FAILURE OF THE CONTRACTOR TO EMPLOY APPROPRIATE EROSION CONTROL BEST MANAGEMENT PRACTICES. FAILURE TO COMPLY WITH THESE PROVISIONS SHALL RESULT IN THE ISSUANCE OF A "STOP WORK ORDER".

- NO DISTURBANCE OF PROPOSED CONSERVATION EASEMENTS, NATURAL BUFFERS, OR WATER BODIES IS PERMITTED. THE CONTRACTOR SHALL LOCATE THESE AREAS ON SITE AND BARRICADE THEM TO AVOID ANY UNAUTHORIZED CLEARING. BARRICADES AND OTHER PROTECTIVE FENCING ARE TO BE LOCATED AT THE DRIP LINE OF EXISTING NATIVE TREES OR AT THE EDGE OF THE NATIVE UNDER-STORY HABITAT, WHICHEVER IS FURTHERST.
- SPECIMEN AND HISTORIC TREES, CONSERVATION EASEMENTS, NATURAL VEGETATION BUFFERS, AND SIMILAR AREAS MUST BE PROTECTED BY BARRICADES OR FENCING PRIOR TO CLEARING. BARRICADES ARE TO BE SET AT THE DRIP LINE OF THE TREES, AS SPECIFIED, AND MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT. BARBED WIRE IS NOT PERMITTED AS A PROTECTIVE BARRIER.
- WHERE A CHANGE OF GRADE OCCURS WITHIN THE DRIP LINE OF A SPECIMEN TREE, SILT FENCES WILL BE REQUIRED DURING CONSTRUCTION AND RETAINING WALLS MUST BE INSTALLED PRIOR TO FINAL ACCEPTANCE BY THE CITY.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL PROTECTIVE VEGETATION BARRICADES AND EROSION CONTROL DEVICES IN PLACE PRIOR TO THE COMMENCEMENT OF ANY EARTHWORK, INCLUDING PRELIMINARY GRUBBING. BEST MANAGEMENT PRACTICES (BMP'S) ARE TO BE IMPLEMENTED, SUCH AS TEMPORARY CONSTRUCTION FENCES, SILT FENCES AND FLOATING TURBIDITY BARRIERS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL EROSION CONTROL DEVICES AND MEASURES THROUGHOUT THE DURATION OF THE ENTIRE PROJECT. MAINTENANCE SHALL INCLUDE, BUT NOT LIMITED TO, PERIODIC INSPECTION AND REMOVAL OF DEBRIS ADJUTING EROSION CONTROL DEVICES AS SPECIFICALLY IDENTIFIED IN LDC, CH 10, ARTICLE I, SEC. 5.
- PRIOR TO THE INSTALLATION OF ANY FILL MATERIALS ON SUBJECT SITE, SILT FENCES SHALL BE INSTALLED (1) ALONG SUBJECT SITE BOUNDARY AND/OR PROPERTY LINES, (2) AT THE EDGE OF CONSERVATION EASEMENTS AND WETLANDS, (3) ADJACENT TO NATURAL LANDSCAPE BUFFERS, (4) AROUND THE PERIMETER OF EXISTING STORM WATER TREATMENT FACILITIES, AND (5) AT ANY ADDITIONAL AREAS THAT THE CITY DEEMS NECESSARY TO BE PROTECTED FROM POTENTIAL EROSION IMPACTS DURING CONSTRUCTION. THESE CONDITIONS SHALL APPLY IN ALL INSTANCES WHERE FILL MATERIAL IS BEING INSTALLED WITHIN 25 FEET OF ANY OF THE AFOREMENTIONED LOCATIONS. WHILE THESE ITEMS REPRESENT THE MINIMUM REQUIREMENTS, THE CITY RESERVES THE RIGHT TO IMPOSE ADDITIONAL PROTECTIVE MEASURES, AS DETERMINED DURING ACTUAL SITE VISITS CONDUCTED AS PART OF THE STANDARD REVIEW OF THE SITE-SPECIFIC ABC CLEARING PERMIT APPLICATION AND THROUGHOUT PROJECT CONSTRUCTION.
- WHERE FILL MATERIAL IS INTENDED TO BE INSTALLED ADJACENT TO EXISTING VEGETATION WHICH IS INTENDED TO REMAIN NATURAL, THE CONTRACTOR MAY INSTALL SILT FENCING AS A TREE PROTECTION MEASURE. IN LIEU OF INSTALLING WOOD BRACING WITH ORANGE MESH, THIS PRACTICE IS ENCOURAGED BY THE CITY. IF THE SILT FENCE FAILS TO PROVIDE ADEQUATE PROTECTION FROM IMPACT DUE TO CONSTRUCTION, THEN BARRICADES OR WOOD BRACING SHALL BE REQUIRED.
- AT A MINIMUM, THE CONTRACTOR SHALL SEED AND MULCH ALL DISTURBED AREAS. SUFFICIENT GRASS COVERAGE IS TO BE ESTABLISHED WITHIN TWO WEEKS.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR THROUGH SCHEDULING, TO MINIMIZE THE DISTURBANCE OF SITE AREAS THAT HAVE BEEN BROUGHT TO THEIR PROPOSED FINAL GRADE. WITHIN SEVEN (7) DAYS OF BRINGING A SUBJECT AREA TO ITS FINAL GRADE OR INACTIVITY IN CONSTRUCTION, THE CONTRACTOR SHALL INSTALL SEED AND MULCH OR SOD, AS REQUIRED.

- FOR INDIVIDUAL CONSTRUCTION PROJECTS INVOLVING MULTIPLE PHASES, (PHASING IS REQUIRED FOR SITES 30 ACRES AND LARGER) UPON COMPLETION OF EACH PHASE OF THE PROJECT, SEEDING AND MULCHING AND / OR SODDING IS TO BE PERFORMED PRIOR TO COMMENCING THE NEXT PHASE OF CONSTRUCTION.
- ONCE AN AREA IS SEEDDED OR SODDED, IT MUST BE MAINTAINED BY THE CONTRACTOR TO ALLOW THE GRASS TO BECOME ESTABLISHED. IF THE GRASS IS NOT ESTABLISHED WITHIN TWO WEEKS THE CITY MAY REQUIRE THE CONTRACTOR TO RE-SEED OR A NON-VEGETATIVE OPTION MAY BE EMPLOYED.
- ANY BURNING OF CLEARED MATERIALS MUST BE INSPECTED AND PERMITTED ON A DAILY BASIS. CONTACT THE FIRE MARSHAL AT 506-5905 PRIOR TO EACH DAY OF DESIRED BURNING.
- ABSOLUTELY NO BURYING OF CLEARED MATERIALS IS PERMITTED.
- THE REMOVAL OF ALL VEGETATION AND TOPSOIL ON THE FUTURE ROADWAY, PARKING AND BUILDING LOT AREAS IS REQUIRED TO BE COMPLETED PRIOR TO THE PLACEMENT OF FILL ON THOSE AREAS. THE TOPSOIL MAY BE TEMPORARILY STOCKPILED AND USED AS TOPSOIL OVER PROPOSED GREEN AREAS SUCH AS PLANT BEDS, SODDED AREAS, AND WHERE TREES ARE TO BE INSTALLED OR RELOCATED.
- A SIGNED, DATED, AND SEALED LETTER FROM A SOILS ENGINEER OR THE ENGINEER OF RECORD CERTIFYING THAT THE AREAS TO BE FILLED HAVE BEEN STRIPPED OF ORGANIC MATERIALS, MUST BE SUBMITTED TO THE CITY PRIOR TO FILLING.
- FILL MATERIAL IS TO BE PLACED IN ONE FOOT MAXIMUM LIFTS AND COMPACTED TO THE APPROPRIATE DENSITY (98% FOR PAVED AREAS AND 95% FOR BUILDING PADS AND ALL OTHER AREAS AS PER AASHTO T-180).
- DURING SUBDIVISION DEVELOPMENT WHEN FUTURE BUILDING LOTS ARE FILLED AS PART OF THE OVERALL SUBDIVISION IMPROVEMENTS, COMPACTION TEST REPORTS MUST BE PERFORMED ON THE BUILDING LOTS AT 300 FOOT INTERVALS. THESE TESTS ARE TO BE PERFORMED IN ONE-FOOT VERTICAL INCREMENTS. THE RESULTS OF THESE TESTS ARE TO BE SUBMITTED TO THE CITY UPON COMPLETION OF THE TESTS.
- IF ANY MUCK MATERIAL IS DISCOVERED, IT SHALL BE REQUIRED TO BE REMOVED AND REPLACED WITH A SUITABLE MATERIAL THAT IS PROPERLY BACKFILLED, COMPACTED AND TESTED USING AASHTO T-180 MODIFIED PROCTOR METHOD.
- STOCKPILING IS NOT GENERALLY PERMITTED BY THE CITY, WHEN ALLOWED, STOCKPILES SHALL NOT EXCEED SIX FEET IN HEIGHT MEASURED FROM THE ORIGINAL GRADE. AT A MINIMUM, STOCK PILES THAT WILL REMAIN IN PLACE IN EXCESS OF TWENTY DAYS SHOULD BE SEEDDED AND MULCHED IMMEDIATELY UPON PLACEMENT OF THE FINAL LIFT.
- SOILS ARE TO BE STABILIZED BY WATER OR OTHER MEANS DURING CONSTRUCTION. THIS IS INTENDED TO REDUCE SOIL EROSION AND THE IMPACT TO NEIGHBORING COMMUNITIES. ADEQUATE WATERING METHODS SHOULD BE EMPLOYED TO ALLOW DAILY COVERAGE OF THE ENTIRE LIMITS OF ALL AREAS THAT DO NOT HAVE AN ESTABLISHED VEGETATIVE COVER. METHODS TO BE EMPLOYED INCLUDE, BUT ARE NOT LIMITED TO, WATER TRUCKS, PERMANENT IRRIGATION SYSTEMS, TEMPORARY SPRINKLER SYSTEMS OPERATED BY PUMPING UNITS CONNECTED TO WET RETENTION PONDS, WATER CANNONS, TEMPORARY IRRIGATION SYSTEMS MOUNTED ATOP STOCKPILE AREAS, AND OTHER METHODS AS DEEMED NECESSARY BY THE CITY.
- ALL FILL MATERIALS LOCATED BENEATH STRUCTURES AND PAVEMENT SHALL CONSIST OF CLEAN GRANULAR SAND FREE FROM ORGANICS AND SIMILAR MATERIAL THAT COULD DECOMPOSE.
- ALL FILL TO BE PLACED IN LANDSCAPED AREAS SHALL HAVE A PH RANGE BETWEEN 5.5 AND 7.5, BE ORGANIC IN NATURE, FREE OF ROCKS AND DEBRIS, OR MATCH NATIVE EXISTING SOILS.

JENSEN BEACH
IMPOUNDMENT
MANGROVE
RESTORATION

CONSTRUCTION
DETAILS

SCALE:	N.T.S.
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020

DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF

RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

CD1.03

100% SUBMITTAL

[Signature]
#58205
9/10/2020
Date

JENSEN BEACH
IMPOUNDMENT
MANGROVE
RESTORATION

CONSTRUCTION
DETAILS

SCALE:	N.T.S.
PROJECT NO.:	20-0248
PROJECT DATE:	07-2020

DESIGNED BY:	DMW
DRAWN BY:	JAK
CHECKED BY:	DMW
APPROVED BY:	CRF

RELEASED FOR PERMIT:	08-28-2020
RELEASED FOR BID:	XX-XX-XXXX
RELEASED FOR CONSTRUCTION:	XX-XX-XXXX
REVISION:	DATE: XX-XX-XXXX

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

REVISION:	DATE: XX-XX-XXXX
-----------	------------------

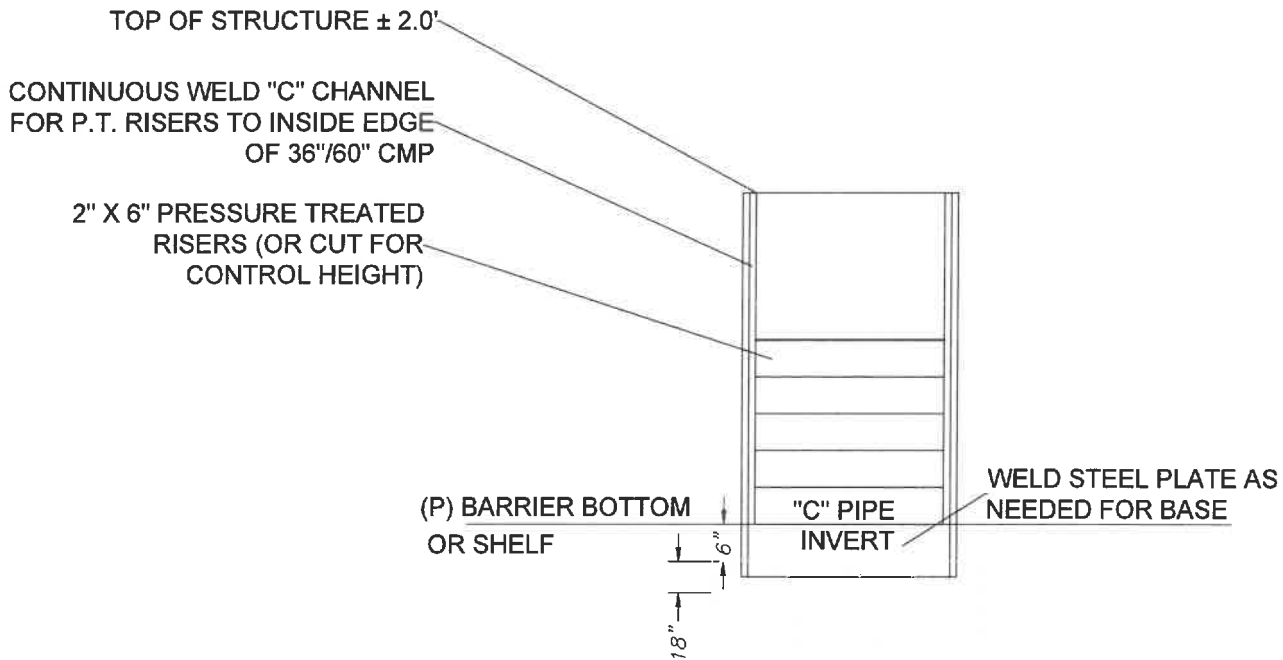
CD1.04

100% SUBMITTAL

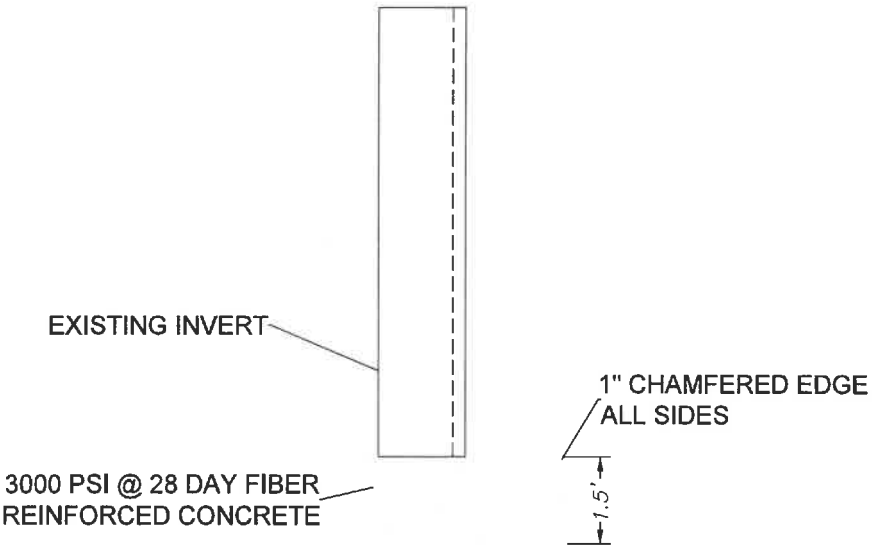
[Signature]

#58265

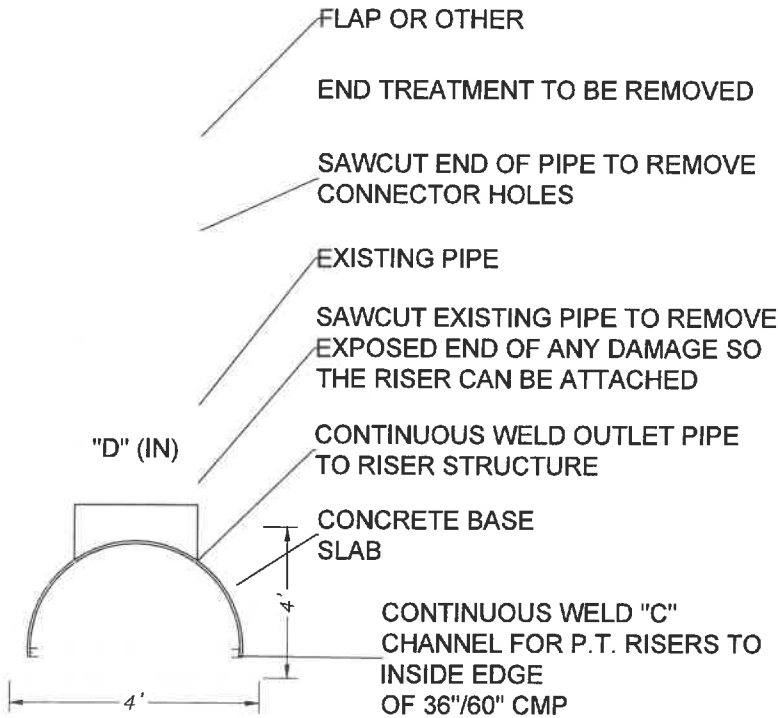
9/10/2020
Date



SECTION



SECTION



PLAN

NORTHERN CELL: SET BOARDS AT EL. 0.4'
COUTHERN CELL: SET BOARDS AT EL. 0.2'

C.M.P. FLASHBOARD RISER DIMENSIONS:
FACE WIDTH 36" (1/2 OF A 36" PIPE)
OUTLET PIPE DIAMETER 30" OR 24" CMP
CONCRETE ANCHOR 48" X 48"

FLASHBOARD
RISER LOCATIONS

STRUCTURE ID	INSTALL FLASHBOARD RISER?
1	YES
2	YES
3	YES
4	YES
5	YES
6	YES
7	YES
8	YES
9	YES
10	YES
11	NO
12	NO
13	NO
14	YES
15	YES
16	N.I.C.
17	N.I.C.
18	N.I.C.
19	N.I.C.

STANDARD PIPE MODIFICATION RISER

N.T.S.

Attachment B AUDIT REQUIREMENTS

The administration of resources awarded by the Florida Fish and Wildlife Conservation Commission (Commission) to the Grantee may be subject to audits and/or monitoring by the Commission as described in Part II of this attachment regarding State funded activities. If this Agreement includes a Federal award, then Grantee will also be subject to the Federal provisions cited in Part I. If this Agreement includes both State and Federal funds, then all provisions apply.

MONITORING

In addition to reviews of audits conducted in accordance with Sections 200.500-200.521, Uniform Guidance: Cost Principles, Audit, and Administrative Requirements for Federal Awards (2 CFR 200), as revised, hereinafter “OMB Uniform Guidance” and Section 215.97, F.S., as revised (see “AUDITS” below), the Commission may conduct or arrange for monitoring of activities of the Contractor. Such monitoring procedures may include, but not be limited to, on-site visits by the Commission staff or contracted consultants, limited scope audits as defined by Section 200.331, OMB Uniform Guidance and/or other procedures. By entering into this Agreement, the Grantee agrees to comply and cooperate with any monitoring procedures/processes deemed appropriate by the Commission. The Grantee further agrees to comply and cooperate with any inspections, reviews, investigations, or audits deemed necessary by the Florida Department of Financial Services or the Florida Auditor General.

AUDITS

PART I: FEDERALLY FUNDED. If this Agreement includes a Federal award, then the following provisions apply:

- A. This part is applicable if the Grantee is a State or local government or a non-profit organization as defined in Sections 200.90, 200.64, or 200.70, respectively, OMB Uniform Guidance.
- B. In the event that the Grantee expends **\$500,000.00 (\$750,000.00** for fiscal years beginning on or after December 26, 2014) or more in Federal awards in its fiscal year, the Grantee must have a single or program-specific audit conducted in accordance with the provisions of the Federal Single Audit Act of 1996 and Sections 200.500-200.521, OMB Uniform Guidance. EXHIBIT 1 to this Attachment indicates Federal resources awarded through the Commission by this Agreement. In determining the Federal awards expended in its fiscal year, the Grantee shall consider all sources of Federal awards, including Federal resources received from the Commission. The determination of amounts of Federal awards expended should be in accordance with the guidelines established by Sections 200.500-200.521, OMB Uniform Guidance. An audit of the Grantee conducted by the Auditor General in the OMB Uniform Guidance, will meet the requirements of this part.
- C. In connection with the audit requirements addressed in Part I, paragraph A. herein, the Grantee shall fulfill the requirements relative to auditee responsibilities as provided in Section 200.508, OMB Uniform Guidance. This includes, but is not limited to, preparation of financial statements, a schedule of expenditure of Federal awards, a summary schedule of prior audit findings, and a corrective action plan.
- D. If the Grantee expends less than **\$500,000.00 (\$750,000.00** for fiscal years beginning on or after December 26, 2014) in Federal awards in its fiscal year, an audit conducted in accordance with the provisions of Sections 200.500-200.521, OMB Uniform Guidance, is not required. In the event that the Grantee expends less than **\$500,000.00 (\$750,000.00** for fiscal years beginning on or after

December 26, 2014) in Federal awards in its fiscal year and elects to have an audit conducted in accordance with the provisions of Sections 200.500-200.521, OMB Uniform Guidance, the cost of the audit must be paid from non-Federal resources (i.e., the cost of such an audit must be paid from Grantee resources obtained from other than Federal entities).

- E. Such audits shall cover the entire Grantee's organization for the organization's fiscal year. Compliance findings related to agreements with the Commission shall be based on the agreement requirements, including any rules, regulations, or statutes referenced in the Agreement. The financial statements shall disclose whether or not the matching requirement was met for each applicable agreement. All questioned costs and liabilities due to the Commission shall be fully disclosed in the audit report with reference to the Commission agreement involved. Additionally, the results from the Commission's annual financial monitoring reports must be included in the audit procedures and the Sections 200.500-200.521, OMB Uniform Guidance audit reports.
- F. If not otherwise disclosed as required by Section 200.510, OMB Uniform Guidance, the schedule of expenditures of Federal awards shall identify expenditures by contract number for each agreement with the Commission in effect during the audit period.
- G. If the Grantee expends less than **\$500,000.00** in Federal awards in its fiscal year, an audit conducted in accordance with the provisions of Sections 200.500-200.521, OMB Uniform Guidance, is not required. In the event that the Grantee expends less than **\$500,000.00** in Federal awards in its fiscal year and elects to have an audit conducted in accordance with the provisions of Sections 200.500-200.521, OMB Uniform Guidance, the cost of the audit must be paid from non-Federal resources (i.e., the cost of such an audit must be paid from the Grantee's resources obtained from other-than Federal entities).
- H. A web site that provides links to several Federal Single Audit Act resources can be found at: <http://harvester.census.gov/sac/sainfo.html>

PART II: STATE FUNDED. If this Agreement includes State funding, then the following provisions apply:

This part is applicable if the Grantee is a non-state entity as defined by Section 215.97, F.S., (the Florida Single Audit Act).

- A. In the event that the Grantee expends a total amount of state financial assistance equal to or in excess of **\$750,000.00** (**\$500,000.00** in fiscal years prior to July 1, 2016) in any fiscal year of such Grantee, the Grantee must have a State single or project-specific audit for such fiscal year in accordance with Section 215.97, F.S.; applicable rules of the Executive Office of the Governor and the Department of Financial Services; and Chapters 10.550 (local governmental entities) or 10.650 (nonprofit and for-profit organizations), Rules of the Auditor General. EXHIBIT 1 to this Attachment indicates state financial assistance awarded through the Commission by this Agreement. In determining the state financial assistance expended in its fiscal year, the Grantee shall consider all sources of state financial assistance, including state financial assistance received from the Commission, other state agencies, and other non-state entities. State financial assistance does not include Federal direct or pass-through awards and resources received by a non-state entity for Federal program matching requirements.
- B. In connection with the audit requirements addressed in Part II, paragraph A herein, the Grantee shall ensure that the audit complies with the requirements of Section 215.97(7), F.S. This includes submission of a financial reporting package as defined by Section 215.97(2)(d), F.S., and Chapters 10.550 (local governmental entities) or 10.650 (nonprofit and for-profit organizations), Rules of the Auditor General.

- C. If the Grantee expends less than **\$750,000.00 (\$500,000.00** in fiscal years prior to July 1, 2016) in state financial assistance in its fiscal year, an audit conducted in accordance with the provisions of section 215.97, F.S., is not required. In the event that the Grantee expends less than **\$750,000.00 (\$500,000.00** in fiscal years prior to July 1, 2016) in state financial assistance in its fiscal year and elects to have an audit conducted in accordance with the provisions of section 215.97, F.S., the cost of the audit must be paid from the non-state entity's resources (*i.e.*, the cost of such an audit must be paid from the Grantee's resources obtained from other-than State entities).
- D. Additional information regarding the Florida Single Audit Act can be found at:
<https://apps.fldfs.com/fsaa/>.
- E. Grantee shall provide a copy of any audit conducted pursuant to the above requirements directly to the following address:

**Office of Inspector General
Florida Fish and Wildlife Conservation Commission
Bryant Building
620 S. Meridian St.
Tallahassee, FL 32399-1600**

PART III: REPORT SUBMISSION

- A. Copies of reporting packages, to include any management letter issued by the auditor, for audits conducted in accordance with Sections 200.500-200.521, OMB Uniform Guidance, and required by Part I of this Attachment shall be submitted by or on behalf of the Grantee directly to each of the following at the address indicated:
1. The Commission at the following address:

**Office of Inspector General
Florida Fish and Wildlife Conservation Commission
Bryant Building
620 S. Meridian St.
Tallahassee, FL 32399-1600**
 2. The Federal Audit Clearinghouse designated in Section 200.512, OMB Uniform Guidance (the reporting package required by Section 200.512, OMB Uniform Guidance, should be submitted to the Federal Audit Clearinghouse):

**Federal Audit Clearinghouse
Bureau of the Census
1201 East 10th Street
Jeffersonville, IN 47132**
 3. Other Federal agencies and pass-through entities in accordance with Section 200.512, OMB Uniform Guidance.
- B. Copies of audit reports for audits conducted in accordance with Sections 200.500-200.521, OMB Uniform Guidance, and required by Part I of this Attachment (in correspondence accompanying the

audit report, indicate the date that the Grantee received the audit report); copies of the reporting package described in Section 200.512, OMB Uniform Guidance, and any management letters issued by the auditor; copies of reports required by Part II of this Attachment must be sent to the Commission at the addresses listed in paragraph C. below.

- C. Copies of financial reporting packages required by Part II of this Attachment, including any management letters issued by the auditor, shall be submitted by or on behalf of the Grantee directly to each of the following:

1. The Commission at the following address:

**Office of Inspector General
Florida Fish and Wildlife Conservation Commission
Bryant Building
620 S. Meridian St.
Tallahassee, FL 32399-1600**

- 2) The Auditor General's Office at the following address:

**Auditor General's Office
G74 Claude Pepper Building
111 West Madison Street
Tallahassee, FL 32399-1450**

- D. Any reports, management letter, or other information required to be submitted to the Commission pursuant to this Agreement shall be submitted timely in accordance with OMB Sections 200.500-200.521, OMB Uniform Guidance, Florida Statutes, and Chapters 10.550 (local governmental entities) or 10.650 (nonprofit and for-profit organizations), Rules of the Auditor General, as applicable.

Grantees and sub-Grantees, when submitting financial reporting packages to the Commission for audits done in accordance with Sections 200.500-200.521, OMB Uniform Guidance, or Chapters 10.550 (local governmental entities) or 10.650 (non-profit and for-profit organizations), Rules of the Auditor General, should indicate the date that the reporting package was delivered to the Grantee/sub-Grantee in correspondence accompanying the reporting package.

- End of Attachment -

**Exhibit 1
FEDERAL AND STATE FUNDING DETAIL**

**FEDERAL RESOURCES AWARDED TO THE GRANTEE PURSUANT TO THIS AGREEMENT
CONSIST OF THE FOLLOWING:**

Federal Program(s) Funds		
CFDA #	CFDA Title	Amount
11.022	Bipartisan Budget Act of 2018	\$1,000,000
	Total Federal Awards	\$1,000,000

**COMPLIANCE REQUIREMENTS APPLICABLE TO THE FEDERAL RESOURCES
AWARDED PURSUANT TO THIS AGREEMENT ARE AS FOLLOWS:**

Federal Program(s) Compliance Requirements	
CFDA #	Compliance Requirements
11.022	Grantee is required to meet grant requirements stated in Federal Grant NA19NMF0220003, 2 CFR PART 200, UNIFORM ADMINISTRATIVE REQUIREMENTS, COST PRINCIPLES, AND AUDIT REQUIREMENTS, AS ADOPTED PURSUANT TO 2 CFR § 1327.101

**STATE RESOURCES AWARDED TO THE GRANTEE PURSUANT TO THIS AGREEMENT
CONSIST OF THE FOLLOWING:**

MATCHING RESOURCES FOR FEDERAL PROGRAMS:

Matching Funds Provided by CFDA		
CFDA #	CFDA Title	Amount of Matching Funds
	Total Matching Funds Associated with Federal Programs	

SUBJECT TO SECTION 215.97, FLORIDA STATUTES:

State Project(s)		
CSFA #	CSFA Title	Amount

State Project(s)		
	Total Federal Awards	

COMPLIANCE REQUIREMENTS APPLICABLE TO STATE RESOURCES AWARDED PURSUANT TO THIS AGREEMENT ARE AS FOLLOWS:

State Project(s) Compliance Requirements	
CSFA #	Compliance Requirements

NOTE: Section 200.513, OMB Uniform Guidance (2 CFR 200), as revised, and Section 215.97(5), Florida Statutes, require that the information about Federal Programs and State Projects included in Exhibit 1 be provided to the Grantee.

- End of EXHIBIT 1 -