



ST. TAMMANY PARISH

MICHAEL B. COOPER
PARISH PRESIDENT

August 24, 2020

Please find the following addendum to the below mentioned RFQ.

Addendum No.: 1

RFQ#: 20-3-3

Project Name: Coquille Pond

RFP Due Date: Thursday, September 3, 2020

GENERAL INFORMATION:

1. Please note the RFQ opening has been pushed to Thursday, September 3, 2020. Time and location remain the same..
2. The last day for inquiries is Tuesday, August 25, 2020 at 2:00PM.
3. The last day for addendum is Monday, August 31, 2020 at 2:00PM.

End of Addendum # 1



ST. TAMMANY PARISH

MICHAEL B. COOPER
PARISH PRESIDENT

NOTICE OF REQUEST FOR QUALIFICATIONS

St. Tammany Parish is seeking responses for the following project:

RFQ# 20-3-4 – Coquille Pond

Responses will be received by the Department of Procurement, **until 2:00pm CST Wednesday, August 26, 2020**. RFQ responses will be opened publicly at the physical location as identified in Section 1.4 of the RFQ documents and only respondents who have submitted an RFQ response shall be identified aloud. Prices shall not be read. Each response will be evaluated by designated Parish personnel after the submission deadline and public opening has passed.

Each Proposal must be sealed. The outside of the envelope, box or package should be marked with the Proposer's Name and Address, the Proposal Name, the RFQ #, and the Proposal Opening Date.

The successful Respondent must supply St. Tammany Parish Government with all required documentation as specified in the RFQ documents. Said Respondent must also be in Good Standing and licensed to do business in the State of Louisiana.

Specifications may be obtained online at <http://www.stpgov.org/>.

Responses will be received at St. Tammany Parish Government Department of Procurement Office, 21454 Koop Dr., Suite 2F, Mandeville LA., 70471 from each Respondent or his agent, or by certified mail with return receipt requested.

Due to the COVID-19 pandemic, and in an effort to help slow the spread of the virus, we will be accepting hand delivered RFQ responses until the 2:00pm deadline. Please call Procurement office at 985-898-2520 and we will meet you at the front entrance of Building B to collect responses and issue a receipt. Any questions regarding this should be directed to the Department of Procurement via email at purchasing@stpgov.org.

Procurement Department

REQUEST FOR QUALIFICATIONS

ST. TAMMANY PARISH GOVERNMENT

COQUILLE POND



RFQ Number: 20-3-4

Proposal Opening Date: August 26, 2020

Proposal Opening Time: 2:00 PM

July 20, 2020

TABLE OF CONTENTS

PART I: OVERVIEW	1
1.1 Background.....	1
1.1.1 Purpose/Goals	1
1.2 Definitions	1
1.3 Schedule of Events.....	2
1.4 Proposal Submittal.....	2
1.5 Proposal Response Format.....	3
PART II: SCOPE OF WORK/SERVICES	5
2.1 Scope of Work/Services.....	5
2.2 Period of Agreement.....	10
2.3 Price Schedule.....	10
2.4 Deliverables	10
2.5 Location	11
PART III: EVALUATION	11
PART IV: PERFORMANCE STANDARDS	11
4.1 Performance Requirements.....	11
4.2 Performance Measurement/Evaluation.....	11
PART V: GENERAL PROVISIONS	11
5.1 Legibility/Clarity	11
5.2 Confidential Information, Trade Secrets, and Proprietary Information.....	12
5.3 Proposal Clarifications Prior to Submittal	13
5.3.1 Pre-proposal Conference.....	13
5.3.2 Respondent Inquiry Periods.....	13
5.4 Errors and Omissions in Proposal.....	14
5.5 Proposal Guarantee	14
5.6 Performance Bond	14
5.7 Changes, Addenda, Withdrawals.....	14
5.8 Withdrawal of Proposal	14
5.9 Material in the RFQ	14
5.10 Waiver of Administrative Informalities.....	14
5.11 Proposal Rejection	14
5.12 Ownership of Proposal.....	15
5.13 Cost of Offer Preparation.....	15
5.14 Non-negotiable Contract Terms.....	15
5.15 Taxes.....	15
5.16 Proposal Validity	15
5.17 Prime Contractor Responsibilities	15
5.18 Use of Subcontractors	15
5.19 Written or Oral Discussions/Presentations	16
5.20 Acceptance of Proposal Content.....	16
5.21 Evaluation and Selection	16
5.22 Contract Negotiations	17
5.23 Contract Award and Execution.....	17

5.24	Acknowledgment and Waiver of Protest Rights.....	17
5.25	Notice of Intent to Award	17
5.26	Insurance Requirements.....	18
5.27	Subcontractor Insurance	18
5.28	Indemnification and Limitation of Liability	18
5.29	Fidelity Bond Requirements	19
5.30	Payment	19
5.30.1	Payment for Services	19
5.31	Termination.....	19
5.31.1	Termination of the Contract for Cause	19
5.31.2	Termination of the Contract for Convenience	20
5.31.3	Termination for Non-Appropriation of Funds	20
5.32	Assignment	20
5.33	No Guarantee of Quantities	20
5.34	Audit of Records	20
5.35	Civil Rights Compliance.....	21
5.36	Record Retention	21
5.37	Record Ownership	21
5.38	Content of Contract/ Order of Precedence.....	21
5.39	Contract Changes.....	21
5.40	Substitution of Personnel.....	21
5.41	Governing Law	22
5.42	Anti-Kickback Clause.....	22
5.43	Clean Air Act.....	22
5.44	Energy Policy and Conservation Act.....	22
5.45	Clean Water Act.....	22
5.46	Anti-Lobbying and Debarment Act.....	22

Attachment “A” – Project Specifications (Drainage Study)

Attachment “B” – Sample Contract

Attachment “C” – Acknowledgment and Waiver

Attachment “D” – Insurance Requirements

Attachment “E” – Hold Harmless Agreement

Attachment “F” – Affidavits

Attachment “G” – Sample Scoring Matrix

REQUEST FOR QUALIFICATIONS

FOR

COQUILLE POND

PART I: OVERVIEW

1.1 Background

In the area northwest of the City of Covington (S2 - T7S - R10E), flooding has occurred multiple times in the past. To mitigate future flooding, engineering services to design an approximately 30-acre dry detention pond for the Coquille Pond project are being requested. The pond shall be situated within the Soap and Tallow and the Hidden Creek watersheds, on undeveloped land, if possible. The pond design shall include any immediate downstream or upstream drainage improvements as necessary to facilitate connectivity to the pond, which may include but is not limited to cross drains, side drains, storm drains, and ditches.

In 2017, a drainage study was performed on a broader area by N-Y Associates, which recommended several pond locations, including one in this vicinity. Therefore, the SWMM/ HEC-RAS model developed may be used in expediting the location, size, and configuration of the proposed pond.

1.1.1 Purpose/Goals

The purpose of this Request for Qualifications (RFQ) is to obtain informational proposals from qualified Respondents who are interested in providing feasibility study analysis, engineering design, geotechnical, environmental, survey, land acquisition services, benefit cost analysis, construction administration and inspection, and materials testing services. The purpose of this pond will be to mitigate flooding in the area west of Covington by providing approximately 130 acre-ft of storage volume to collect rainfall runoff from the over 2000 acres upstream. Submittal of a proposal does not create any right or expectation to a contract with the Parish.

1.2 Definitions

- A. Shall – The term “shall” denotes mandatory requirements.
- B. Must - The term “must” denotes mandatory requirements.
- C. May - The term “may” denotes an advisory or permissible action.
- D. Should – The term “should” denotes a desirable action.
- E. Contractor – A Respondent who contracts with the Parish.
- F. Parish - St. Tammany Parish Government.

G. Discussions- For the purposes of this RFQ, a formal, structured means of conducting written or oral communications/presentations with responsible Respondents who submit proposals in response to this RFQ.

H. RFQ – Request for Qualifications.

I. Respondent – Person or entity responding to this RFQ.

J. Agreement – A contract between the Contractor and the Parish.

K. Evaluation Committee – Committee established for the purposes of evaluating proposals submitted in response to this RFQ.

1.3 Schedule of Events

	<u>Date</u>	<u>Time (CT)</u>
1. RFQ Available	July 29, 2020	2:00 PM
2. Deadline to receive written inquiries	August 19, 2020	2:00 PM
3. Deadline to answer written inquiries	August 21, 2020	2:00 PM
4. Proposal Opening Date (deadline for submitting proposals)	August 26, 2020	2:00 PM
5. Oral discussions with Respondents, if applicable	<i>To be scheduled</i>	
6. Notice of Intent to Award to be mailed	<i>To be scheduled</i>	
7. Contract Initiation	<i>To be scheduled</i>	

NOTE: The Parish reserves the right to revise this schedule. Any such revision will be formalized by the issuance of an addendum to the RFQ.

1.4 Proposal Submittal

This RFQ is available online at <http://www.stpgov.org>.

It is the Respondent's responsibility to check the Parish website frequently for any possible addenda that may be issued. The Parish is not responsible for a Respondent's failure to download any addenda documents required to complete an RFQ.

All proposals shall be received by the Procurement Department **no later than the date and time shown in the Schedule of Events.**

Important - - Clearly mark outside of the sealed envelope, box or package with the following information and format:

- X **Name and Address of Proposer**
- X **Proposal Name: COQUILLE POND**
- X **RFQ #: 20-3-4**
- X **Proposal Opening Date: Wednesday, August 26, 2020**

Proposals may only be sent via certified mail, hand-delivery or courier service to our physical location at:

St. Tammany Parish Government Procurement Department
21454 Koop Drive, Suite 2F
Mandeville, Louisiana 70471

Respondent is solely responsible for ensuring that its courier service provider makes inside deliveries to our physical location. The Parish is not responsible for any delays caused by the Respondent's chosen means of proposal delivery.

Respondent is solely responsible for the timely delivery of its proposal. Failure to meet the proposal opening date and time shall result in rejection of the proposal.

PROPOSALS SHALL BE OPENED PUBLICLY AT THE PHYSICAL LOCATION IDENTIFIED ABOVE AND ONLY RESPONDENTS SUBMITTING PROPOSALS SHALL BE IDENTIFIED ALOUD.

1.5 Proposal Response Format

Proposals submitted for consideration should follow the format and order of presentation described below:

- A. **Cover Letter:** The cover letter should exhibit the Respondent's understanding and approach to the contemplated projects. It should contain a summary of Respondent's ability to perform the services described in the RFQ and confirm that Respondent is willing to perform those services and enter into a contract with the Parish.

ATTENTION: Please indicate in the Cover Letter which of the following applies to the signer of this proposal. Evidence of signature authority shall be provided upon the Parish's request.

1. The signer of the proposal is either a corporate officer who is listed on the most current annual report on file with the secretary of state **or** a member of a partnership or partnership in commendam as reflected in the most current partnership records on file with the secretary of state. **A copy of the annual report or partnership record must be submitted to the Parish before contract award.**

2. The signer of the proposal is a representative of the Respondent authorized to submit this proposal as evidenced by documents such as, corporate resolution, certification as to corporate principal, etc. **If this applies, a copy of the resolution, certification, or other supportive documents must be submitted to the Parish before contract award.**

The cover letter should also:

1. Identify the submitting Respondent and provide its federal tax identification number;
2. Identify the name, title, address, telephone number, fax number, and email address of each person authorized by the Respondent to contractually obligate the Respondent; and
3. Identify the name, address, telephone number, fax number, and email address of the contact person for technical and contractual clarifications throughout the evaluation period.

- B. **Table of Contents:** Organized in the order cited in the format contained herein.
- C. **Respondent Qualifications and Experience:** History and background of Respondent, financial strength and stability, related services provided to government entities, existing customer satisfaction, volume of merchants, etc. Respondent should specifically provide a description of all relevant consulting assignments similar to the services requested herein which have been completed by the Respondent within the last three (3) years (“Recent Projects”).

The description of any such Recent Projects should include the following:

1. Name of the client;
2. Year of the assignment and length of time to complete the project;
3. Nature of the services rendered; and
4. Professionals assigned to the project who are also proposed to serve on this assignment.

- D. **Proposed Solution/Technical Response:** Illustrating and describing proposed technical solution and compliance with the RFQ requirements.
- E. **Innovative Concepts:** Presentation of innovative concepts, if any, for consideration.
- F. **Project Schedule:** Detailed schedule of implementation plan. This schedule is to include implementation actions, timelines, responsible parties, estimate of total time to acquire property up to initial offer, etc.
- G. **References:** Respondent should provide names, addresses, telephone numbers, and contact persons for five (5) other public jurisdictions for which comparable services have recently been rendered, including a description of the services provided.

- H. **Customer Service:** Each Respondent should submit a provision for customer service, including personnel assigned, toll-free number, and account inquiry, etc.
- I. **Resumes:** Each Respondent should submit resumes for account manager, designated customer service representative(s), and any other key personnel to be assigned to this Project, including those of subcontractors, if any.
- J. **Financial Stability Statement:** Each Respondent should submit information demonstrating the Respondent's financial stability (financial statements, annual reports, or similar data for the last three years).
- K. **Additional Information:** Each Respondent should submit any other information deemed pertinent by the Respondent including terms and conditions which the Respondent wishes the Parish to consider.
- L. **Acknowledgment and Waiver:** Respondent shall execute and have notarized an Acknowledgment and Waiver (Attachment "C" hereto).
- M. **Multiple Copies of Response:** Each Respondent shall submit one (1) signed original response. Four (4) additional copies of the proposal should be provided, as well as one (1) redacted copy, if applicable (See Section 5.2) and one (1) electronic copy via USB or CD.

PART II: SCOPE OF WORK/SERVICES

2.1 Scope of Work/Services

Provider shall provide Engineering Services to design an approximately 30-acre dry detention pond for the Coquille Pond project in northwestern Covington, LA (S2 - T7S - R10E). The purpose of this pond will be to mitigate flooding in the area west of Covington by providing approximately 130 acre-ft of storage volume to collect rainfall runoff from the over 2000 acres upstream. The benefit area for the Coquille Pond will be downstream of the proposed pond location, where approximately 545 structures are located. In the 2016 rain events, there were 12 flooded structures in this approximately 690 acre area.

The existing LA 1077/1085 Drainage Study, dated January 2017 and related Construction Phasing Report added by addendum, dated March 2017, both prepared by N-Y Associates, Inc., may be utilized. A much larger area and various pond locations were recommended in this report. Pond #2 of the N-Y study is in this project area. Although a slightly different location and much smaller (16 acres) pond size was analyzed in the N-Y study, the pond planned herein is anticipated to be located in the vicinity of Recreation District 14's Coquille Sports Complex on LA 1085 (AKA Bootlegger Rd), near LA 1077. Exact pond location and size are included in this proposed project scope. The pond shall be situated within the Soap and Tallow and the Hidden Creek watersheds, on undeveloped land, if possible. The pond design shall include any immediate downstream or upstream drainage improvements as necessary to facilitate connectivity to the pond, which may include but is not limited to cross drains, side drains, storm drains, and ditches.

At this time, the Parish is contracting for Phase I – Feasibility Study Analysis & Modeling. After Phase I is concluded, the Parish may amend the Contract to include any or all other tasks, as needed.

PHASE I – FEASIBILITY

TASK 1- FEASIBILITY STUDY ANALYSIS & MODELING

Provider shall provide engineering services, as required to study in detail the hydrology and hydraulics (H&H) of the proposed pond. The study will include re-evaluating the benefits and verifying pond #2 design criteria and location outlined in the 2017 N-Y Associates study. The provider may utilize the existing SWMM and HEC-RAS hydrologic and hydraulic model data created by N-Y Associates. Existing vs proposed water surface elevations in 10, 25, 50 and 100 year events shall be analyzed.

Deliverables shall include one (1) electronic copy and one (1) hard copy of the H&H study report. This report shall be signed, stamped, and dated by a Professional Civil Engineer currently licensed in Louisiana.

SUBTASK 1.1 – TOPOGRAPHIC SURVEY

Topographic surveying may be included in this task to verify or expand modeling for the feasibility analysis, if necessary.

Deliverables shall include (1) hard copy and pdf and CAD copies of any surveys performed. All surveys must be stamped and signed by a Louisiana licensed surveyor.

Optional services below will be determined upon satisfactory completion of Phase I.

PHASE II – DESIGN, LAND ACQUISITION SERVICES, & CONSTRUCTION (OPTIONAL)

TASK 2 – PRELIMINARY DESIGN (OPTIONAL)

Sub-Task 2.1 – 30% Design

Preliminary plans will be developed in Sub-Task 2.1 and shall include proposed pond layout, dimensions, and configuration with connections to existing drainage ways, as well as typical cross sections of the pond, inlet & outlet structures, and channels. The Provider shall identify properties to be acquired and, if applicable, the need for relocation of existing utilities. Needs for surveying, property acquisition, geotechnical, and environmental permitting shall also be identified during this sub-task.

Provider shall also identify potential conflicts and suggest possible solutions. Provider shall coordinate with the Parish to ensure that any public or private drainage improvement projects connecting to the drainage of this project are incorporated into the design.

Deliverables shall include one (1) electronic copy and one (1) hard copy of the preliminary design plans and preliminary Opinion of Probable Costs of Construction (OPCC), which shall include right-of-way acquisition, utility relocations, geotechnical analyses, survey, and environmental.

Sub-Task 2.2 – Topographic, right-of-way, and property line Survey

Provider shall procure and coordinate all topographic surveys, cross-sections, base maps, right-of-way maps, property descriptions, and parcel maps, as required for the project. All surveys shall be stamped, signed, and dated by a Professional Land Surveyor currently licensed in Louisiana.

These maps shall identify all existing State and/or Parish rights-of-way. Property corners shall be clearly marked for the existing and required right of way. Land surveys for the acquisition of additional rights-of-way or servitudes necessary for this project shall also be prepared. Survey shall include the location and owners of all existing utilities located within the project. Provider shall conduct research using parcel maps, right-of-way drawings, utility as-builts, LIDAR, and any other reasonable methods to acquire enough information about the property to determine accurate cost estimates and to produce a constructible design.

Deliverables shall include one (1) electronic copy and one (1) hard copy of the surveys and other documentation, as required for design and property acquisition.

Sub-Task 2.3 – Geotechnical Report

Provider shall furnish all geotechnical services necessary to perform geotechnical investigations, analyses, and design recommendations. Services include, but are not limited to:

- geotechnical field investigations for soil borings taken at appropriate locations in and around proposed pond;
- preparation of soil boring logs;
- geotechnical laboratory testing and analysis; and
- geotechnical report summarizing all of the above and listing recommendations for earthwork components of the project.

Deliverables shall include one (1) electronic copy and one (1) hard copy of the geotechnical report. This report shall be signed, stamped, and dated by a Professional Civil Engineer currently licensed in Louisiana.

Sub-Task 2.4 – Environmental Permitting

Provider shall research all potential environmental “show stopping” constraints or issues that influence early determinations of the project’s feasibility, timing, and cost to both the natural and human environment. Provider will identify any major community issues impacted by the project during construction and operational phases of the project. Provider will assist the Parish in assessing potential mitigation costs for the project.

Provider shall assist in acquiring all permits required to construct the project, which includes but is not limited to:

- A wetland assessment to include preliminary meetings and coordination with Corps of Engineers (USACE) to give them a preview of the proposed project, define any concerns and requirements for required permit applications, and to obtain an agreement on the methods and scope of a final wetland delineation to be used as a jurisdictional determination. Provider will facilitate the issuance of the jurisdictional determination by USACE.

- Consult with US Fish and Wildlife Service (USFWS) and State Historic Preservation Office (SHPO) to identify any locations within the proposed project area that may be considered sensitive to endangered or threatened species and cultural or historic resources.
- If the project extends into any state right-of-way, a DOTD permit will also be required.
- Provider shall also assist in acquiring a Land Clearing Permit from St. Tammany Parish.
- Finally, Provider shall create a Stormwater Pollution Prevention Plan and submit a Notice of Intent to EPA and LA DEQ.

Deliverables shall include one (1) electronic copy of all permit applications, as well as approved permits from applicable entities.

TASK 3 – LAND ACQUISITION SERVICES (OPTIONAL)

Provider shall procure and coordinate all services necessary for the purchase of any property, right-of-way, and easements required for the approved project design.

TASK 4 – FINAL DESIGN (OPTIONAL)

Provider shall provide Engineering Design Services, as required, to generate final plans and bid documents in the Parish format. Submittals will be broken down into 60% and 100% final for review by the Parish. Depending on the quantity and content of comments after each review, a meeting may be required. All comments must be resolved prior to the Parish authorizing work on the next step.

Part 1 of Task 4 - 60% plans shall include a drainage plan that will not inhibit drainage from or cause adverse effects to adjacent properties. Calculations supporting drainage capacity of proposed drainage structures shall also be submitted with these plans. Roadside drainage shall be designed for the 10 year storm and main trunk lines and laterals shall be designed for the 100 year storm, unless otherwise specified by the Parish. An updated OPCC shall be included with the 60% plans.

Deliverables shall be one (1) electronic set of the 60% plans and an updated OPCC. Parish will review the 60% submittal and submit comments to the Provider.

Part 2 of Task 4 - The 100% draft set shall include bid documents in the Parish format, design drawings, technical specifications, and a Final OPCC. Provider shall include the construction time estimate in calendar days and recommend the contractor's license/project classification for the project. Technical Specifications shall be in the Construction Divisions Master Format, LA DOTD, or other acceptable formats.

Deliverables shall be one (1) electronic set and one hard copy set of the draft 100% plans, specifications, and a Final OPCC. Parish will review the submittal and send comments to the Provider. All comments from the Parish, as well as all comments from permitting and regulatory agencies, must be resolved for final approval. Once finalized, the plans, specifications, and OPCC shall be signed, stamped, and dated by a Professional Civil Engineer currently licensed in Louisiana.

TASK 5 – BENEFIT COST ANALYSIS (OPTIONAL)

Using either the Louisiana Watershed Initiative Benefit Cost Analysis (BCA) requirements or FEMA approved benefit cost analysis (BCA) tools and methods, as directed at the time of the Task 5 NTP, the Consultant shall determine the project benefits and the project costs to compute the benefit cost ratio for the project.

TASK 6 – BIDDING AND CONTRACTING (OPTIONAL)

Upon Parish review and written approval of all above tasks, Provider will begin Task 6 – Bidding and Contracting Phase, if requested in writing by the Parish. Provider shall prepare bid documents, providing at least 10 sets of bidding documents, one electronic set, a Final OPCC, and one complete copy of the Auto CAD, Word, Excel, or other raw data files.

Final Plans, Specifications, and OPCC shall be stamped, signed, and dated by a Professional Civil Engineer currently licensed in the State of Louisiana.

Provider shall assist during the bidding phase by preparing addenda in the Parish format to respond to inquiries, assisting with pre-bid meeting, and tabulating and reviewing bid results, and make recommendations on acceptance of bids, as requested by the Parish.

TASK 7 – CONSTRUCTION MANAGEMENT AND INSPECTION SERVICES (OPTIONAL)

Provider to furnish construction management services, typically performed by the Project Engineer, and/ or full-time or part-time on-site inspection services to monitor construction progress and compliance with plans, specifications, and all permits. Services in this task include, but are not limited to:

- Attend the pre-construction and progress meetings;
- Provide construction engineering support including construction drawing review, submittals review, request for information support, contractor proposals, and change order assistance;
- Maintain all construction field records;
- Make daily entries in the project diary to indicate the Provider's personnel and contractor's personnel present on the job site;
- Visit the project site as required to check construction for conformity;
- Provide all necessary personnel and equipment to perform the required field-testing for quality assurance in accordance with the latest DOTD Sampling and Testing Manual;
- Visit project site as required to check construction for conformity;
- Substantial completion walk-through inspection with punch list preparation;
- Final walk-through inspection to verify completion of punch list;
- Keep clear and concise records of the contractual operations, prepare monthly pay estimates, review pay applications and make monthly progress reports;
- Submit "As-Built" plans, reflect all changes made from the original plans, with the final estimate; and
- Provide owner manuals and warranty information, if applicable.

TASK 8 - MATERIALS SAMPLING AND TESTING (OPTIONAL)

Provider to provide all materials sampling and testing services typically performed by the Materials Testing Laboratory during construction. All testing shall be done by a certified laboratory. Services shall be determined upon satisfactory completion of final plans and will include, but are not limited to:

- Soil Gradation and Classification
- Concrete Slump, Temperature, and Air
- Concrete Compressive Strength
- Optimum Moisture and Density
- Field Density

General

Provider shall submit a design schedule or timeline for each task and sub-task. A status report shall be included with each invoice. Parish shall provide written notification to the Provider prior to beginning each task. Provider shall attend all meetings with the Parish regarding the status of the Project including, but not limited to, the kick-off meeting, progress meetings, pre-bid meeting, and preconstruction meetings.

2.2 Period of Agreement

The Parish and selected Contractor agree that the term of Phase 1 of the contract shall be 180 days, with an option to amend the contract to add optional services and extend the term as necessary. Renewal is at the Parish's option and upon acceptance of the Contractor.

The term of any contract resulting from this solicitation shall begin on the date of the executed Notice to Proceed. The contract shall terminate pursuant to the terms and conditions of section 5.31 herein, the terms and conditions of the contract, operation of law, as agreed between the parties, or upon satisfactory completion of all services and obligations described in the contract.

Prior to commencing each work task, the Contractor will be required to secure a written Notice to Proceed Letter from the Parish and must execute an acknowledgment that it will comply with all requirements of the funding agency, if applicable.

2.3 Price Schedule

Omitted as not applicable to this RFQ.

2.4 Deliverables

The deliverables listed in Scope of Work/Services are the minimum desired from the successful Respondent. Every Respondent should describe what deliverables will be provided per their proposal and how the proposed deliverables will be provided.

2.5 Location

Refer to Section 2.1 Scope of Work/Services.

PART III: EVALUATION

The evaluation committee shall assign points to its evaluation of each Proposal as follows:

Evaluation Criteria	Possible Points
Compliance with the RFQ	15
Understanding of the Project	15
Approach to the Project	15
Ability to perform within the stated estimated timeframe	20
Qualifications of the Respondent, including, but not limited to, its experience and personnel assigned to similar projects	20
Proposal quality and references	15
Total	100

The proposal will be evaluated in light of the material and the substantiating evidence presented to the Parish, not on the basis of what may be inferred.

The scores will be combined to determine the overall score. The Respondent(s) with the highest overall score will be recommended for award. The Parish reserves the right to contract with more than one Respondent.

PART IV: PERFORMANCE STANDARDS

4.1 Performance Requirements

Refer to Section 2.1 Scope of Work/Services.

4.2 Performance Measurement/Evaluation

Omitted as not applicable to this RFQ.

PART V: GENERAL PROVISIONS

5.1 Legibility/Clarity

Responses to the requirements of this RFQ in the formats requested are desirable with all questions answered in as much detail as practicable. The Respondent's proposal is to demonstrate an understanding of the requirements. Proposals prepared simply and economically, providing a straightforward, concise description of the Respondent's ability to meet the requirements of the RFQ are also desired. Each Respondent is solely responsible for the accuracy and completeness of its proposal.

5.2 Confidential Information, Trade Secrets, and Proprietary Information

The designation of certain information as trade secrets and/or privileged or confidential proprietary information shall only apply to the technical portion of the proposal. The cost proposal will not be considered confidential under any circumstance. Any proposal copyrighted or marked as confidential or proprietary in its entirety may be rejected without further consideration or recourse.

For the purposes of this procurement, the provisions of the Louisiana Public Records Act (LSA-R.S. 44.1, *et. seq.*) will be in effect. Pursuant to this Act, all proceedings, records, contracts, and other public documents relating to this procurement shall be open to public inspection. Respondents are reminded that while trade secrets and other proprietary information they submit in conjunction with this procurement may not be subject to public disclosure, protections must be claimed by the Respondent at the time of submission of its Proposal. Respondents should refer to the Louisiana Public Records Act for further clarification.

The Respondent must clearly designate the part of the proposal that contains a trade secret and/or privileged or confidential proprietary information as “confidential” in order to claim protection, if any, from disclosure. The Respondent shall mark the cover sheet of the proposal with the following legend, specifying the specific section(s) of his proposal sought to be restricted in accordance with the conditions of the legend:

“The data contained in pages _____ of the proposal have been submitted in confidence and contain trade secrets and/or privileged or confidential information and such data shall only be disclosed for evaluation purposes, provided that if a contract is awarded to this Respondent as a result of or in connection with the submission of this proposal, the Parish of St. Tammany shall have the right to use or disclose the data therein to the extent provided in the contract. This restriction does not limit the Parish of St. Tammany’s right to use or disclose data obtained from any source, including the Respondent, without restrictions.”

Further, to protect such data, each page containing such data shall be specifically identified and marked “CONFIDENTIAL”.

Respondents must be prepared to defend the reasons why the material should be held confidential. If a competing Respondent or other person seeks review or copies of another Respondent's confidential data, the Parish will notify the owner of the asserted data of the request. If the owner of the asserted data does not want the information disclosed, it must agree to indemnify the Parish and hold the Parish harmless against all actions or court proceedings that may ensue (including attorney's fees), which seek to order the Parish to disclose the information. If the owner of the asserted data refuses to indemnify and hold the state harmless, the Parish may disclose the information.

The Parish reserves the right to make any proposal, including proprietary information contained therein, available to Parish personnel, the Parish Council, or other Parish and state agencies or organizations for the sole purpose of assisting the Parish in its evaluation of the proposal. The Parish shall require said individuals to protect the confidentiality of any specifically identified proprietary information or privileged business information obtained as a result of their participation in these evaluations.

If your proposal contains confidential information, you should also submit a redacted copy along with your proposal. If you do not submit the redacted copy, you will be required to submit this

copy within 48 hours of notification from the Procurement Department. When submitting your redacted copy, you should clearly mark the cover as such - "REDACTED COPY" - to avoid having this copy reviewed by an evaluation committee member. The redacted copy should also state which sections or information have been removed.

5.3 Proposal Clarifications Prior to Submittal

5.3.1 Pre-proposal Conference

Omitted as not applicable to this RFQ.

5.3.2 Respondent Inquiry Periods

The Parish shall not and cannot permit an open-ended inquiry period, as this creates an unwarranted delay in the procurement cycle and Parish operations. The Parish reasonably expects and requires *responsible and interested* Respondents to conduct their in-depth proposal review and submit inquiries in a timely manner.

An inquiry period is hereby firmly set for all interested Respondents to perform a detailed review of the proposal documents and to submit any written inquiries relative thereto. *Without exception*, all inquiries MUST be submitted in writing by an authorized representative of the Respondent, clearly cross-referenced to the relevant solicitation section (even if an answer has already been given to an oral question during a Pre-proposal conference). All inquiries must be received by the close of business on the Inquiry Deadline date set forth in Section 1.3 Schedule of Events of this RFQ. Only those inquiries received by the established deadline shall be considered by the Parish. Inquiries received after the established deadline shall not be entertained.

Inquiries concerning this solicitation may be delivered by e-mail or hand-delivery to:

St. Tammany Parish Government Procurement Department
Attn: Anthony Smith
21454 Koop Drive, Suite 2F
Mandeville, Louisiana 70471
E-Mail: purchasing@stpgov.org

An addendum will be issued and posted at the Parish website, www.stpgov.org, to address all inquiries received and any other changes or clarifications to the solicitation. Thereafter, all proposal documents, including but not limited to the specifications, terms, conditions, plans, etc., will stand as written and/or amended by any addendum. No negotiations, decisions, or actions shall be executed by any Respondent as a result of any oral discussions with any Parish employee or Parish consultant. It is the Respondent's responsibility to check the Parish website frequently for any possible addenda that may be issued. The Parish is not responsible for a Respondent's failure to download any addenda documents required to complete an RFQ.

Respondent shall be aware that this RFQ is not subject to the Louisiana Public Bid Law or the Louisiana Procurement Code. As such, Respondents are not provided an opportunity to protest the process or results of this RFQ.

5.4 Errors and Omissions in Proposal

The Parish will not be liable for any error in the proposal. Respondent will not be allowed to alter proposal documents after the deadline for proposal submission, except under the following condition: the Parish reserves the right to make corrections or clarifications due to patent errors identified in proposals by the Parish or the Respondent. The Parish, at its option, has the right to request clarification or additional information from the Respondent.

5.5 Proposal Guarantee

Omitted as not applicable to this RFQ.

5.6 Performance Bond

Omitted as not applicable to this RFQ.

5.7 Changes, Addenda, Withdrawals

The Parish reserves the right to change the Schedule of Events or issue Addenda to the RFQ at any time. The Parish also reserves the right to cancel or reissue the RFQ.

If the Respondent needs to submit changes or addenda, such shall be submitted in writing, signed by an authorized representative of the Respondent, cross-referenced clearly to the relevant proposal section, prior to the proposal opening, and should be submitted in a sealed envelope. Such shall meet all requirements for the proposal.

5.8 Withdrawal of Proposal

A Respondent may withdraw a proposal that has been submitted at any time up to the proposal closing date and time. To accomplish this, a written request signed by the authorized representative of the Respondent must be submitted to the Procurement Department.

5.9 Material in the RFQ

Proposals shall be based only on the material contained in this RFQ. The RFQ includes official responses to questions, addenda, and other material, which may be provided by the Parish pursuant to the RFQ.

5.10 Waiver of Administrative Informalities

The Parish reserves the right, at its sole discretion, to waive administrative informalities contained in any proposal.

5.11 Proposal Rejection

Issuance of this RFQ in no way constitutes a commitment by the Parish to award a contract. The Parish reserves the right to accept or reject any or all proposals submitted or to cancel this RFQ if it is in the best interest of the Parish to do so.

5.12 Ownership of Proposal

All materials (paper content only) submitted in response to this request become the property of the Parish. Selection or rejection of a response does not affect this right. All proposals submitted will be retained by the Parish and not returned to Respondents. Any copyrighted materials in the response are not transferred to the Parish.

5.13 Cost of Offer Preparation

The Parish is not liable for any costs incurred by prospective Respondents or Contractors prior to issuance of or entering into a Contract. Costs associated with developing the proposal, preparing for oral presentations, and any other expenses incurred by the Respondent in responding to the RFQ are entirely the responsibility of the Respondent, and shall not be reimbursed in any manner by the Parish.

5.14 Non-negotiable Contract Terms

Non-negotiable contract terms include but are not limited to taxes, assignment of contract, audit of records, EEOC and ADA compliance, record retention, content of contract/order of precedence, contract changes, governing law, claims or controversies, and termination based on contingency of appropriation of funds.

5.15 Taxes

Any taxes, other than state and local sales and use taxes, from which the Parish is exempt, shall be assumed to be included within the Respondent's cost.

5.16 Proposal Validity

All proposals shall be considered valid for acceptance until such time an award is made, unless the Respondent provides for a different time period within its proposal response. However, the Parish reserves the right to reject a proposal if the Respondent's acceptance period is unacceptable and the Respondent is unwilling to extend the validity of its proposal.

5.17 Prime Contractor Responsibilities

The selected Respondent shall be required to assume responsibility for all items and services offered in his proposal whether or not he produces or provides them. The Parish shall consider the selected Respondent to be the sole point of contact with regard to contractual matters, including payment of any and all charges resulting from the contract.

5.18 Use of Subcontractors

Each Contractor shall serve as the single prime contractor for all work performed pursuant to its contract. That prime contractor shall be responsible for all deliverables referenced in this RFQ. This general requirement notwithstanding, Respondents may enter into subcontractor arrangements. Respondents may submit a proposal in response to this RFQ, which identifies subcontract(s) with others, provided that the prime contractor acknowledges total responsibility for the entire contract.

If it becomes necessary for the prime contractor to use subcontractors, the Parish urges the prime contractor to use Louisiana vendors, including small and emerging businesses, a small entrepreneurship or a veteran or service-connected disabled veteran-owned small entrepreneurship, if practical. In all events, any subcontractor used by the prime should be identified to the Parish.

Information required of the prime contractor under the terms of this RFQ, is also required for each subcontractor and the subcontractors must agree to be bound by the terms of the contract. The prime contractor shall assume total responsibility for compliance.

5.19 Written or Oral Discussions/Presentations

Written or oral discussions may be conducted with Respondents who submit proposals determined to be reasonably susceptible of being selected for award; however, the Parish reserves the right to enter into an Agreement without further discussion of the proposal submitted based on the initial offers received. Any such written or oral discussion shall be initiated by the Parish.

Any commitments or representations made during these discussions, if conducted, may become formally recorded in the final contract.

Written or oral discussions/presentations for clarification may be conducted to enhance the Parish's understanding of any or all of the proposals submitted. Any such written or oral discussions/presentations shall be initiated by the Parish. Proposals may be accepted without such discussions.

5.20 Acceptance of Proposal Content

The mandatory RFQ requirements shall become contractual obligations if a contract ensues. Failure of the successful Respondent to accept these obligations shall result in the rejection of the proposal.

5.21 Evaluation and Selection

All responses received as a result of this RFQ are subject to evaluation by the Evaluation Committee for the purpose of selecting the Respondent with whom the Parish shall contract.

To evaluate all proposals, a committee whose members have expertise in various areas has been selected. This committee will determine which proposals are reasonably susceptible of being selected for award. If required, written or oral discussions may be conducted with any or all of the Respondents to make this determination. Any such written or oral discussions shall be initiated by the Evaluation Committee.

Results of the evaluations will be provided by the Evaluation Committee to the Procurement Director. Written recommendation for award shall be made for the Respondent(s) whose proposal, conforming to the RFQ, will be the most advantageous to the Parish, price and other factors considered.

The committee may reject any or all proposals if none is considered in the best interest of the Parish.

5.22 Contract Negotiations

If for any reason the Respondent whose proposal is most responsive to the Parish's needs, price and other evaluation factors set forth in the RFQ considered, does not agree to a contract, that proposal shall be rejected and the Parish may negotiate with the next most responsive Respondent. Negotiation may include revision of non-mandatory terms, conditions, and requirements. The Procurement Department must approve the final contract form and issue a purchase order, if applicable, to complete the process.

5.23 Contract Award and Execution

The Parish reserves the right to enter into a contract without further discussion of the proposal submitted based on the initial offers received.

The RFQ, including any addenda, and the proposal of the selected Contractor will become part of any contract initiated by the Parish.

Respondents are discouraged from submitting their own standard terms and conditions with their proposals. Respondents should address the specific language in the sample contract in Attachment "B" of this RFQ and submit any exceptions or deviations the Respondent wishes to negotiate. The proposed terms will be negotiated before a final contract is entered. Mandatory terms and conditions are not negotiable.

If the contract negotiation period exceeds thirty (30) days or if the selected Respondent fails to sign the contract within **twenty calendar** days of delivery of it, the Parish may elect to cancel the award and award the contract to the next-highest-ranked Respondent.

Award shall be made to the Respondent with the highest points, whose proposal, conforming to the RFQ, will be the most advantageous to the Parish, price and other factors considered.

The Parish may determine to contract with multiple Respondents.

5.24 Acknowledgment and Waiver of Protest Rights

Respondent shall execute an Acknowledgment and Waiver (the "Waiver") (Attachment "C") and shall produce same to the Parish along with its proposal. Such Waiver shall state that Respondent has read this RFQ and the Waiver, and understands that the Parish's obligations under this RFQ are not dictated by Louisiana Public Bid Law or the Louisiana Procurement Code. As such, Respondent understands that it is provided no opportunity for protest and waives all such rights.

5.25 Notice of Intent to Award

Upon review and approval of the evaluation committee's and agency's recommendation for award, the Procurement Department will issue a "Notice of Intent to Award" letter to the apparent successful Respondent(s). A contract shall be completed and signed by all parties concerned on or before the date indicated in the "Schedule of Events." If this date is not met, through no fault

of the Parish, the Parish may elect to cancel the “Notice of Intent to Award” letter and make the award to the next most advantageous Respondent.

The Procurement Department will also notify all unsuccessful Respondents as to the outcome of the evaluation process. The evaluation factors, points, evaluation committee member names, and the completed evaluation summary and recommendation report will be made available to all interested parties after the “Notice of Intent to Award” letter has been issued.

5.26 Insurance Requirements

The Contractor shall comply with all insurance requirements of the Parish as contained in Attachment “D”. All policies of insurance shall meet the requirements of the Parish prior to the commencing of any work. The Parish has the right, but not the duty, to approve all insurance policies prior to the commencing of any work. Contractor shall furnish the Parish with certificates of insurance effecting coverage(s) required by the RFQ (see Attachment “D”). The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The certificates are to be received and approved by the Parish before work commences. The Parish reserves the right to require complete certified copies of all required policies, at any time.

5.27 Subcontractor Insurance

The Contractor shall include all subcontractors as insureds under its policies or shall insure that all subcontractors satisfy the same insurance requirements stated herein for the contractor.

5.28 Indemnification and Limitation of Liability

Neither party shall be liable for any delay or failure in performance beyond its control resulting from acts of God or *force majeure*. The parties shall use reasonable efforts to eliminate or minimize the effect of such events upon performance of their respective duties under the contract.

Contractor shall be fully liable for the actions of its agents, employees, partners, or subcontractors and shall fully indemnify and hold harmless the Parish from suits, actions, damages, and costs of every name and description relating to personal injury and damage to real or personal tangible property caused by Contractor, its agents, employees, partners or subcontractors in the performance of the contract, without limitation; provided, however, that the Contractor shall not indemnify for that portion of any claim, loss, or damage arising hereunder due to the negligent act or failure to act of the Parish. In connection therewith, the Contractor shall execute the Hold Harmless Agreement furnished by the Parish (Attachment “E”). Work may not commence until such Hold Harmless Agreement is executed by the Contractor and received by the Parish.

Contractor will indemnify, defend and hold the Parish harmless, **without limitation**, from and against any and all damages, expenses (including reasonable attorneys' fees), claims judgments, liabilities and costs which may be finally assessed against the Parish in any action for infringement of a United States Letter Patent with respect to the Products, Materials, or Services furnished, or of any copyright, trademark, trade secret or intellectual property right, provided that the Parish shall give the Contractor: (i) prompt written notice of any action, claim or threat of infringement suit, or other suit, (ii) the opportunity to take over, settle or defend such action, claim or suit at Contractor's sole expense, and (iii) assistance in the defense of any such action at the expense of Contractor. Where a dispute or claim arises relative to a real or anticipated infringement, the

Parish may require Contractor, at its sole expense, to submit such information and documentation, including formal patent attorney opinions, as the Parish shall require.

The Contractor shall not be obligated to indemnify that portion of a claim or dispute based upon: (i) Parish's unauthorized modification or alteration of a Product, Material, or Service; (ii) Parish's use of the Product, Material, or Service in combination with other products, materials, or services not furnished by Contractor; (iii) Parish's use in other than the specified operating conditions and environment.

In addition to the foregoing, if the use of any item(s) or part(s) thereof shall be enjoined for any reason or if Contractor believes that it may be enjoined, Contractor shall have the right, at its own expense and sole discretion as the Parish's exclusive remedy to take action in the following order of precedence: (i) to procure for the Parish the right to continue using such item(s) or part(s) thereof, as applicable; (ii) to modify the component so that it becomes non-infringing equipment of at least equal quality and performance; or (iii) to replace said item(s) or part(s) thereof, as applicable, with non-infringing components of at least equal quality and performance, or (iv) if none of the foregoing is commercially reasonable, then provide monetary compensation to the Parish up to the dollar amount of the Contract.

The Parish may, in addition to other remedies available to them at law or equity and upon notice to the Contractor, retain such monies from amounts due Contractor, or may proceed against the performance and payment bond, if any, as may be necessary to satisfy any claim for damages, penalties, costs and the like asserted by or against them.

5.29 Fidelity Bond Requirements

Omitted as not applicable to this RFQ.

5.30 Payment

5.30.1 Payment for Services

The Contractor may invoice the Parish monthly, in accordance with the Pricing Schedule agreed to by the parties, at the billing address designated by the Parish . Payments will be made by the Parish within approximately thirty (30) days after receipt of a properly executed invoice, and approval by the Parish. Invoices shall include the purchase order number. Invoices submitted without this information will not be approved for payment until the required information is provided/reflected on the invoice.

5.31 Termination

5.31.1 Termination of the Contract for Cause

The Parish may terminate the contract for cause based upon the failure of the Contractor to comply with the terms and/or conditions of the contract, or failure to fulfill its performance obligations pursuant to the contract, provided that the Parish shall give the Contractor written notice specifying the Contractor's failure. If within thirty (30) days after receipt of such notice, the Contractor shall not have corrected such failure or, in the case of failure which cannot be corrected in thirty (30) days, begun in good faith to correct such failure and thereafter proceeded diligently

to complete such correction, then the Parish may, at its option, place the Contractor in default and the contract shall terminate on the date specified in such notice.

The Contractor may exercise any rights available to it under Louisiana law to terminate for cause upon the failure of the Parish to comply with the terms and conditions of the contract, provided that the Contractor shall give the Parish written notice specifying the Parish's failure and a reasonable opportunity for the Parish to cure the defect.

5.31.2 Termination of the Contract for Convenience

The Parish may terminate the contract at any time by giving thirty (30) days written notice to the Contractor of such termination or negotiating with the Contractor an effective date.

The Contractor shall be entitled to payment for deliverables in progress, to the extent work has been performed satisfactorily.

5.31.3 Termination for Non-Appropriation of Funds

The continuance of the contract is contingent upon the appropriation of funds to fulfill the requirements of the contract by the Parish Council. If the Parish Council fails to appropriate sufficient monies to provide for the continuation of the contract, or if such appropriation is reduced for any lawful purpose, and the effect of such reduction is to provide insufficient monies for the continuation of the contract, the contract shall terminate on the date of the beginning of the first fiscal year for which funds are not appropriated.

5.32 Assignment

The Contractor shall not assign any interest in the contract by assignment, transfer, or novation, without prior written consent of the Parish. This provision shall not be construed to prohibit the contractor from assigning his bank, trust company, or other financial institution any money due or to become due from approved contracts without such prior written consent. Notice of any such assignment or transfer shall be furnished promptly to the Parish.

5.33 No Guarantee of Quantities

The quantities referenced in the RFQ are estimated to be the amount needed. In the event a greater or lesser quantity is needed, the right is reserved by the Parish to increase or decrease the amount, at the unit price stated in the proposal.

The Parish does not obligate itself to contract for or accept more than its actual requirements during the period of the contract, as determined by actual needs and availability of appropriated funds.

5.34 Audit of Records

The Parish Auditor, state auditors, federal auditors or others so designated by the Parish, shall have the option to audit all accounts directly pertaining to the resulting contract for a period of five (5) years after Project acceptance or as required by applicable State and Federal law. Records shall be made available during normal working hours for this purpose.

5.35 Civil Rights Compliance

The Contractor agrees to abide by the requirements of the following as applicable: Title VI and Title VII of the Civil Rights Act of 1964, as amended by the Equal Opportunity Act of 1972, Federal Executive Order 11246, the Federal Rehabilitation Act of 1973, as amended, the Vietnam Era Veteran's Readjustment Assistance Act of 1974, Title IX of the Education Amendments of 1972, the Age Act of 1975, and Contractor agrees to abide by the requirements of the Americans with Disabilities Act of 1990. Contractor agrees not to discriminate in its employment practices, and will render services under the contract and any contract without regard to race, color, religion, sex, national origin, veteran status, political affiliation, or disabilities. Any act of discrimination committed by Contractor, or failure to comply with these statutory obligations when applicable shall be grounds for termination of the contract.

5.36 Record Retention

The Contractor shall maintain all records in relation to the contract for a period of at least five (5) years after final payment.

5.37 Record Ownership

All records, reports, documents, or other material related to any contract resulting from this RFQ and/or obtained or prepared by Contractor in connection with the performance of the services contracted for herein shall become the property of the Parish and shall, upon request, be returned by Contractor to the Parish, at Contractor's expense, at termination or expiration of the contract.

5.38 Content of Contract/ Order of Precedence

In the event of an inconsistency between the contract, the RFQ and/or the Contractor's Proposal, the inconsistency shall be resolved by giving precedence first to the final contract, then to the RFQ and subsequent addenda (if any) and finally, the Contractor's Proposal.

5.39 Contract Changes

No additional changes, enhancements, or modifications to any contract resulting from this RFQ shall be made without the prior approval of the Parish.

Changes to the contract include any change in: compensation; beginning/ ending date of the contract; scope of work; and/or Contractor change through the Assignment of Contract process. Any such changes, once approved, will result in the issuance of an amendment to the contract.

5.40 Substitution of Personnel

The Parish intends to include in any contract resulting from this RFQ the following condition:

Substitution of Personnel: If, during the term of the contract, the Contractor or subcontractor cannot provide the personnel as proposed and requests a substitution, that substitution shall meet or exceed the requirements stated herein. A detailed resume of qualifications and justification is to be submitted to the Parish for approval prior to any personnel substitution. It shall be acknowledged by the Contractor that every reasonable attempt shall be made to assign the personnel listed in the Contractor's proposal.

5.41 Governing Law

All activities associated with this RFQ process shall be interpreted under Louisiana Law. All proposals and contracts submitted are subject to provisions of the laws of the State of Louisiana and specifications listed in this RFQ. Jurisdiction and venue for any suit filed in connection with this RFQ process and contract shall be exclusive to the 22nd Judicial District Court for the Parish of St. Tammany, State of Louisiana.

5.42 Anti-Kickback Clause

The Contractor hereby agrees to adhere to the mandate dictated by the Copeland "Anti-Kickback" Act which provides that each Contractor or subgrantee shall be prohibited from inducing, by any means, any person employed in the completion of work, to give up any part of the compensation to which he is otherwise entitled.

5.43 Clean Air Act

The Contractor hereby agrees to adhere to the provisions which require compliance with all applicable standards, orders or requirements issued under Section 306 of the Clean Air Act which prohibits the use under non-exempt Federal contracts, grants or loans of facilities included on the EPA list of Violating Facilities.

5.44 Energy Policy and Conservation Act

The Contractor hereby recognizes the 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 (P.L. 94-163).

5.45 Clean Water Act

The Contractor hereby agrees to adhere to the provisions which require compliance with all applicable standards, orders, or requirements issued under Section 508 of the Clean Water Act which prohibits the use under non-exempt Federal contracts, grants or loans of facilities included on the EPA List of Violating Facilities.

5.46 Anti-Lobbying and Debarment Act

The Contractor will be expected to comply with Federal statutes required in the Anti-Lobbying Act and the Debarment Act.



LA 1077/1085 DRAINAGE STUDY

ST. TAMMANY PARISH, LOUISIANA

JANUARY, 2017

Prepared By:



N-Y JOB NO. 15008

TABLE OF CONTENTS

Executive Summary	1	APPENDICES	
SECTION 1 – INTRODUCTION	2	APPENDIX A - WATER SURFACE PROFILES	
1.1 Background	2	Figure 1.1: Water Surface Profile for East Bedico Creek Existing Conditions	
1.2 Purpose of Project	2	Figure 1.2: Water Surface Profile for East Bedico Creek Proposed Conditions	
1.3 Scope of Work	2	Figure 1.3: Water Surface Profile for Tributary #3 Existing Conditions	
1.4 Description of Project Area	2	Figure 1.4: Water Surface Profile for Tributary #3 Proposed Conditions	
	2	Figure 1.5: Water Surface Profile for Fox Run Creek Existing Conditions	
	2	Figure 1.6: Water Surface Profile for Fox Run Creek Proposed Conditions	
	2	Figure 1.7: Water Surface Profile for Soap & Tallow Creek Existing Conditions	
	2	Figure 1.8: Water Surface Profile for Soap & Tallow Creek Proposed Conditions	
	2	Figure 1.9: Water Surface Profile for Tallow Creek Existing Conditions	
	3	Figure 1.10: Water Surface Profile for Tallow Creek Proposed Conditions	
	3	Figure 1.11: Water Surface Profile for Tuscany Creek Existing Conditions	
	3	Figure 1.12: Water Surface Profile for Tuscany Creek Proposed Conditions	
	3	Figure 1.13: Water Surface Profile for Black River Existing Conditions	
	4	Figure 1.14: Water Surface Profile for Black River Proposed Conditions	
	4	APPENDIX B - DRAINAGE AREA INDEX	
	4	APPENDIX C - DELINEATED DRAINAGE AREA SHEETS	Sheets 1 to 10
	5	APPENDIX D - FLOOD INUNDATION MAPS EXISTING & PROPOSED 10 YEAR – 24 HOUR STORM	Sheets 11 to 24
	5	APPENDIX E - FLOOD INUNDATION MAPS EXISTING & PROPOSED 100 YEAR – 24 HOUR STORM	Sheets 25 to 38
TABLES		APPENDIX F	
Table 1.1: SWMM Input Areas, CN Values, Length Time of Concentration	8-9	Table 1.4: Existing Water Surface Profile Elevations, Culverts	Sheets 1-4
Table 1.2: SWMM Output Flows	10	Table 1.5: Existing Water Surface Profile Elevations, Bridges	Sheet 5
Table 1.3: Summary: Proposed vs Existing Water Surface Profile Elevations	11-12	APPENDIX G	
Table 1.8: Overall Pond Dimensions	4	Table 1.6: Proposed Water Surface Profile Elevations, Culverts	Sheets 6-9
Table 1.9: Pond Quantities	5	Table 1.7: Proposed Water Surface Profile Elevations, Bridges	Sheet 10
Table 2.0: Engineer's Opinion of Probable Cost	6	APPENDICES (CD ATTACHED)	
		APPENDIX H – USGS Soil Maps	
		APPENDIX I – CN – RUNOFF COEFFICIENT CALCULATIONS TABLES	
		APPENDIX J – HYDROGRAPHS AND FLOWS 10, 25, 50, 100 YEAR – 24 HOUR STORMS	
		APPENDIX K – SWMM HYDROLOGIC & HYDRAULIC MODELS	
		APPENDIX L – HEC RAS HYDRAULIC MODELS	
		APPENDIX M – SURVEY CROSS SECTIONS, PDF	
		APPENDIX N – DIGITAL SURVEY, AUTOCADD	
		APPENDIX O – AVERAGE W.S.E. REDUCTION CALCULATIONS	
FIGURES			
Figure 1.0 Proposed Improvements Plan Sheet	7		

Executive Summary

The purpose of this Hydrologic and Hydraulic study is to evaluate the flood inundation and water surface elevation within three (3) adjoining watershed areas in northwestern St. Tammany Parish, LA.

The total area of the 3 adjoining watersheds is 19.6 square miles. The watersheds are:

- East Bedico Creek (7,254.3 Acres) includes tributaries Fox Branch and Tributary No. 3.
- Soap and Tallow Creek (4,412.0 Acres) includes tributaries Tallow Creek, Tallow Creek No.3 and Tuscany.
- Black River (833.0 Acres).

The average slope across the study area is relatively flat, less than 0.2%. Also, average profile grades of creeks are relatively flat, less than 0.2%. The soil conditions are also poor for drainage. Therefore, flood inundation is widespread but shallow, as illustrated on the flood inundation maps and the water surface profiles.

Dry detention ponds are proposed to reduce flood inundation and water surface elevations (W.S.E.) Six (6) dry detention ponds are proposed. The total real estate acquisition required is 82.7 acres.

Also, proposed are additional culverts at:

- La Hwy 1077 (Tallow Creek), Structure No. 1
- Perriloux Road (Fox Branch), Structure No. 2
- Bedico Creek Blvd. (Bedico Creek), Structure No. 3
- La Hwy 1085 - between La Hwy 1077 & Diversified Blvd., (Pond Interconnect) Structure No. 4

Culverts are designed for the 10 year – 24 hour storm. The dry detention ponds allow culverts to be added without an increase in flow downstream. The depth and duration of flow overtopping the roadways is reduced for the 100 year – 24 hour storm.

Also, Channel (creek) maintenance is proposed. The existing conditions model assumes a friction coefficient of 0.05 for channels (not maintained). The proposed conditions model assumes a friction coefficient of 0.03 for channels (maintained). Channels and Creeks do not need to be lined; however, it is recommended that channels and Creeks be maintained on a regular basis. Channels should be free trees and bushes. It is recommended that cross slopes be protected from erosion with grass and rock channel protection where velocities are high.

The model shows a reduction in water surface elevation (W.S.E.) as follows:

Fox Branch (Fox Branch and Bonita Estates)

The average water surface elevation reduction from Interstate 12 to La Hwy 1085 is 0.99 feet and 0.64 feet, for the 10 year and 100 year storms, respectively. This average water surface elevation reduction is over a distance of 2.5 miles.

Tallow Creek (La Hwy 1077 and White Chapel Road)

The average water surface elevation reduction from La Hwy 1077 to a commercial driveway labeled as New Road in the report, is 0.64 feet and 0.56 feet, for the 10 year and 100 year storms, respectively. This average water surface elevation reduction is over a distance of 1.6 miles.

Black River (Rex Road and Brewster Road)

The average water surface elevation reduction from Rex Road to Brewster Road is 0.78 feet and 0.32 feet, for the 10 year and 100 year storms, respectively. This average water surface elevation reduction is over a distance of 0.7 miles.

The existing culverts (2 – 9 foot diameter RCP) at Bedico Creek Blvd. on Bedico Creek were evaluated and found to be insufficient for the 10 year storm. It is recommended that a Reinforced Concrete Box, (35 feet wide by 12.5 feet high), Structure No. 3 replace the existing culverts. Also, just downstream of this location Fox Branch flows into Bedico Creek. It is recommended that the junction of Bedico Creek and Fox Branch be realigned. This will improve flow and thus, reduce the W.S.E. (water surface elevation).

Channel re-alignment and widening at the inlet and outlet of the existing culvert at Fox Branch and Interstate 12 is recommended to allow for reverse flow in the culvert, providing an interconnection of the detention ponds. It is recommended that the channel re-alignment be included in the design phase.

The total estimated cost for the proposed improvements including real estate acquisition, and wet lands mitigation is \$17,800,000. A wet lands determination study has not been made. All proposed pond areas are assumed to be wet lands for the purposes of the cost estimate.

SECTION 1 – INTRODUCTION

1.1 Background

St. Tammany Parish (Parish) is geographically located in the south eastern part of Louisiana, north of Lake Pontchartrain (Lake) and abuts the State of Mississippi on the east. Based on the data provided by the U.S. Bureau of Census, St. Tammany Parish has a total area of 1,124 square miles. Of this total area, 846 square miles is land and 279 square miles is water. In general, the land slopes from the north to the south.

The study area includes three (3) adjoining watersheds, totaling 20 square miles. East Bedico Creek watershed which includes two tributaries, Fox Branch and East Bedico Tributary No. 3, flows southwest into Tangipahoa Parish. The Black River watershed flows south to Lake Pontchartrain. The Soap and Tallow Creek watershed, which includes the Tallow creek tributary, flows southeast to the Tchefuncte River.

Because the 3 watersheds are adjoining, the same detention pond(s) can be utilized for more than one watershed.

The overall area of study is bounded by the Tangipahoa Parish line (west boundary), Dummyline Road (south boundary), Gottschalk Road (north boundary) and Rousseau Road (east boundary).

1.2 Purpose of Project

The purpose of this project is to identify the flood prone areas and recommend drainage improvements that will alleviate flooding within the project area shown in Figure No. 1.1.

The recommended improvements are based on the HEC-RAS Model Runs for this Hydrologic and Hydraulic (H&H) study for a 10 Year Design Storm.

1.3 Scope of Work

The scope of work required the preparation of a hydraulic and hydrologic study for East Bedico Creek, Soap and Tallow Creek and the Black River watersheds, the evaluation of the existing and proposed conditions and the determination of the area of flood inundation and water surface elevations, propose solutions to reduce the area of flood inundation and the reduction of the water surface elevations (W.S.E.).

The following is also included:

- i. Flood inundation which impacts existing subdivisions were addressed.
- ii. Existing W.S.E. and proposed W.S.E. were compared.
- iii. An Opinion of Probable Construction Cost for the proposed improvements is provided.

1.4 Description of Project Area

The three watersheds evaluated are:

East Bedico Creek (7,254.3 Acres) Approximately bounded by Gottschalk Road, the Tangipahoa Parish line just west of La Hwy 1077 and Brewster Road. Bonita Estates and Fox Branch Estates subdivisions are within this drainage area.

Soap and Tallow Creek (4,412.0 Acres) Approximately bounded by US 190, La Hwy 1085 just west of La Hwy 1077 and Rousseau Road. Tuscany Estates subdivision is within this drainage area.

Black River (833.0 Acres) Approximately bounded by Dummyline Road, La Hwy 1077 just South of I-12, Powerline Road and Galatas Road. Madisonville Farms subdivision is within this drainage area.

The watershed drainage area studied is less than 30% developed. Thus, it is critical to note that based on the 2015 land use map CN values are estimated to increase approximately 8% when the area is built out. This evaluation will be important if regional detention is considered by the Parish. See Appendix H for existing and future CN values. The CN values used in this study are based on existing conditions.

The areas are drained by gravity using a network of natural creeks, manmade ditches, drainage laterals and culverts. The ditches and culverts drain into the drainage laterals and creeks that in turn drain into the Tchefuncte River or into Lake Pontchartrain. Several man made ponds have been constructed over the years to provide some storm water detention and/or storage.

SECTION 2 – DATA COLLECTION AND FIELD WORK

2.1 Topographic Surveying

In order to accurately determine the invert elevations of the existing culverts, the flow lines of creeks and ditches and to verify the existing ground elevations that were obtained from other sources, N-Y completed a partial topographic survey of the project area for the purpose of computer modeling the drainage basin. The survey data was prepared in the NAVD 88 datum. Light Detection and Ranging (LIDAR) data was down loaded from the Atlas Lidar web site. The topographic survey is included in Appendices H and I.

SECTION 3 – MODELING AND ANALYSIS

3.1 Methodology

LiDAR and topographical survey data was used to generate a 3-D digital surface from which contour lines are generated. Drainage boundaries (area) were delineated based on the contours. The contours were used to determine the existing storage volume (detention) of the drainage areas.

The length of time of concentration is the length from a remote point in the drainage area to the point of concentration. The SCS TR – 55 method is used to calculate the time of concentration. See Appendix C – Delineated Drainage Area Sheets for the path of the time of concentration. Appendix C also shows a plan area number for each delineated area. This plan area number corresponds to the plan area number in Table 1.1.

Included in Table No. 1.1 are Acres, CN values, time of concentration and the length of time of concentration per each drainage area. The CN values (runoff coefficient) are based on the USGS soil type maps and the existing land use / development. The determination of CN values is shown in Appendix H – USGS Soil Maps and Appendix I – CN – Runoff Coefficient Calculation Tables.

The rainfall curve is a Type III SCS distribution curve. Rainfall intensity is shown in the figure below.

Return Period	Depth of Rainfall over 24 hours (inches)
10 - Year	8.5
25 - Year	9.9
50 - Year	11.1
100 - Year	12.6

Data including drainage area, length of time of concentration and CN values, rainfall distribution curve and existing storage volume / detention were input into the Storm Water Management Model (SWMM) software. SWMM generated the flows for the 10, 25, 50 and 100

year – 24 hour storm events. The method of flow determination is shown in Appendix J – Hydrographs and Flows 10, 25, 50, 100 Year – 24 Hour Storms. Also, SWMM generated water surface elevations, time of concentration for each drainage area, and evaluated the required storm water detention for the design year storm. Thus, existing and proposed conditions are evaluated for the 10, 25, 50 and 100 year – 24 hour storm events. See Table No. 1.2.

The flows generated by SWMM and cross sections from the 3-D digital surface were input into Hec Ras. Hec Ras generated a water surface profile for each stream. The flood inundation boundaries are based on the output from Hec Ras 4.1.0. Finally, water surface elevations of existing and proposed conditions are compared for the 10 and 100 year – 24 hour storms. See Table 1.3 Summary Proposed Vs. Existing Water Surface Profile Elevations. The 10-year storm is the basis for pond and culvert design. The 100 year storm serves as a check (calibration) against the 100 year DFIRM Map. See Appendix A for water surface profiles for each stream. The existing profile for the 10 and 100 year storm is shown on the same sheet for a particular stream. The following sheet shows the proposed 10 and 100 year storm for the same stream. See Appendix F, Tables 1.4 and 1.5 for existing water surface elevations at culverts and bridges. See Appendix G, Tables 1.6 and 1.7 for proposed water surface elevations at culverts and bridges.

3.2 Software

The Storm Water Management Model (SWMM) version 5.0.022 developed by the US Environmental Protection Agency (USEPA) computer modeling system was utilized for modeling this project.

According to the US EPA web site (<http://www.epa.gov/nrmrl/wswrd/wq/models/swmm/>), “This general purpose urban hydrology and conveyance system hydraulics software is a dynamic rainfall-runoff simulation model used for a single event or long-term (continuous) simulation of runoff quantity and quality from primarily urban areas.” The runoff component of SWMM operates on a collection of sub-catchment areas that receive precipitation and generate runoff and pollutant loads. The routing portion of SWMM transports this runoff through:

- a system of pipes
- channels
- storage/treatment devices

The Hydrologic Engineering Center River Analysis System (HEC-RAS 4.1.0) software allows the user to perform one-dimensional steady flow, one and two-dimensional unsteady flow calculations, sediment transport / mobile bed computations, and water temperature/water quality modeling.

3.3 Existing & Proposed Drainage Area Basins

The drainage areas and streams vary in slope from 0.5 % to 0.01%. Based on USGS soil maps, the soil types drain poorly. Therefore, flooding is relatively wide and shallow at a given cross section. See Appendix H for soil maps and Table 1.1 for CN values (runoff coefficients). The drainage area evaluated is roughly 30% developed. However, because the native soil drains poorly (high impermeability equates to high CN values) the planned future development (per the 2015 Land Use Map) will increase CN values from approximately 79 to 86 on average. Appendix I shows the projected CN values.

The delineated drainage areas are based on contour lines and roadways. The USGS quad maps and DFIRM flood maps (100 year storm) were reviewed to evaluate the overall watersheds.

The Parish land development ordinance requires storm water detention. Therefore, the area of existing detention ponds is significant. However, the existing detention ponds are wet ponds and their volume was not included in this study. It is recommended that the existing ponds be included in the design phase. Conversion of existing wet ponds to dry ponds and pond inter-connection should be evaluated in the design phase.

3.4 Manning's Roughness Coefficient

The following values of Manning's Roughness Coefficient (n) were used as shown below. These are calibration parameters and were adjusted to match the existing conditions. For example, if the ditches are not maintained and are subject to heavy brush growth, the n value can be increased.

- i. For Concrete Culverts, n = 0.013
- ii. For Corrugated Metal Culverts, n = 0.024
- iii. For Plastic and PVC pipes, n = 0.012
- iv. For roadside ditches and drainage laterals (canals), n = 0.03 (value for open excavated channels with dense weeds).
- v. For winding ditches with some weeds and pools, n = 0.05 was used.

3.5 Model Results (Existing & Proposed)

The model shows a reduction in water surface elevation (W.S.E.) as follows:
Fox Branch (Fox Branch and Bonita Estates)

The average water surface elevation reduction from Interstate 12 to La Hwy 1085 is 0.99 feet and 0.64 feet, for the 10 year and 100 year storms, respectively. This average water surface elevation reduction is over a distance of 2.5 miles.

Tallow Creek (La Hwy 1077 and White Chapel Road)

The average water surface elevation reduction from La Hwy 1077 to a commercial driveway labeled as New Road in the report, is 0.64 feet and 0.56 feet, for the 10 year and 100 year storms, respectively. This average water surface elevation reduction is over a distance of 1.6 miles.

Black River (Rex Road and Brewster Road)

The average water surface elevation reduction from Rex Road to Brewster Road is 0.78 feet and 0.32 feet, for the 10 year and 100 year storms, respectively. This average water surface elevation reduction is over a distance of 0.7 miles.

Additionally, Tuscany Estates is within the study area. The master drainage plan (2007) included with the subdivision plans, shows the outfall being routed south to Tallow Creek. The hydrologic and hydraulic model assumes the outfall as per the master drainage plan. The model indicates that the water surface elevation (10 year storm) will be reduced from 25.47 feet to 25.30 feet, a reduction of 0.17 feet. The Tuscany Estates subdivision plan shows roadway elevations from 26.40 to 24.90 feet. The existing wet detention pond, top of berm elevation is 24.97, according to the plan. Therefore, the existing pond and a portion of the roadway will be overtopped. Thus, flooding will be reduced but not eliminated within the subdivision. The model indicates the flooding within the subdivision is minimal. Therefore, the issue may be within the subdivision. Specifically, the outfall of the detention should be evaluated in the design phase.

3.6 Proposed Improvements

Dry detention ponds are proposed to reduce flood inundation and water surface elevations (W.S.E.) See Figure 1.0 for Dry Detention Pond Locations. Table No. 1.8 below, shows the overall pond dimensions.

Table No. 1.8 Overall Pond Dimensions

<u>Pond No.</u>	<u>Top of Bank Elevation</u>	<u>Bottom Elevation</u>	<u>Depth (Feet)</u>	<u>Real Estate Acquisition</u>
1	26.5	17	9.5	Acres 5.8
2	24	17.5	6.5	16.4
3	24	17	7	16.5
4	24	17	7	32.0
5	24	17	7	7.0
6	22	16	6	4.7

Also, additional culverts are proposed at the following locations. See Figure 1.0 Proposed Improvement Plan Sheet.

- La Hwy 1077 (Tallow Creek), Structure No. 1, RCP Diameter 54 inch
- Periloux Road (Fox Branch), Structure No. 2, 2 - RCP Diameter 54 inch
- Bedico Creek Blvd. (Bedico Creek), Structure No. 3, - Cast in Place, 2-Barrel @ 17.5 ft. x 12.5 ft. per barrel.
- La Hwy 1085 - between La Hwy 1077 & Diversified Blvd., (Pond Interconnect) Structure No. 4, Reinforced Concrete Box Height - 48 in. x Width - 96 in.

Culverts are designed for the 10 year – 24 hour storm. The dry detention ponds allow culverts to be added without an increase in flow downstream. The depth and duration of flow over topping the roadways is reduced for the 100 year – 24 hour storm.

Also, Channel (creek) maintenance is proposed. The existing conditions model assumes a friction coefficient of 0.05 for channels (not maintained). The proposed conditions model assumes a friction coefficient of 0.03 for channels (maintained). Channels and Creeks do not need to be lined, but it is recommended that channels and Creeks be maintained on a regular basis. Channels should be kept free of trees and bushes. It is recommended that cross slopes be protected from erosion with grass and rock channel protection where velocities are high.

The existing culverts (2 – 9 foot diameter RCP) at Bedico Creek Blvd. on Bedico Creek were evaluated and found to be insufficient for the 10 year – 24 storm. It is recommended that a Reinforced Concrete Box (35 feet wide by 12.5 feet high), Structure no. 3, replace the existing culverts, or an equivalent bridge should be included in the design phase. Also, the confluence (junction) of Fox Branch and Bedico Creek should be improved to increase flow and reduced tail water. Currently, Fox Branch flows into Bedico Creek at a 90 degree angle. The channels should be re-aligned to reduce the angle from 90 to 45 degrees.

Channel re-alignment at the inlet and outlet of the existing culvert at Fox Branch and Interstate 12 is recommended to allow for reverse flow in the culvert and provide an interconnection of the detention ponds. It is recommended that the channel re-alignment be included in the design phase.

In summary, dry detention ponds are needed to reduce the W.S.E. within the three water sheds. Culverts are added (designed) based on the 10 year storm. Thus, the proposed W.S.E. is below the pavement at roadways (La Hwy 1077, Periloux Road and Bedico Creek Blvd.) Also, culverts minimize the pond size (volume). The proposed pond and culvert combination is balanced to ensure outflow from the three water sheds does not increase water surface elevations downstream.

SECTION 4 – ESTIMATED CONSTRUCTION COSTS OF THE PROPOSED IMPROVEMENTS

4.1 Discussion of Estimated Construction Cost (Engineer’s Opinion of Probable Costs)

The proposed construction includes 6 dry detention ponds, culverts and the acquisition of 83 acres of land. The total estimated cost for the improvements is \$17,309,379.50. See Table No. 2.0 for the itemized costs. Costs may be significantly reduced if the existing wet ponds in the northwest and southwest quadrants of Interstate 12 and La 1077 can be included in the design phase and converted from wet ponds to dry ponds. Based on the opinion of probable costs, the cost to excavate an acre (depth of 7 feet) is \$109,000 and the cost of the existing ponds is \$30,000 per acre. Table No. 1.9 below itemizes quantities for dry detention pond construction. These quantities are carried to Table No. 2.0.

Table No. 1.9 Pond Quantities

Pond No.	Real Estate Acquisition	Excavation	Reinforced Concrete Control Structure	Rock Channel Protection	Hydro-Seeding	Grading
	Acres	Cubic Yards	Cubic Yards	Cubic Yards	Acres	Acres
1	5.8	70,370	24	400	5.8	5.8
2	16.4	156,481	24	400	16.4	16.4
3*	16.9	170,000	24	800	16.9	16.9
4	32.0	337,037	24	400	32.0	32.0
5	7.0	67,407	24	400	7.0	7.0
6	4.7	38,889	24	400	4.7	4.7
	82.3	840,185	144.0	2,400.0	82.3	82.3

❖ NOTE: Pond No. 3 includes quantities for Channel No. 1.

Benefits of the proposed improvements include reduced frequency of flooding at roadways (La Hwy 1077, Periloux Road and Bedico Creek Blvd.), in residential areas (Fox Branch, Bonita, Tuscany and Madisonville Farms Estates) and the commercial area in the northwest corner of La Hwy 1077 and Interstate 12. The benefits are achieved without impacting areas downstream of the three water sheds.

Engineer's Opinion Of Probable Construction Cost

Table No. 2.0

<u>Location</u>	<u>Item</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Cost</u>
1077 & Tallow Creek Culvert	40 Lin. Ft. of a 54 inch RCP w/ Headwalls, Including 100 Lin. Ft., 28 wide Asphalt Roadway, Guardrail, Mobilization	Lump	1.0	\$160,000.00	\$160,000.00
Fox Run Branch & Perilloux Rd. Culvert	2 - 54 inch RCP Barrels, Each Barrel 40' long, w/ Headwalls, Including 100 Lin. Ft., 24 wide Asphalt Roadway, Guardrail, Mobilization	Lump	1.0	\$160,000.00	\$160,000.00
Bedico Creek & Bedico Creek Blvd. Box Culvert	44 Lin. Ft. Cast in Place Concrete Box 2-Barrels @ 17.5' wide X 12.5' high each, w/ Concrete WingWalls, HeadWalls, Includes 150 Lin.Ft. of 28' wide Asphalt Pavement, Concrete Curb & Gutter, Guardrail, Base, TTC, Mobilization.	Lump	1.0	\$800,000.00	\$800,000.00
LA HW 1085 - between LaHwy 1077 & Divesified blvd.	RCB Hieght - 48 in. x Width - 96 inch. w/ Headwalls, Roadway, Mobilization	Lump	1.0	\$225,000.00	\$225,000.00
Ponds (No. 1 thru No.6)	Reinforced Concrete Control Structure	Cu Yd.	144.0	\$1,564.00	\$225,216.00
Ponds (No. 1 thru No.6)	Rock Channel Protection	Cu Yd.	2,800.0	\$100.00	\$280,000.00
Ponds (No. 1 thru No.6)	Excavation	Cu Yd.	840,185	\$10.70	\$8,989,979.50
Ponds (No. 1 thru No.6)	Hydro-Seeding	Acre	82.7	\$2,000.00	\$165,400.00
Ponds (No. 1 thru No.6)	Grading	Acre	82.7	\$2,000.00	\$165,400.00
Ponds (No. 1 thru No.6)	Real Estate Acquisition ¹	Acre	82.7	\$30,000.00	\$2,481,000.00
Ponds (No. 1 thru No.6)	Wet Lands Mitigation ²	Acre	82.7	\$50,000.00	\$4,135,000.00
1. Cost Estimate Based on local real estate data.					\$0.00
2. Cost Estimate based on data obtained from wetland banks under the Louisiana Nature Conservatory. <u>A wet lands determination study has not been made.</u>					
Total Estimated Cost of Construction					\$17,786,995.50

NOTE: This cost estimate represents a professional opinion based on currently available information. Actual construction cost may vary significantly from this figure depending upon the time of construction, changed conditions, availability of materials, and other factors beyond the control of the consultant or owner. This figure is not a guaranteed maximum cost.

DESIGNED F.M.	CHECKED D.N.	PARISH ST. TAMMANY
DESIGNED F.M.	CHECKED D.V./F.M.	
DATE AUGUST 2016	DATE	
SHEET	BY	REVISION DESCRIPTION



FIGURE 1.0

SWMM Input Area, CN Values, Length for Time Of Concentration

Table No. 1.1

<u>Plan Area Number</u>	<u>Acres</u>	<u>Element</u>	<u>Description</u>	<u>CN Values</u>	<u>Time of Concentration</u> (days hh:mm:ss)	<u>T.O.C. Length</u> (feet)
1.0	310.0	Area-01	Northwestcorner1077&190	78.50	0 04:00:38	6,700
2.0	294.0	Area--02		78.10	0 03:19:50	8,310
3.0	112.0	Area-3	JoinerWynerRd.	78.10	0 02:15:53	2,936
4.0	165.0	Areas-4and4.1		78.10	0 02:25:37	4,339
4.0	159.0					
4.1	6.0					
5.0	678.0	Area--05	area5	78.10	0 06:07:34	10,700
6.0	66.0	Area-6-InterState12		90.00	0 01:19:04	4,590
7.0	843.0	areas7and8	combineareas7&8	79.40	0 03:34:06	6,515
7.0	792.0					
8.0	51.0					
9.0	51.0	area17&9	area17&9	79.40	0 01:14:35	2,660
9.0	10.0					
17.0	41.0					
10.0	274.0	Area-10		79.40	0 02:34:02	3,510
11.0	1867.0	Area-11		75.70	0 06:16:52	12,100
12.0	646.0	Area-12	westbetween190andI-12	76.70	0 04:00:28	3,200
12.1	268.0	Area--12.1	Evaluate-Culverts@Trace	76.70	0 02:34:01	9,700
12.2	287.0	Area-12.2		72.00	0 02:45:52	6,680
12.3	769.0	Area-12.3		76.70	0 05:11:56	11,600
13.0	538	Area-13	areaeastofPerrilouxRd.	78.90	0 05:35:55	7,110
14.0	255	Area--14	area Periloux&FoxBranchCross	80.50	0 03:24:37	4,540
15.0	93	Area---15	area15	79.60	0 02:19:37	2,900
16.0	454	Area-16		79.60	0 02:45:29	7,650
31.0	181	Area-31	914.00	78.90	0 02:43:22	3,928
32.0	68.0	Area-32		78.10	0 02:32:02	3,200
33.0	414.0	Area-33		77.70	0 05:01:12	9,800
34.0	281.0	Area-34		77.70	0 02:00:34	4,614
35.0	201.0	Area-35		77.70	0 02:59:41	4,984
36.0	104.0	Area-36		77.70	0 01:51:54	4,241
37.0	45.0	Area-37		79.30	0 00:28:02	2,170
38.0	23.0	Area-38		79.30	0 00:26:18	2,036
39.0	45.0	Area-39		79.30	0 00:55:41	2,853
40.0	33.0	Area-40		79.30	0 00:17:58	1,100

SWMM Input Area, CN Values, Length for Time Of Concentration

Table No. 1.1

<u>Plan Area Number</u>	<u>Acres</u>	<u>Element</u>	<u>Description</u>	<u>CN Values</u>	<u>Time of Concentration</u> (days hh:mm:ss)	<u>T.O.C. Length</u> (feet)
41.0	163.0	Area-41		79.30	0 00:55:11	2,817
42.0	504.0	Area-42		80.90	0 01:48:47	5,300
43.0	233.0	Area-43		82.50	0 01:16:40	2,300
44.0	85.0	Area-44		82.50	0 02:16:35	4,400
45.0	362.0	Area-45		82.50	0 03:48:21	8,300
46.0	144.0	Area-46.0		81.90	0 02:06:14	4,336
46.1	29.0	Areas-46.1	Soccer-Fields	81.90	0 01:27:13	1,900
47.0	57.0	Areas-47&48		77.80	0 00:58:22	900
47.0	31.0					
48.0	26.0					
49.0	167.0	Areas-49and50		77.80	0 01:45:11	4,168
49.0	24.0					
50.0	143.0					
51.0	60.0	Area-51	new-road	77.80	0 01:13:35	2,766
52.0	17.0	Area-52		77.80	0 00:50:53	1,385
53.0	480.0	Area-53		78.30	0 04:24:20	9,600
60.0	112.0	Area-60		79.30	0 02:53:09	2,300
61.0	141.0	Area-61		84.40	0 02:38:10	4,018
62.0	190.0	Area-62		80.10	0 02:02:40	3,837
63.0	27.0	Area-63	2nd culvert at brewster	84.30	0 01:42:41	1,200
64.0	32.0	Area-64		78.20	0 01:17:02	1,709
65.0	130.0	Area-65		78.20	0 01:08:10	3,400
66.0	25.0	Area-66		78.20	0 01:18:56	1,371
67.0	86.0	Area-67		78.20	0 01:01:59	2,041
68.0	40.0	Area-68		78.20	0 00:53:18	1,735
69.0	50.0	Area-69		78.20	0 01:54:08	1,635
<hr/>						
Bedico Creek		7,970.3	Acres			
Soap and Tallow Creek		3,696.0	Acres			
Black River		833.0	Acres			
		+				
Total Area		12,499	Acres			
		19.53	Square Mile			

SWM Output Flows
Existing & Proposed Flows (CFS) 10, 25, 50, 100 Year - 24 Hour Storms

<u>River</u>	<u>Reach</u>	<u>RS</u>	<u>Existing 100 Year- 24 Hour Storm</u>	<u>Proposed 100 Year- 24 Hour Storm</u>	<u>Existing 50 Year- 24 Hour Storm</u>	<u>Proposed 50 Year- 24 Hour Storm</u>	<u>Existing 25 Year- 24 Hour Storm</u>	<u>Proposed 25 Year- 24 Hour Storm</u>	<u>Existing 10 Year- 24 Hour Storm</u>	<u>CFS</u>	<u>Proposed 10 Year- 24 Hour Storm</u>
Bedico Cr.	Bed. Cr. No.3	27449.91	324	220	188	187	183	184	175	184	174
Bedico Cr.	Bed. Cr. No.3	27000	324	220	188	187	183	184	175	184	174
Bedico Cr.	Bed. Cr. No.3	25000	325	220	188	187	183	184	175	184	174
Bedico Cr.	Bed. Cr. No.3	20000	540	476	345	325	325	320	269	320	265
Bedico Cr.	Bed. Cr. No.3	18000	551	388	350	330	331	326	300	326	265
Bedico Cr.	Bed. Cr. No.3	14000	1284	1219	1135	1121	1019	991	804	991	849
Bedico Cr.	Trib. No.3	13349.4	2306	2238	1926	1891	1691	1659	1288	1659	462
Bedico Cr.	Trib. No.3	11000	2000	1432	662	590	475	1466	700	1466	256
Bedico Cr.	Trib. No.3	10000	2000	1432	662	590	475	1466	700	1466	256
Bedico Cr.	Trib. No.3	6000	2028	1687	1063	1064	845	1470	700	1470	782
Bedico Cr.	Bed. Cr. No.2	12250	2281	2095	1974	2064	1946	2364	2039	2364	2132
Bedico Cr.	Bed. Cr. No.2	11000	2287	2106	1039	2063	1966	2351	2030	2351	2123
Bedico Cr.	Bed. Cr. No.2	7000	3014	3154	2806	2988	2717	2913	2397	2913	2325
Bedico Cr.	Bed. Cr. No.2	5632.59	3014	3154	2806	2988	2717	2913	2397	2913	2325
Bedico Cr.	Fox Branch	15605.26	195	272	192	271	178	220	139	220	250
Bedico Cr.	Fox Branch	9000	957	409	803	374	558	411	506	411	250
Bedico Cr.	Fox Branch	7000	1236	683	1003	590	780	530	700	530	351
Bedico Cr.	Fox Branch	5000	1304	756	1063	596	845	538	741	538	400
Bedico Cr.	Fox Branch	470	1557	1113	1255	883	1005	727	927	727	679
Bedico Cr.	Bed. Cr. No.1	5383.49*	4508	4250	4017	3865	3691	3639	3313	3639	3021
Bedico Cr.	Bed. Cr. No.1	5000	4539	4288	4045	3898	3712	3658	3326	3658	3042
Bedico Cr.	Bed. Cr. No.1	4000	4618	4384	4117	3983	3766	3704	3359	3704	3069
Bedico Cr.	Bed. Cr. No.1	3000	4785	4480	4326	4068	4006	3750	3392	3750	3170
Black River	B River No.1	12498.06	252	137	218	123	192	118	142	118	117
Black River	B River No.1	12000	253	137	218	123	192	118	142	118	117
Black River	B River No.1	10000	607	478	523	417	459	375	333	375	295
Black River	B River No.1	9000	823	736	755	694	710	653	595	653	534
Black River	B River No.1	7000	942	872	847	802	784	738	642	738	588
Black River	B River No.1	4000	1313	1295	1146	1123	1000	965	801	965	746
Black River	B River No.1	2000	1528	1505	1314	1287	1120	1085	864	1085	805
Soap & Tallow Cr	S & T No.2	17598.69	207	206	161	137	152	132	142	132	142
Soap & Tallow Cr	S & T No.2	16000	207	206	195	203	183	193	181	193	182
Soap & Tallow Cr	S & T No.2	8546.33	759	749	697	695	602	633	517	633	494
Soap & Tallow Cr	S & T No.2	6000	930	900	840	815	720	820	721	820	711
Soap & Tallow Cr	S & T No.2	4000	941	917	842	820	728	830	721	830	730
Soap & Tallow Cr	S & T No.2	2000	1170	1139	1034	1261	886	1117	1004	1117	1052
Soap & Tallow Cr	S & T No.1	4521.83	3409	3114	2983	2607	2604	2320	2106	2320	1988
Soap & Tallow Cr	S & T No.1	3000	3409	3114	2983	2607	2604	2320	2175	2320	1988
Soap & Tallow Cr	S & T No.1	1000	3470	3176	3033	2686	2649	2389	2166	2389	2059
Tallow Cr	T Cr No.2	20935.8	901	273	720	455	630	414	908	414	238
Tallow Cr	T Cr No.2	14858.05	1079	856	986	756	906	615	778	615	429
Tallow Cr	T Cr No.2	13000	1164	947	1056	868	980	605	865	605	558
Tallow Cr	T Cr No.3	1270.74	13	14	16	16	16	16	16	16	16
Tallow Cr	T Cr No.1	12332.*	1177	961	1072	884	996	621	881	621	574
Tallow Cr	Tuscany	4076.12	570	552	517	667	443	577	469	577	490
Tallow Cr	T Cr No.2-1	12000	1848	1617	1667	1258	1466	1030	1083	1030	840
Tallow Cr	T Cr No.2-1	11000	1848	1617	1667	1258	1466	1030	1083	1030	840
Tallow Cr	T Cr No.2-1	8000	2030	1772	1810	1258	1585	1120	1144	1120	902
Tallow Cr	T Cr No.2-1	6000	2109	1834	1867	1258	1633	1133	1170	1133	870

Summary Proposed & Existing Water Surface Profile Elevations

Table 1.3

<u>River</u>	<u>Reach</u>	<u>River Sta</u>	<u>Profile</u>	<u>Existing Water Surface Elevations, Up Stream</u> (ft)	<u>Proposed Water Surface Elevations, Up Stream</u> (ft)	<u>Reduction of Water Surface Elevation (Existing W.S.E. less Proposed W.S.E.)</u> (ft)
Tallow Cr	T Cr No.2	14912.13 1077	Culvert #3	100 yr 24 hour	23.73	0.3
Tallow Cr	T Cr No.2	14912.13 1077	Culvert #2	100 yr 24 hour	23.73	0.3
Tallow Cr	T Cr No.2	14912.13 1077	Culvert #1	100 yr 24 hr	23.73	0.3
Tallow Cr	T Cr No.2	14912.13 1077	Culvert #3	10 yr 24 hr	23.45	0.31
Tallow Cr	T Cr No.2	14912.13 1077	Culvert #2	10 yr 24 hr	23.45	0.31
Tallow Cr	T Cr No.2	14912.13 1077	Culvert #1	10 yr 24 hr	23.45	0.31
Tallow Cr	T Cr No.2	14683.69 School 2 - 72' c	Culvert #1	100 yr 24 hour	23.65	0.34
Tallow Cr	T Cr No.2	14683.69 School 2 - 72' c	Culvert #1	10 yr 24 hr	22.99	0.67
Tallow Cr	T Cr No.2	13692.5 School 2 - 48" c	Culvert #1	100 yr 24 hour	23.53	0.27
Tallow Cr	T Cr No.2	13692.5 School 2 - 48" c	Culvert #1	10 yr 24 hr	22.78	0.66
Tallow Cr	T Cr No.2	12839.83 School 90" x 13	Culvert #1	100 yr 24 hour	23.44	0.23
Tallow Cr	T Cr No.2	12839.83 School 90" x 13	Culvert #1	10 yr 24 hr	22.7	0.61
Tallow Cr	T Cr No.2-1	11577.05 Cleco Access Roa	Culvert #1	100 yr 24 hour	23.27	0.08
Tallow Cr	T Cr No.2-1	11577.05 Cleco Access Roa	Culvert #1	10 yr 24 hr	22.57	0.55
Tallow Cr	T Cr No.2-1	8428.31 White Chapel Roa	Culvert #1	100 yr 24 hour	20.87	1.01
Tallow Cr	T Cr No.2-1	8428.31 White Chapel Roa	Culvert #1	10 yr 24 hr	20.29	0.5
Tallow Cr	T Cr No.2-1	6080 New Road	Culvert #1	100 yr 24 hour	21.21	1.11
Tallow Cr	T Cr No.2-1	6080 New Road	Culvert #1	10 yr 24 hr	20	1.12
Soap & Tallow Cr	S & T No.2	8700 Fitzsimmons Road	Culvert #1	100 yr 24 hour	24.28	0.02
Soap & Tallow Cr	S & T No.2	8700 Fitzsimmons Road	Culvert #1	10 yr 24 hr	23.75	0.06
Black River	B River No.1	12310.73 Rex Road	Culvert #1	100 yr 24 hour	21.46	0.33
Black River	B River No.1	12310.73 Rex Road	Culvert #1	10 yr 24 hr	20.97	0.56
Black River	B River No.1	8666 Brewster Rd.	Culvert #1	100 yr 24 hour	18.15	0.32
Black River	B River No.1	8666 Brewster Rd.	Culvert #1	10 yr 24 hr	16.85	0.99
Black River	B River No.1	7684.62 Tchefuncte Parc	Culvert #1	100 yr 24 hour	16.9	0.71
Black River	B River No.1	7684.62 Tchefuncte Parc	Culvert #1	10 yr 24 hr	15.98	0.72
Black River	B River No.1	4444.8 Private Driveway	Culvert #1	100 yr 24 hour	13.91	0.24
Black River	B River No.1	4444.8 Private Driveway	Culvert #1	10 yr 24 hr	13.55	0.14
Black River	B River No.1	3827.40 Private Driveway	Culvert #1	100 yr 24 hour	13.39	0.39
Black River	B River No.1	3827.40 Private Driveway	Culvert #1	10 yr 24 hr	12.59	0.33

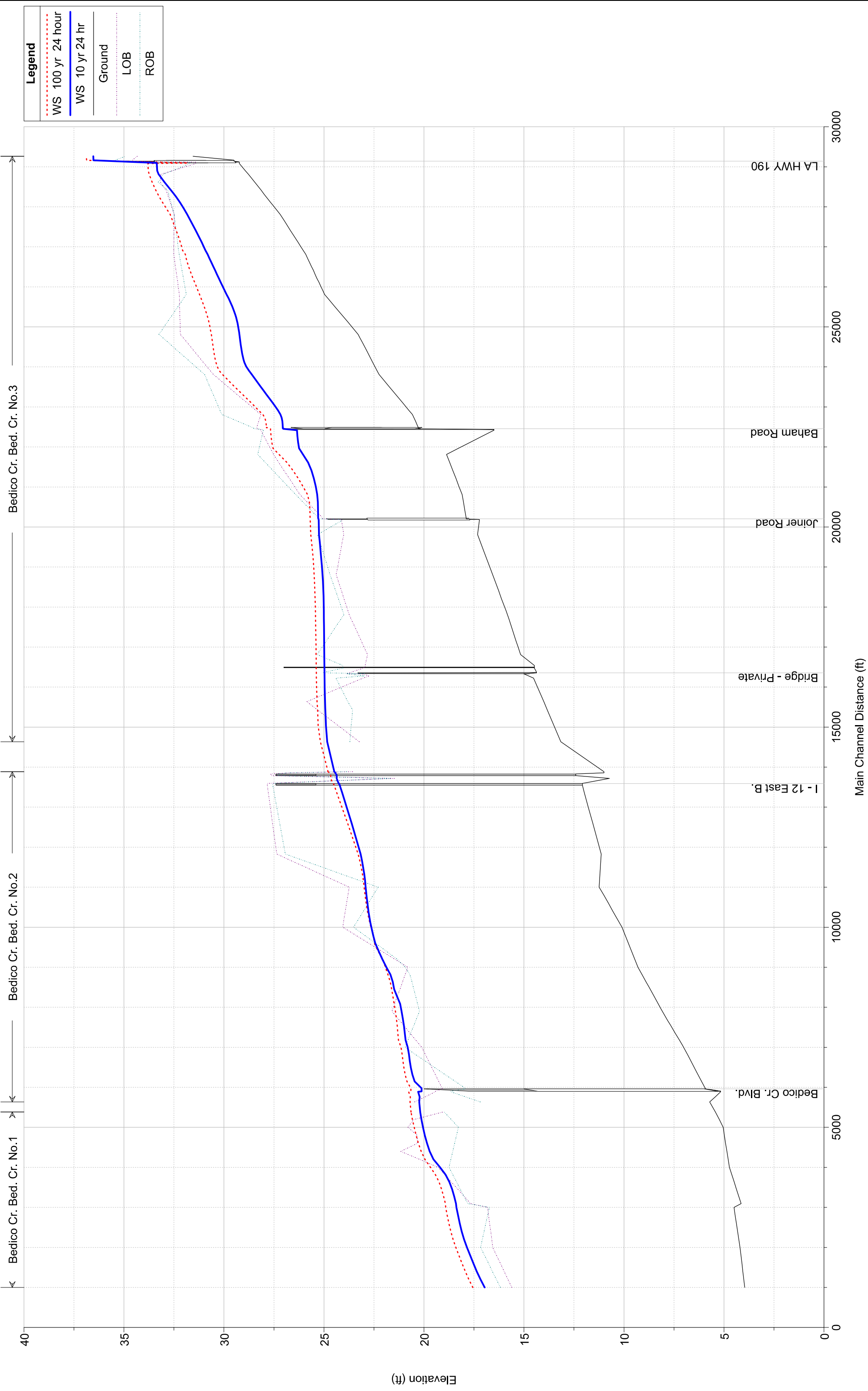
Summary Proposed & Existing Water Surface Profile Elevations

Table 1.3

<u>River</u>	<u>Reach</u>	<u>River Sta</u>	<u>Profile</u>	<u>Existing Water Surface Elevations, Up Stream</u>	<u>Proposed Water Surface Elevations, Up Stream</u>	<u>Reduction of Water Surface Elevation (Existing W.S.E. less Proposed W.S.E.)</u>
Black River	B River No.1	2710.49	Hawthone - Bridg Culvert #1	100 yr 24 hour 13.32	100 yr 24 hour 12.95	0.37
Black River	B River No.1	2710.49	Hawthone - Bridg Culvert #1	10 yr 24 hr 12.48	10 yr 24 hr 12.17	0.31
Black River	B River No.1	2207.93	Dummy Line Road Culvert #1	100 yr 24 hour 13.25	100 yr 24 hour 12.96	0.29
Black River	B River No.1	2207.93	Dummy Line Road Culvert #1	10 yr 24 hr 12.01	10 yr 24 hr 11.32	0.69
Bedico Cr.	Bed. Cr. No.3	27316	LA HWY 190 Culvert #1	100 yr 24 hour 36.87	100 yr 24 hour 36.87	0
Bedico Cr.	Bed. Cr. No.3	27316	LA HWY 190 Culvert #2	100 yr 24 hour 36.87	100 yr 24 hour 36.87	0
Bedico Cr.	Bed. Cr. No.3	27316	LA HWY 190 Culvert #1	10 yr 24 hr 36.52	10 yr 24 hr 36.52	0
Bedico Cr.	Bed. Cr. No.3	27316	LA HWY 190 Culvert #2	10 yr 24 hr 36.52	10 yr 24 hr 36.52	0
Bedico Cr.	Bed. Cr. No.3	20631	Baham Road Culvert #1	100 yr 24 hour 27.87	100 yr 24 hour 27.26	0.61
Bedico Cr.	Bed. Cr. No.3	20631	Baham Road Culvert #2	100 yr 24 hour 27.87	100 yr 24 hour 27.26	0.61
Bedico Cr.	Bed. Cr. No.3	20631	Baham Road Culvert #1	10 yr 24 hr 27.06	10 yr 24 hr 26.42	0.64
Bedico Cr.	Bed. Cr. No.3	20631	Baham Road Culvert #2	10 yr 24 hr 27.06	10 yr 24 hr 26.42	0.64
Bedico Cr.	Bed. Cr. No.3	18384	Joiner Road Culvert #1	100 yr 24 hour 25.7	100 yr 24 hour 25.28	0.42
Bedico Cr.	Bed. Cr. No.3	18384	Joiner Road Culvert #1	10 yr 24 hr 25.29	10 yr 24 hr 24.86	0.43
Bedico Cr.	Trib. No.3	13241.52	LA HWY 190 Culvert #1	100 yr 24 hour 37.52	100 yr 24 hour 37.51	0.01
Bedico Cr.	Trib. No.3	13241.52	LA HWY 190 Culvert #1	10 yr 24 hr 37.43	10 yr 24 hr 37.06	0.37
Bedico Cr.	Trib. No.3	10553.56	Trace Recreation Culvert #2	100 yr 24 hour 33.34	100 yr 24 hour 33.28	0.06
Bedico Cr.	Trib. No.3	10553.56	Trace Recreation Culvert #1	100 yr 24 hour 33.34	100 yr 24 hour 33.28	0.06
Bedico Cr.	Trib. No.3	10553.56	Trace Recreation Culvert #2	10 yr 24 hr 32.98	10 yr 24 hr 33.05	-0.07
Bedico Cr.	Trib. No.3	10553.56	Trace Recreation Culvert #1	10 yr 24 hr 32.98	10 yr 24 hr 33.05	-0.07
Bedico Cr.	Bed. Cr. No.2	5930.27	Bedico Cr. Blvd. Culvert #1	100 yr 24 hour 20.65	100 yr 24 hour 20.16	0.49
Bedico Cr.	Bed. Cr. No.2	5930.27	Bedico Cr. Blvd. Culvert #1	10 yr 24 hr 20.12	10 yr 24 hr 19.96	0.16
Bedico Cr.	Fox Branch	14560	I -12 Culvert #1	100 yr 24 hour 25.22	100 yr 24 hour 24.15	1.07
Bedico Cr.	Fox Branch	14560	I -12 Culvert #1	10 yr 24 hr 24.91	10 yr 24 hr 23.65	1.26
Bedico Cr.	Fox Branch	9998.61	Perriloux Rd. Culvert #1	100 yr 24 hour 23.36	100 yr 24 hour 22.97	0.39
Bedico Cr.	Fox Branch	9998.61	Perriloux Rd. Culvert #3	100 yr 24 hour 22.97	100 yr 24 hour 22.97	0
Bedico Cr.	Fox Branch	9998.61	Perriloux Rd. Culvert #1	10 yr 24 hr 23.05	10 yr 24 hr 22.49	0.56
Bedico Cr.	Fox Branch	9998.61	Perriloux Rd. Culvert #3	10 yr 24 hr 23.05	10 yr 24 hr 22.49	0.56
Bedico Cr.	Fox Branch	5593.71	Private Driveway Culvert #1	100 yr 24 hour 22.36	100 yr 24 hour 21.95	0.41
Bedico Cr.	Fox Branch	5593.71	Private Driveway Culvert #1	10 yr 24 hr 21.95	10 yr 24 hr 20.78	1.17

APPENDIX A – Water Surface Profiles

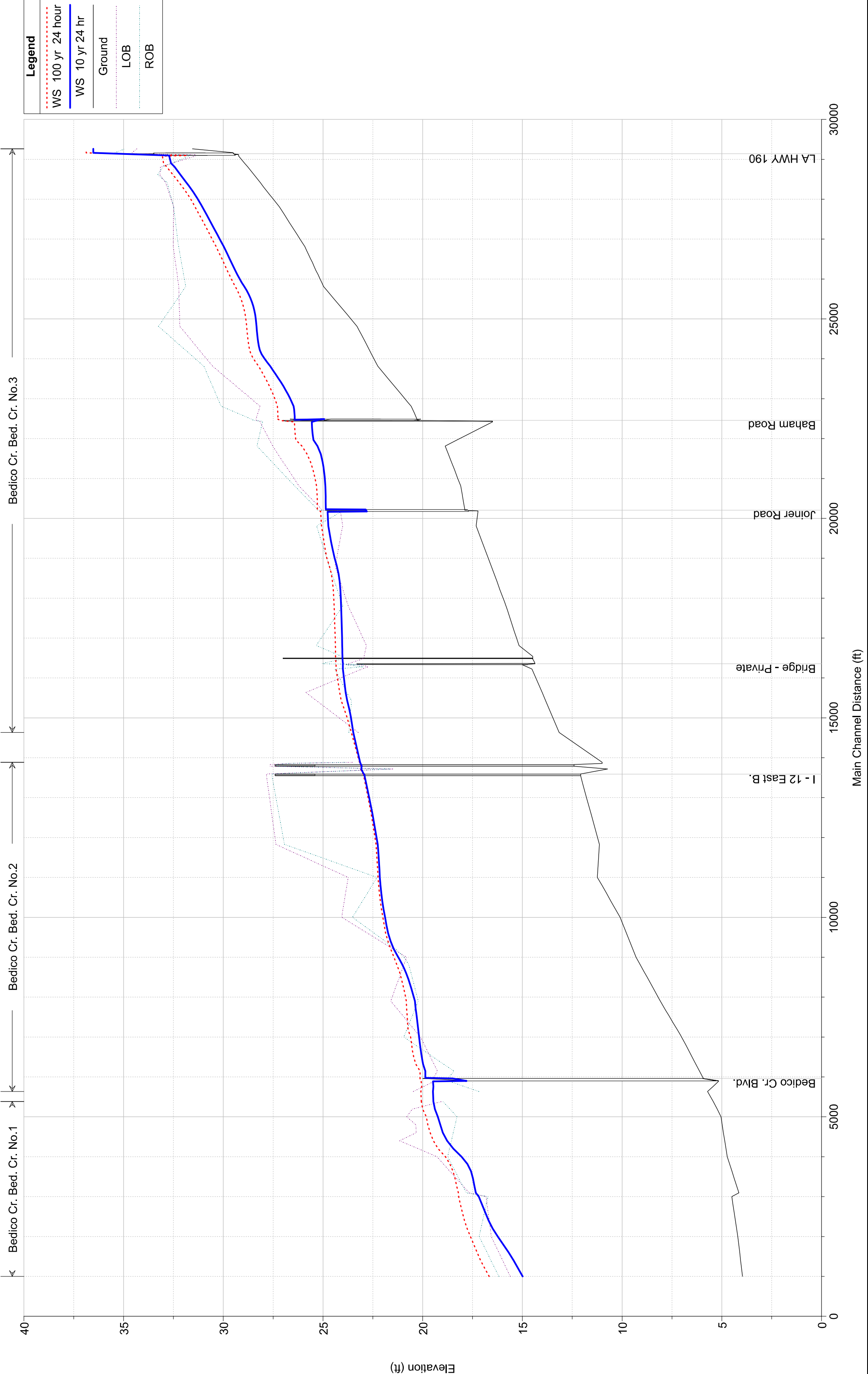
East Bedico Creek Existing Conditions Figure 1.1



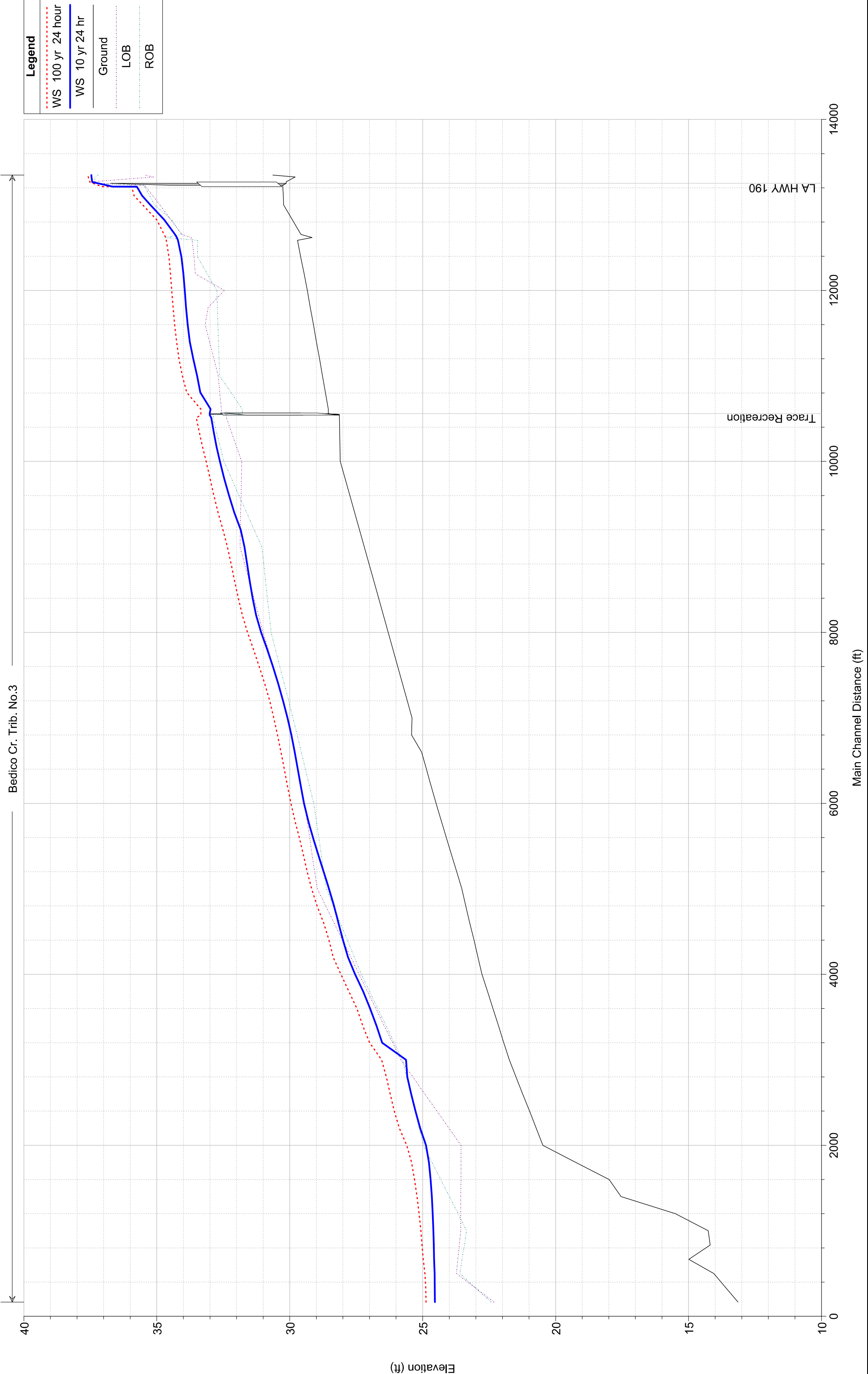
Legend

- WS 100 yr 24 hour (dotted red line)
- WS 10 yr 24 hr (solid blue line)
- Ground (solid black line)
- LOB (dotted purple line)
- ROB (dotted green line)

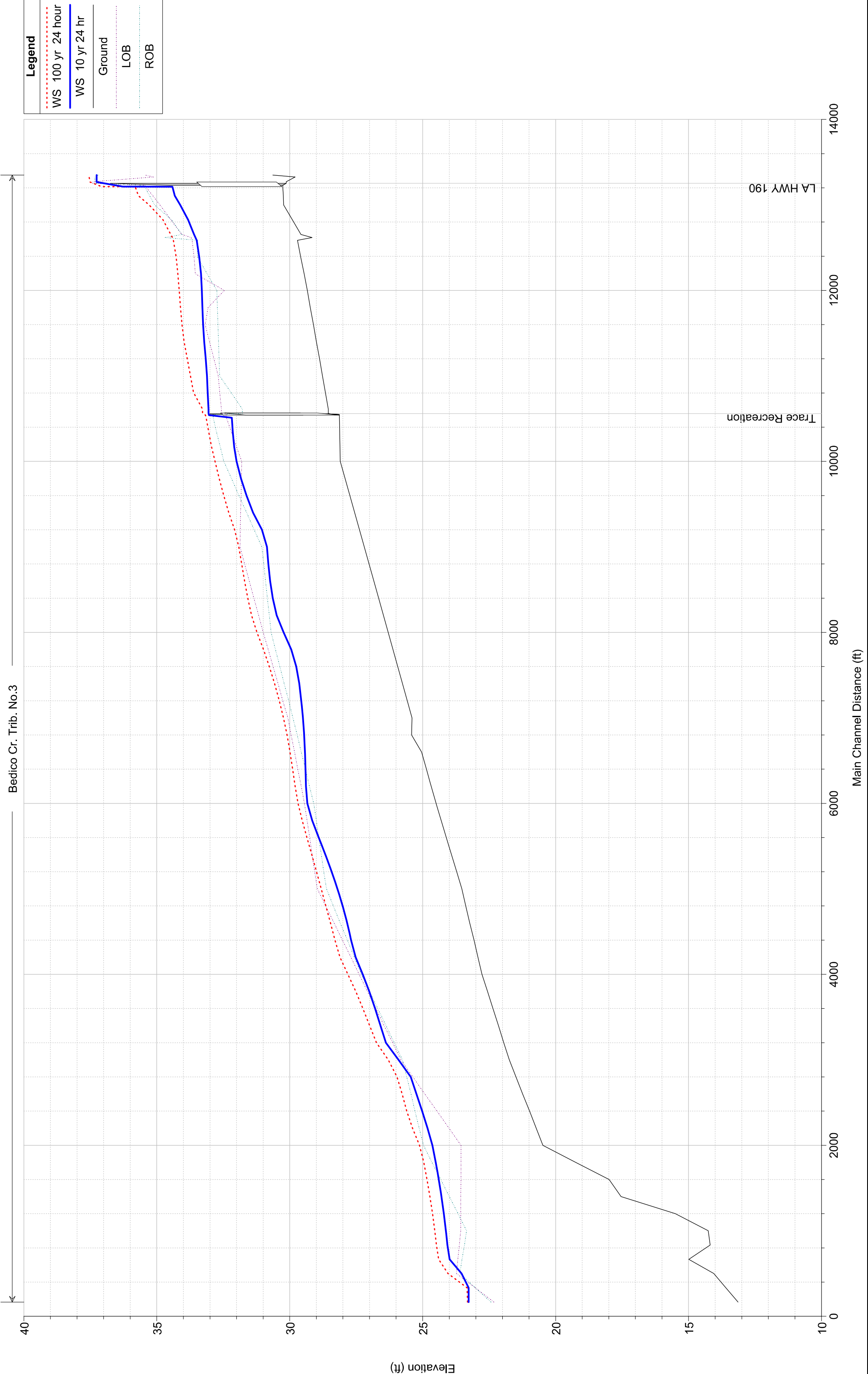
East Bedico Creek Proposed Conditions Figure 1.2



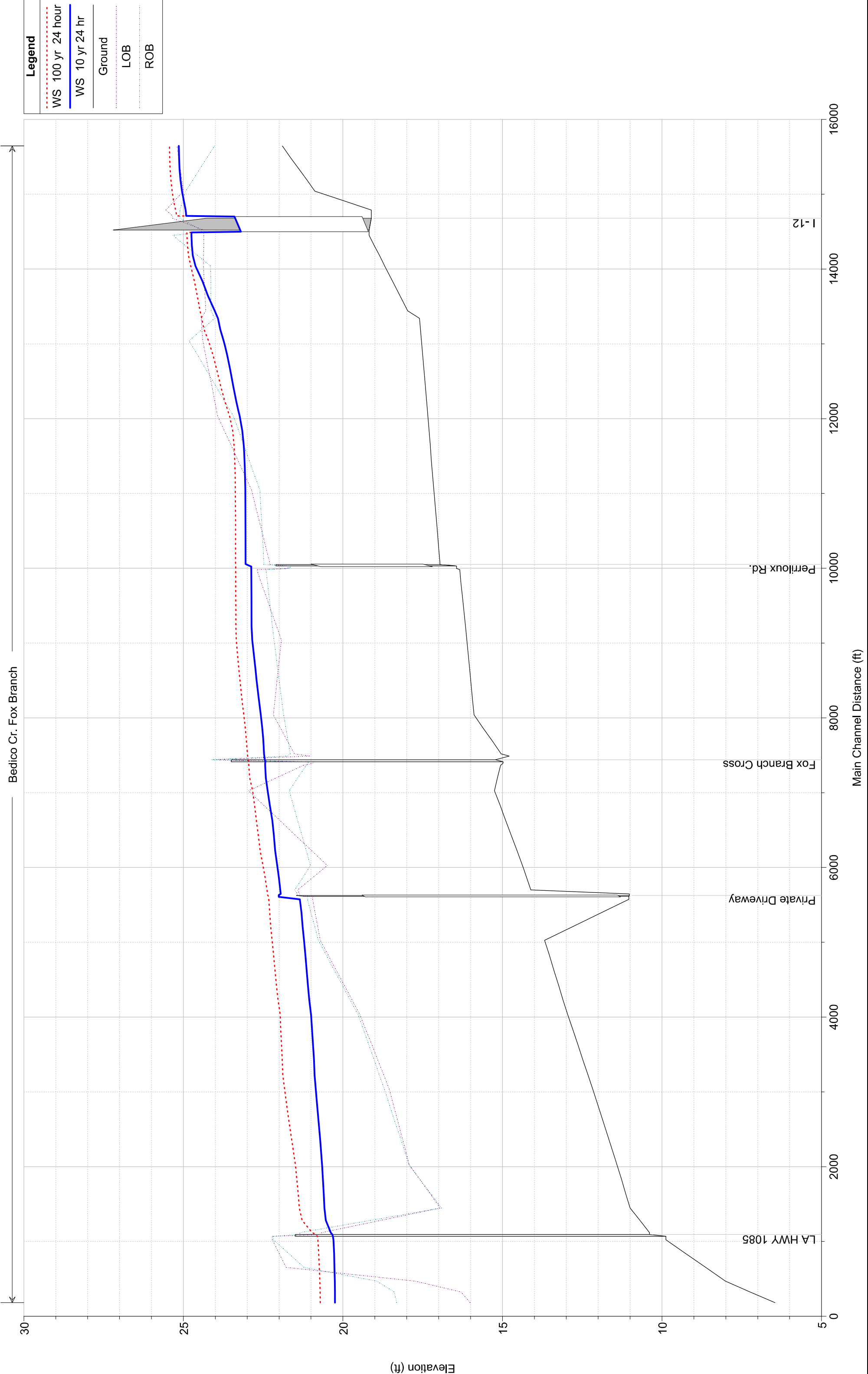
Tributary # 3 Existing Conditions Figure 1.3



Tributary No. 3 Proposed Conditions Figure 1.4



Fox Branch Existing Conditions Figure 1.5



30
25
20
15
10
5

0
2000
4000
6000
8000
10000
12000
14000
16000

Bedico Cr. Fox Branch

LA HWY 1085

Private Driveway

Fox Branch Cross

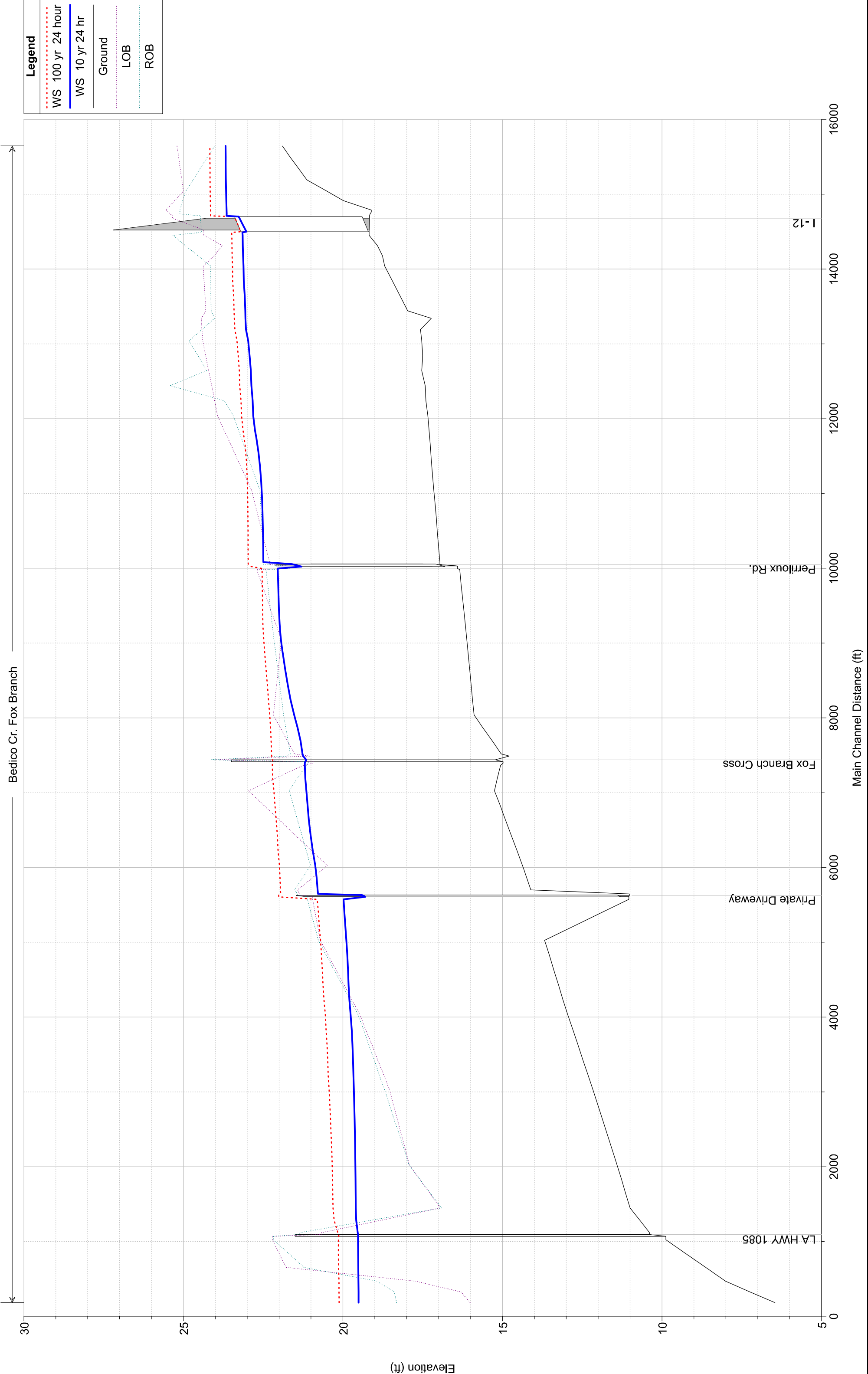
Perriloux Rd.

I-12

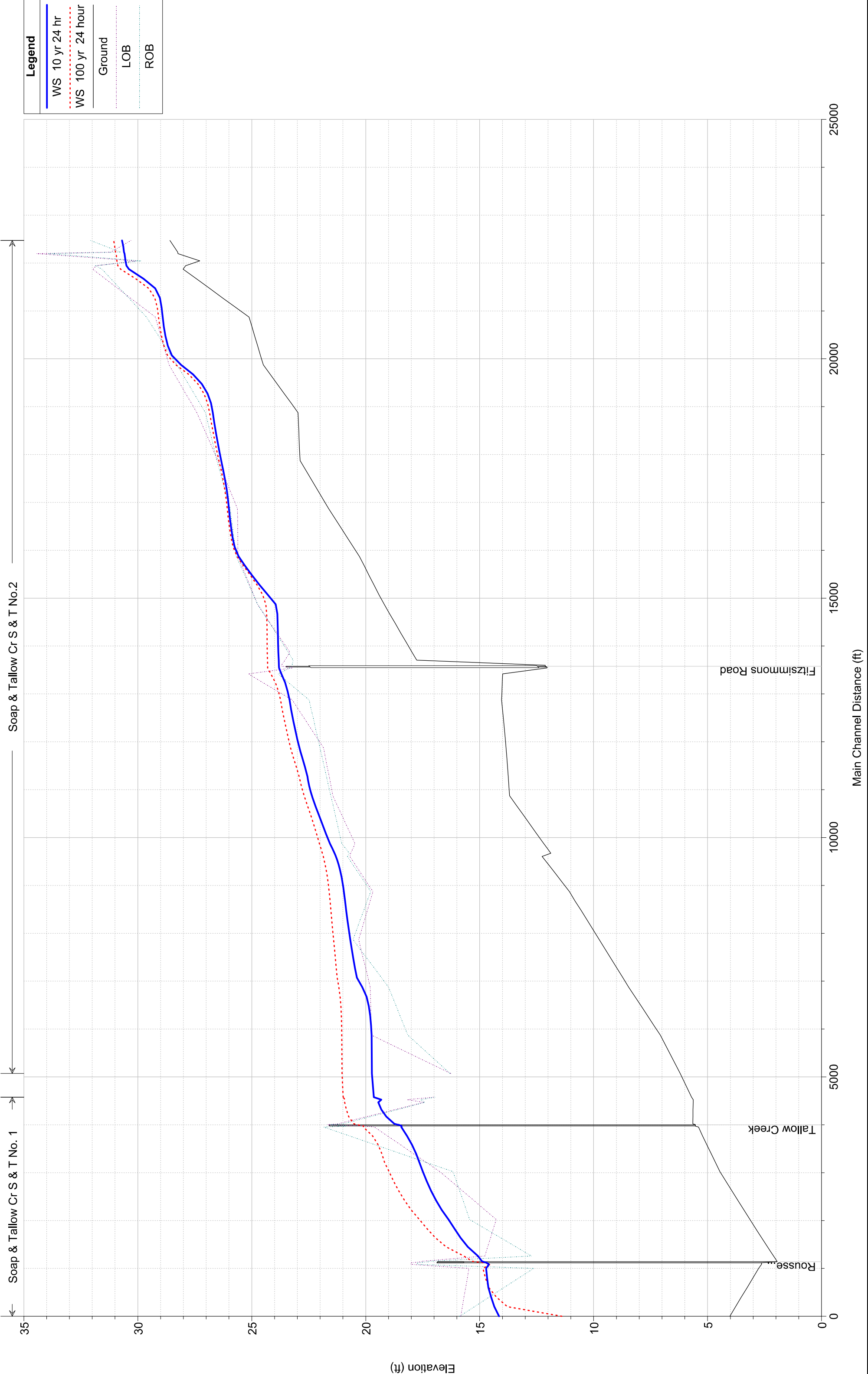
Legend

- WS 100 yr 24 hour
- WS 10 yr 24 hr
- Ground
- LOB
- ROB

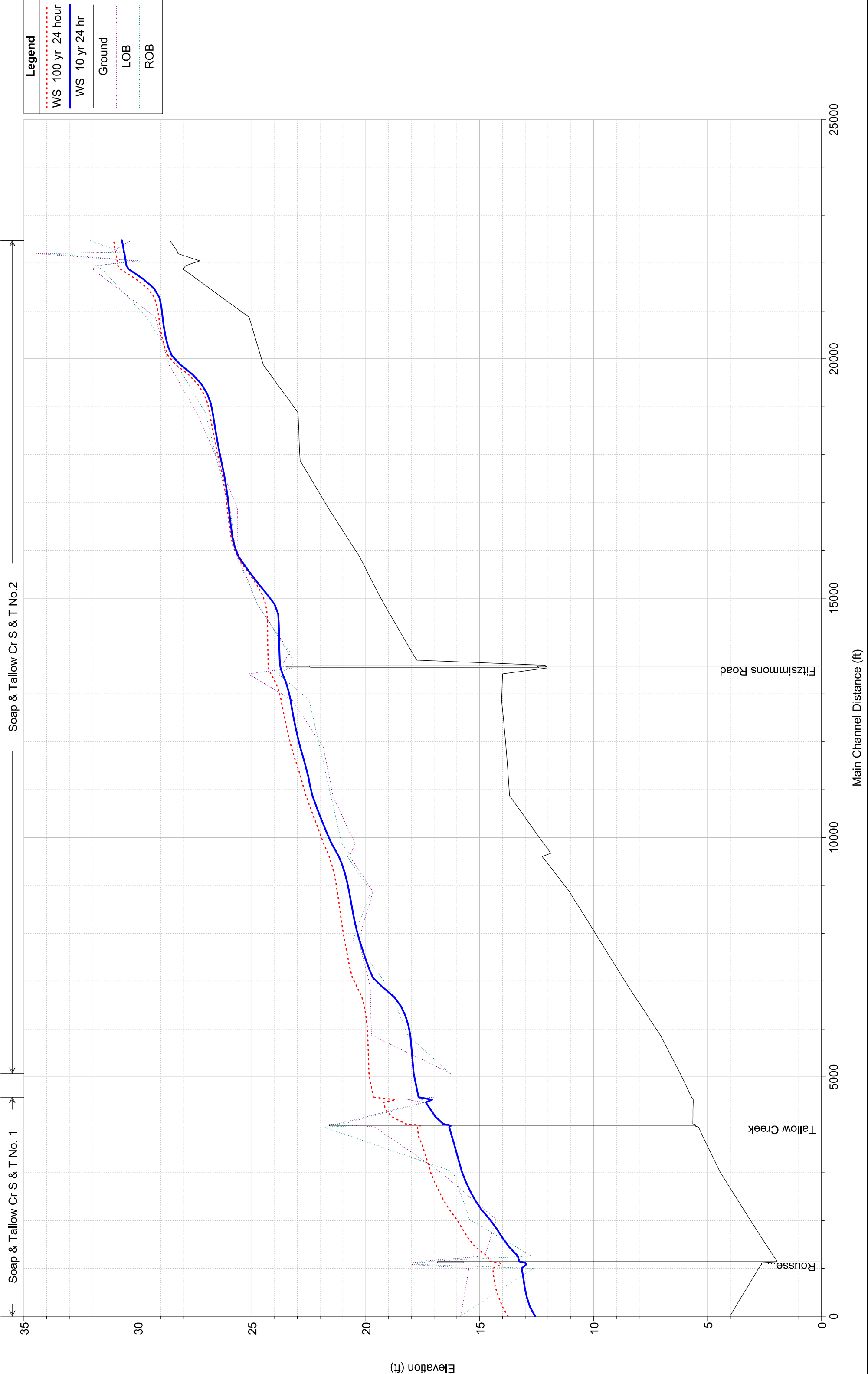
Fox Branch Proposed Conditions Figure 1.6



Soap & Tallow Creek Existing Conditions Figure 1.7



Soap & Tallow Creek Proposed Conditions Figure 1.8



35

30

25

20

15

10

5

0

0

5000

10000

15000

20000

25000

30000

35000

40000

45000

50000

55000

60000

65000

70000

75000

80000

85000

90000

95000

100000

105000

110000

115000

120000

125000

130000

135000

140000

145000

150000

155000

160000

165000

170000

175000

180000

185000

190000

195000

200000

205000

210000

215000

220000

225000

230000

235000

240000

245000

250000

255000

260000

265000

270000

275000

280000

285000

290000

295000

300000

305000

310000

315000

320000

325000

330000

335000

340000

345000

350000

355000

360000

365000

370000

375000

380000

385000

390000

395000

400000

405000

410000

415000

420000

425000

430000

435000

440000

445000

450000

455000

460000

465000

470000

475000

480000

485000

490000

495000

500000

505000

510000

515000

520000

525000

530000

535000

540000

545000

550000

555000

560000

565000

570000

575000

580000

585000

590000

595000

600000

605000

610000

615000

620000

625000

630000

635000

640000

645000

650000

655000

660000

665000

670000

675000

680000

685000

690000

695000

700000

705000

710000

715000

720000

725000

730000

735000

740000

745000

750000

755000

760000

765000

770000

775000

780000

785000

790000

795000

800000

805000

810000

815000

820000

825000

830000

835000

840000

845000

850000

855000

860000

865000

870000

875000

880000

885000

890000

895000

900000

905000

910000

915000

920000

925000

930000

935000

940000

945000

950000

955000

960000

965000

970000

975000

980000

985000

990000

995000

1000000

1005000

1010000

1015000

1020000

1025000

1030000

1035000

1040000

1045000

1050000

1055000

1060000

1065000

1070000

1075000

1080000

1085000

1090000

1095000

1100000

1105000

1110000

1115000

1120000

1125000

1130000

1135000

1140000

1145000

1150000

1155000

1160000

1165000

1170000

1175000

1180000

1185000

1190000

1195000

1200000

1205000

1210000

1215000

1220000

1225000

1230000

1235000

1240000

1245000

1250000

1255000

1260000

1265000

1270000

1275000

1280000

1285000

1290000

1295000

1300000

1305000

1310000

1315000

1320000

1325000

1330000

1335000

1340000

1345000

1350000

1355000

1360000

1365000

1370000

1375000

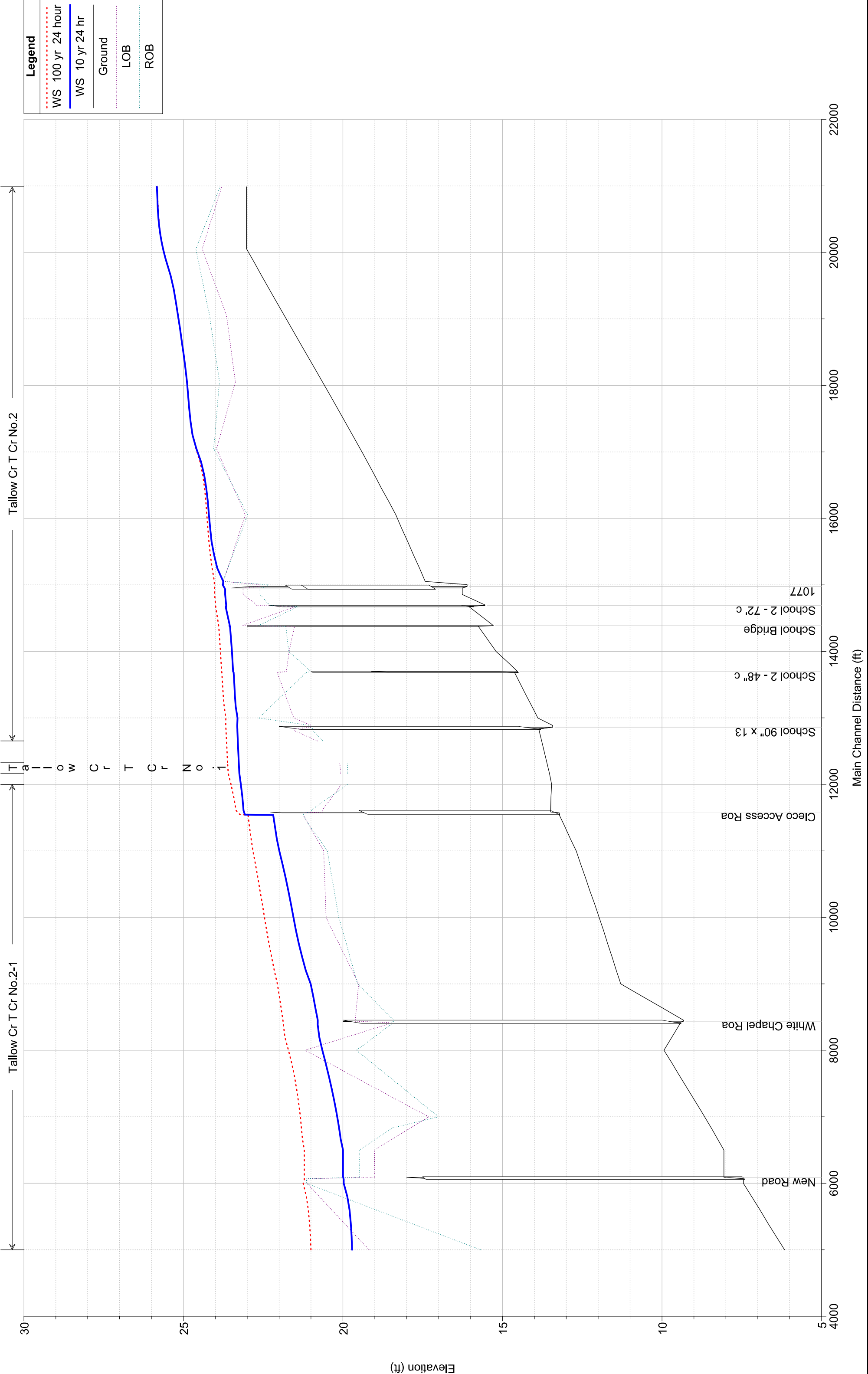
1380000

1385000

1390000

1395000

Tallow Creek Existing Conditions Figure 1.9



30
25
20
15
10
5
4000 6000 8000 10000 12000 14000 16000 18000 20000 22000

Elevation (ft)

Main Channel Distance (ft)

Legend

- WS 100 yr 24 hour
- WS 10 yr 24 hr
- Ground
- LOB
- ROB

Tallow Cr T Cr No.2

Tallow Cr T Cr No.2-1

T
a
l
l
o
w
C
r
T
C
r
N
o
1

Cleco Access Road

White Chapel Road

School 90" x 13

School 2 - 48" c

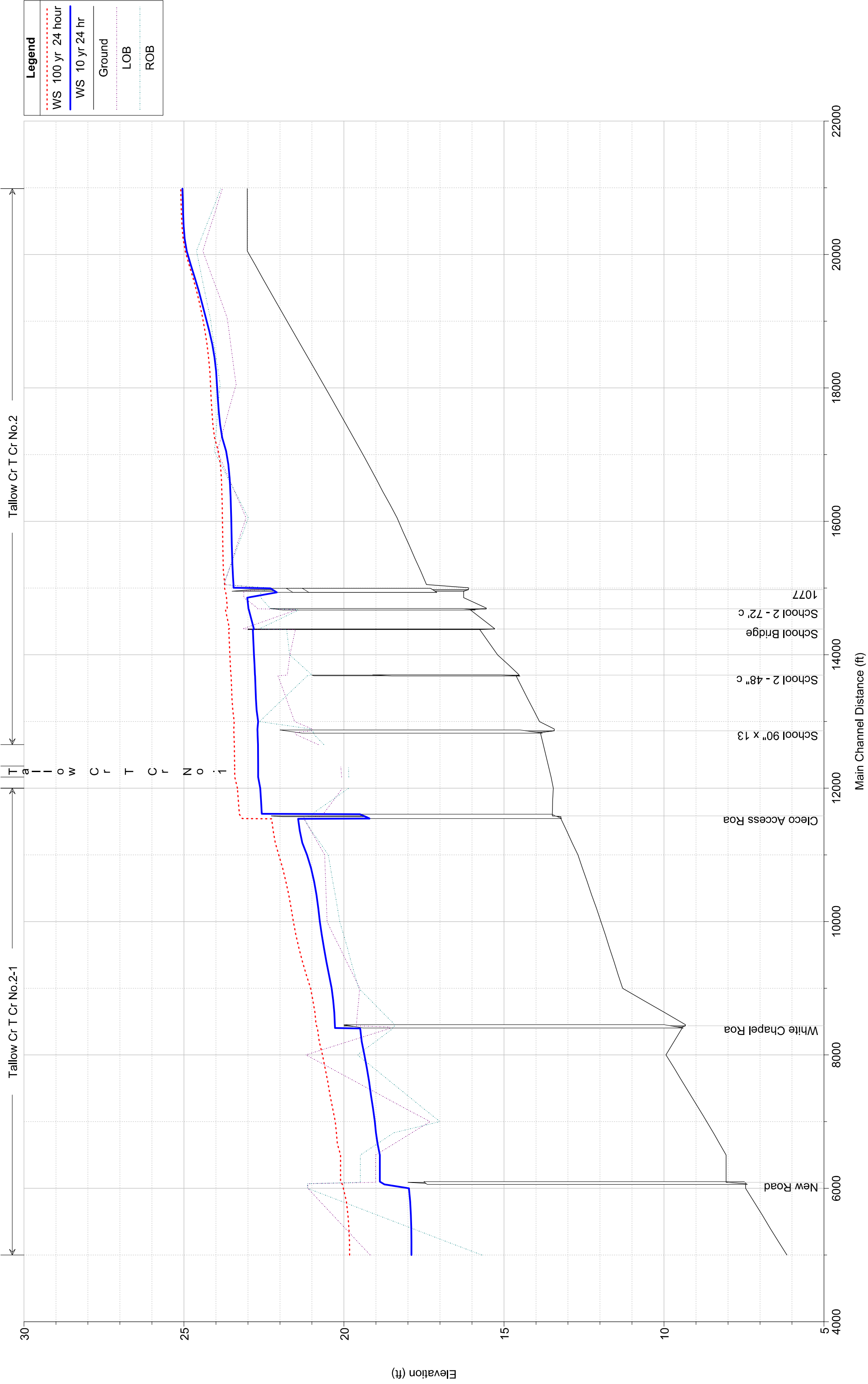
School Bridge

School 2 - 72" c

1077

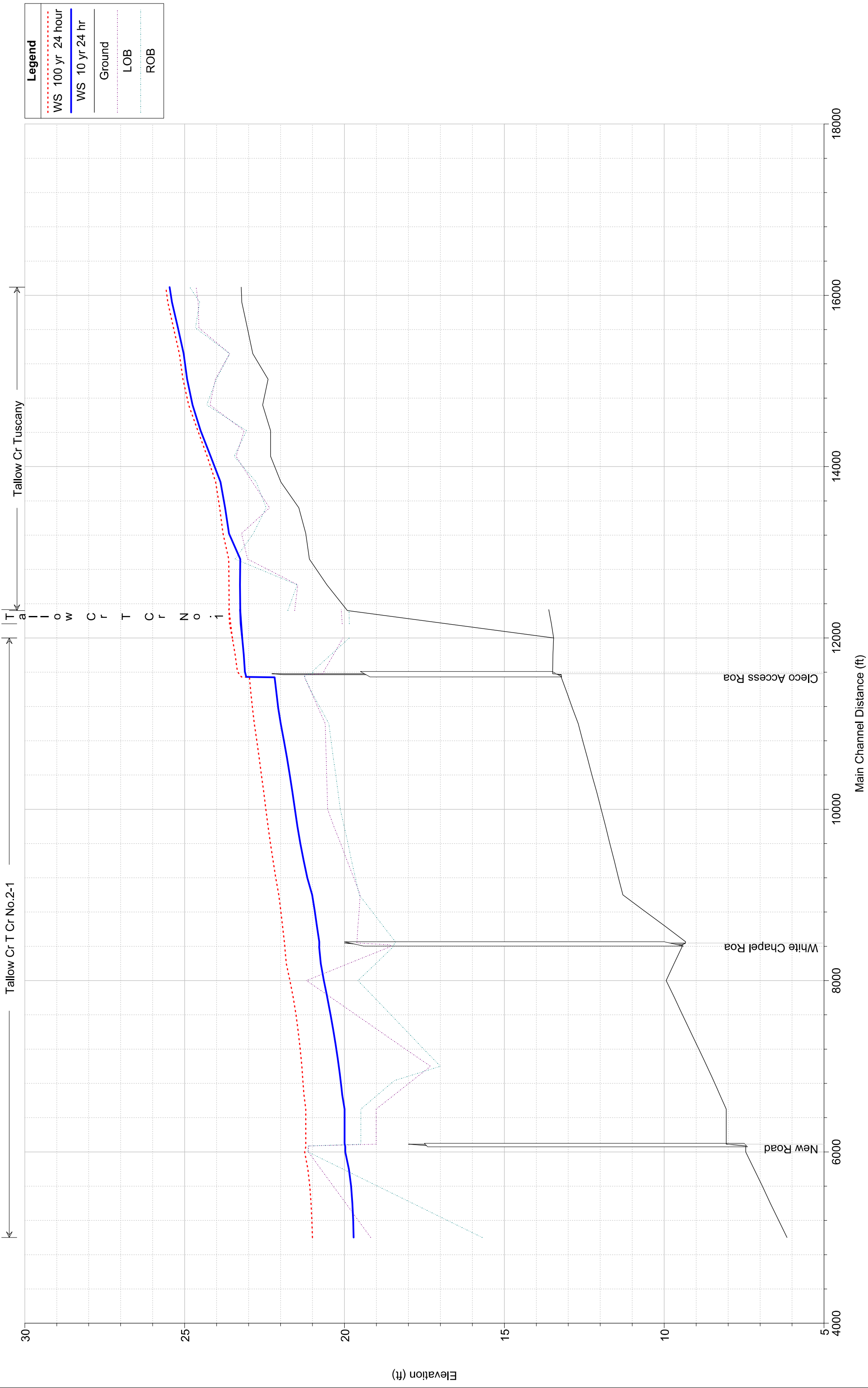
New Road

Tallow Creek Proposed Conditions Figure 1.10



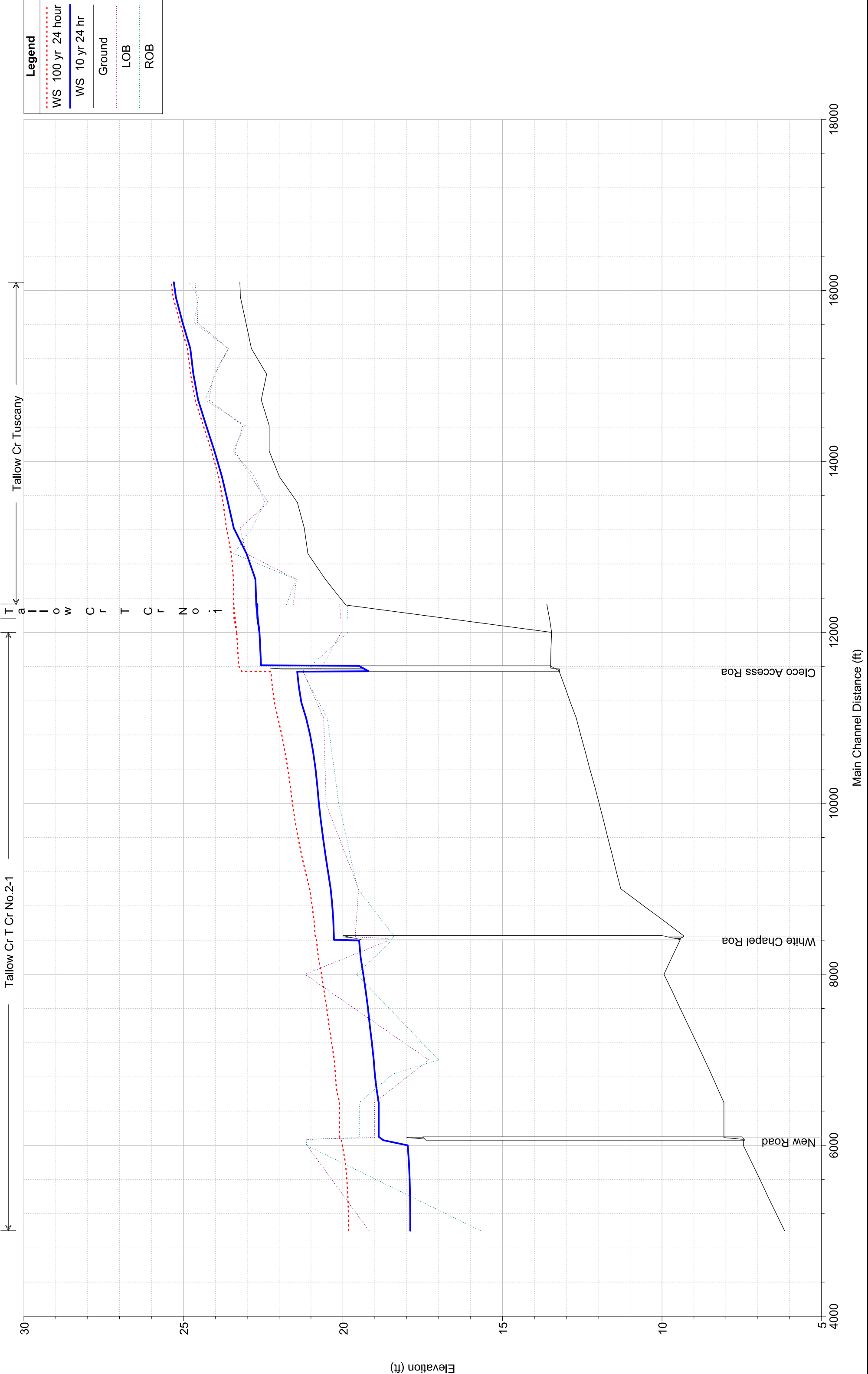
Legend	
WS 100 yr 24 hour	(Dotted red line)
WS 10 yr 24 hr	(Solid blue line)
Ground	(Solid black line)
LOB	(Dotted purple line)
ROB	(Dotted green line)

Tuscany Creek Existing Conditions Figure 1.11

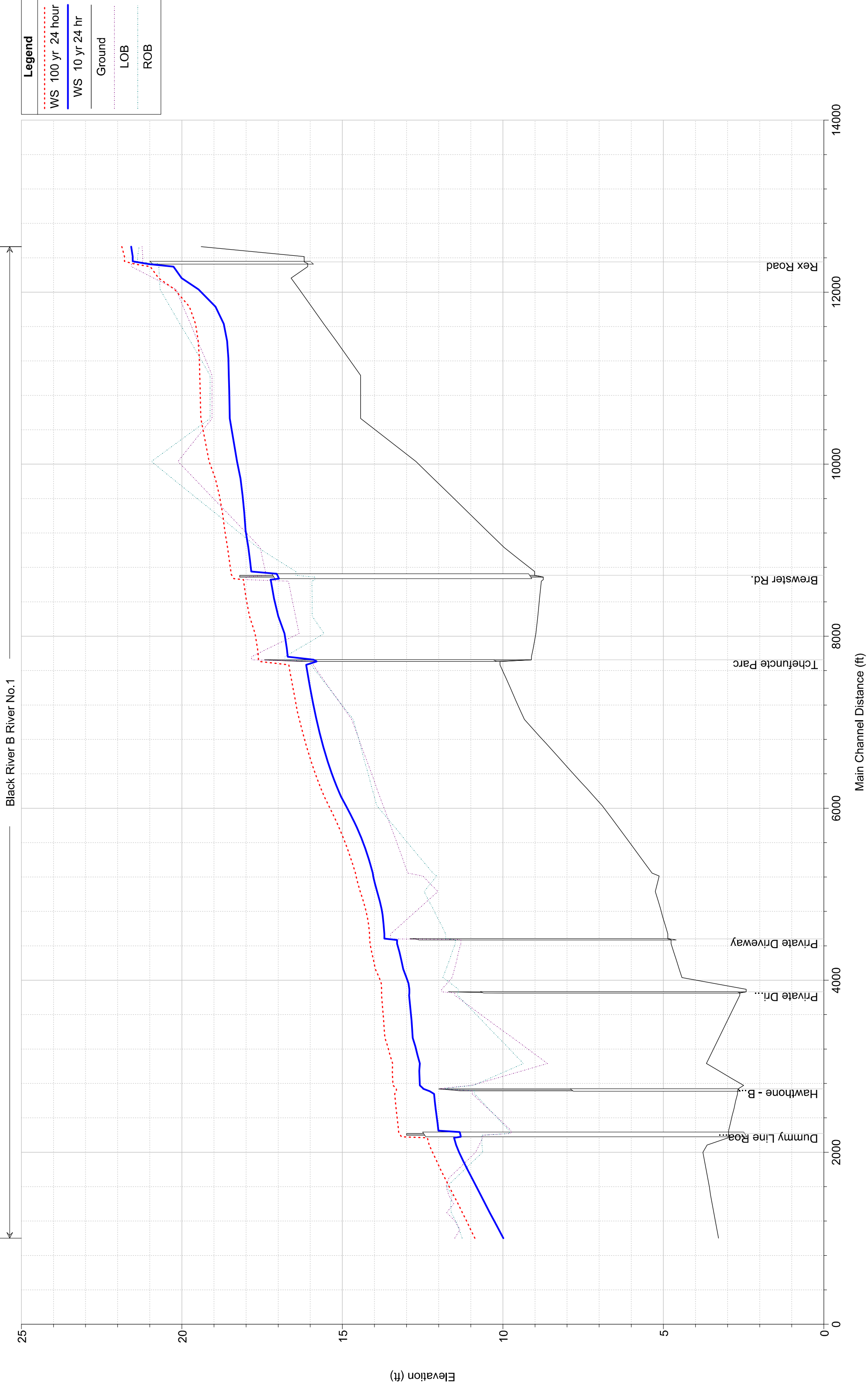


Legend	
WS 10 yr 24 hr	(Dotted red line)
WS 24 hour	(Dotted red line)
WS 10 yr 24 hr	(Solid blue line)
Ground	(Solid black line)
LOB	(Dotted purple line)
ROB	(Dotted green line)

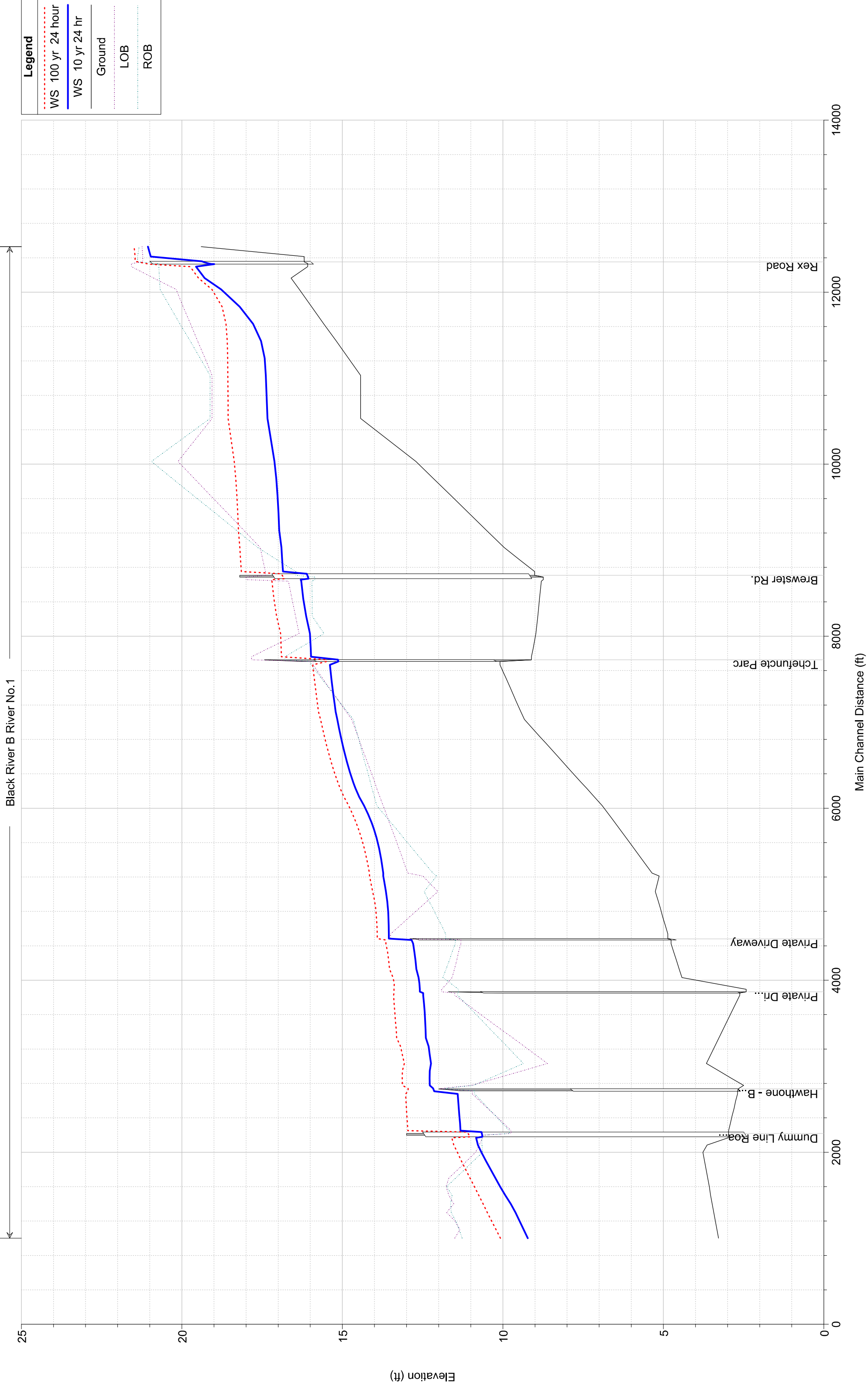
Tuscany Creek Proposed Conditions Figure 1.12



Black River Existing Conditions Figure 1.13



Black River Proposed Conditions Figure 1.14



APPENDIX B – Drainage Area Index

INDEX		REVISION DESCRIPTION		NO. DATE	
DESIGNED	F.M.	CHECKED	D.N.	DATE	BY
CHECKED	D.V./F.M.	DATE			
CHECKED	F.N.	AUGUST 2016			
PARISH		ST. TAMMANY			



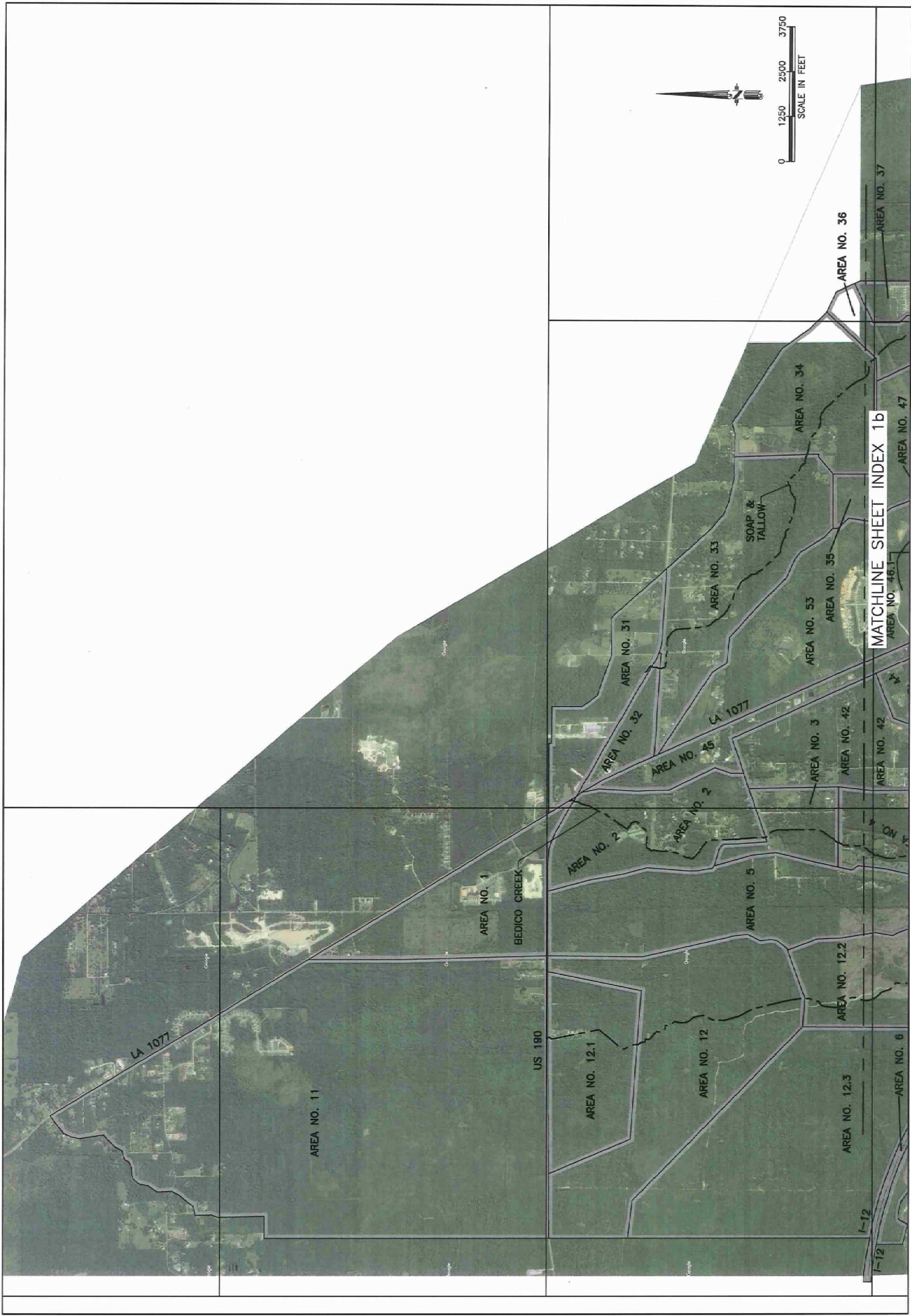


LA 1077/1085 DRAINAGE STUDY
 "PLAN AREA" INDEX ENLARGED
 TO SHOW DRAINAGE AREAS
 ST. TAMMANY PARISH, LOUISIANA

NO.	DATE	REVISION DESCRIPTION

DESIGNED	F.M.	CHECKED	D.M.
DRAWN	F.M.	CHECKED	F.M.
DATE	AUGUST 2016	SHEET	

INDEX	10
SHEET NUMBER	10

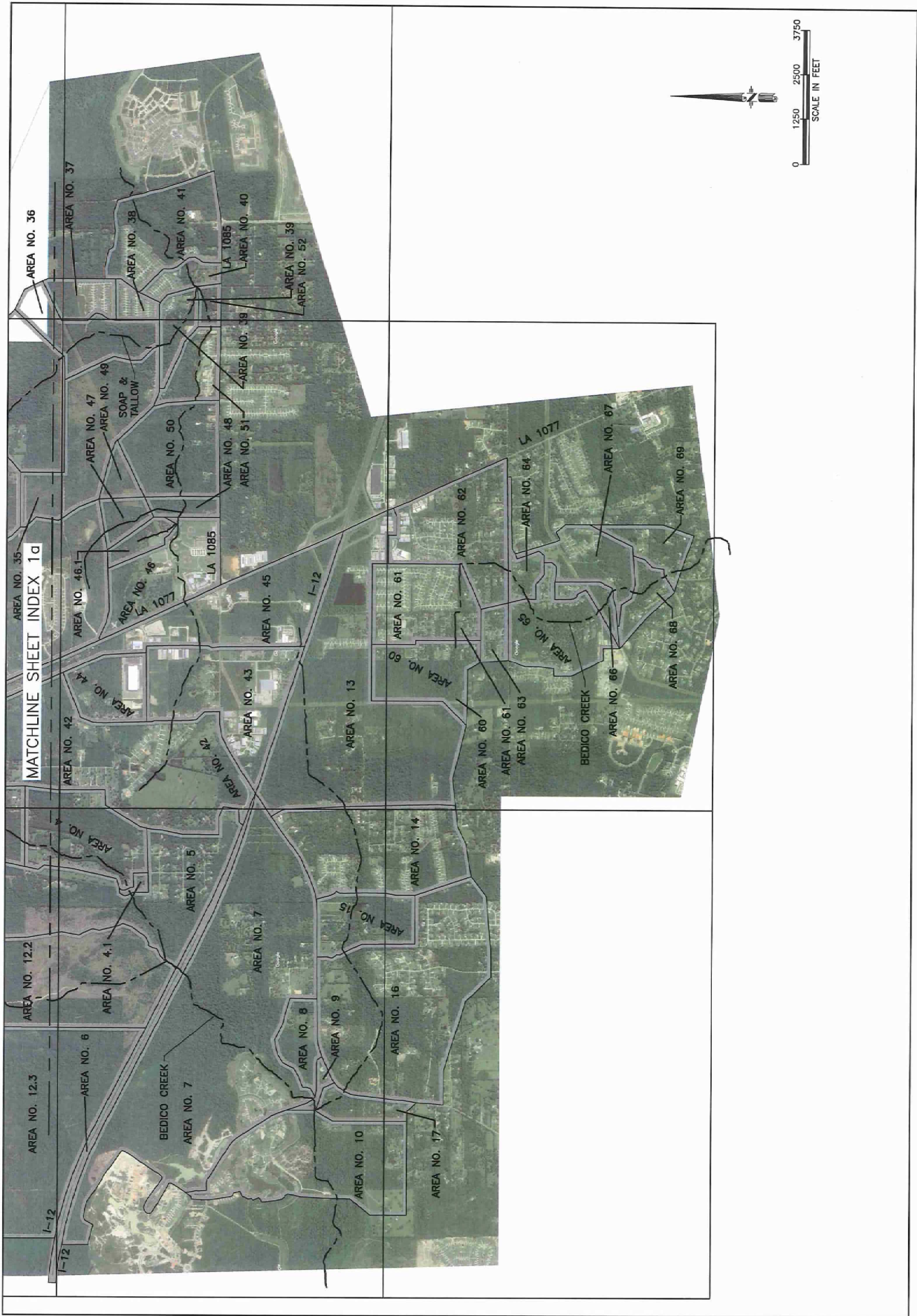
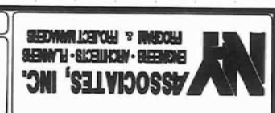


INDEX
SHEET
NUMBER
1D

DESIGNED	F.M.	PARISH	ST. TAMMANY
CHECKED	D.N.		
DRAWN	F.M.		
CHECKED	F.M.		
DATE	AUGUST 2018		
SHEET			

NO.	DATE	REVISION DESCRIPTION

LA 1077/1085 DRAINAGE STUDY
"PLAN AREA" INDEX ENLARGED
TO SHOW DRAINAGE AREAS
ST. TAMMANY PARISH, LOUISIANA



APPENDIX C – Delineated Drainage Area Sheets

003

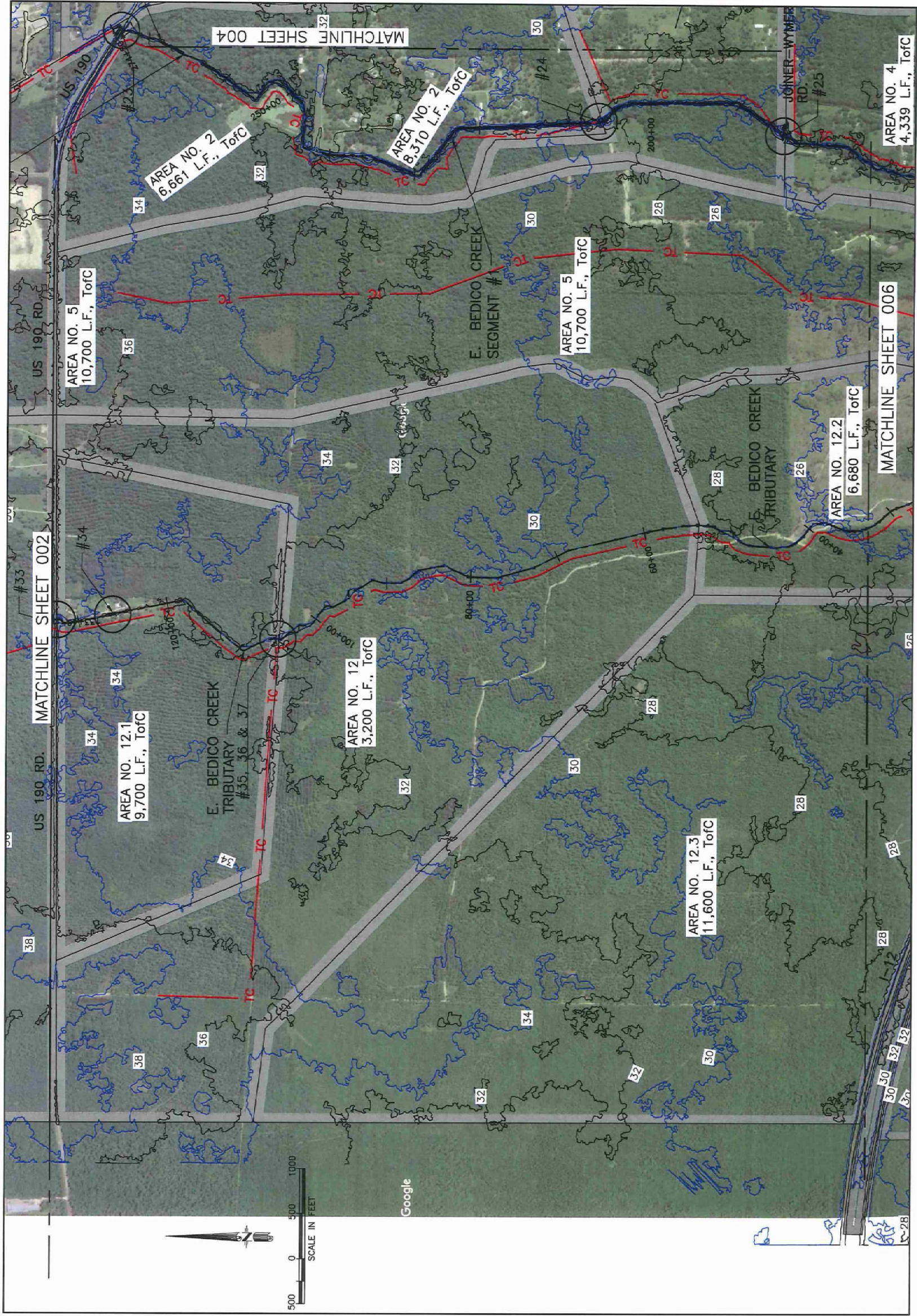
DESIGNED	F.M.	ST. TAMMANY
CHECKED	D.N.	
DRAWN	F.M.	
DATE	AUGUST 2018	

NO.	DATE	REVISION DESCRIPTION

PROJECT NUMBER	003
PROJECT NAME	LA 1077/1085 DRAINAGE STUDY
CLIENT	ST. TAMMANY PARISH, LOUISIANA
PROJECT NUMBER	INDEX AREA C-1

LA 1077/1085 DRAINAGE STUDY
 EXISTING DRAINAGE
 INDEX AREA C-1
 ST. TAMMANY PARISH, LOUISIANA

M ASSOCIATES, INC.
 ENGINEERS - ARCHITECTS - PLANNERS
 PROJECT & PROJECT MANAGER

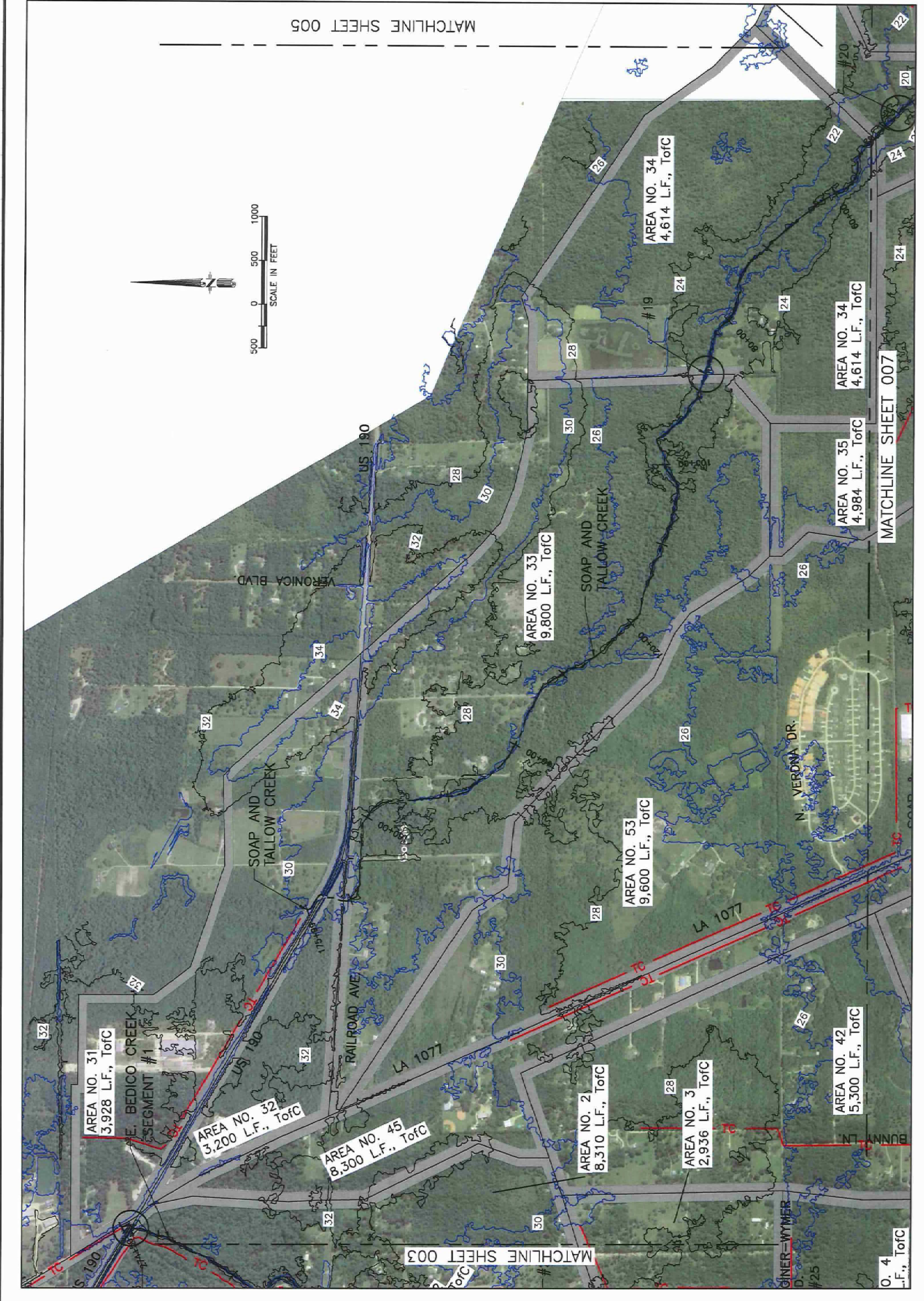


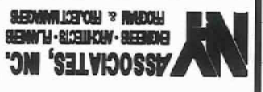
US 190 RD. MATCHLINE SHEET 002
 MATCHLINE SHEET 004
 MATCHLINE SHEET 006
 AREA NO. 2 6,661 L.F., TofC
 AREA NO. 5 10,700 L.F., TofC
 AREA NO. 12.1 9,700 L.F., TofC
 AREA NO. 12 3,200 L.F., TofC
 AREA NO. 12.3 11,600 L.F., TofC
 AREA NO. 5 10,700 L.F., TofC
 AREA NO. 2 8,310 L.F., TofC
 AREA NO. 12.2 6,680 L.F., TofC
 AREA NO. 4 4,339 L.F., TofC
 E. BEDICO CREEK TRIBUTARY #35, 36 & 37
 E. BEDICO CREEK TRIBUTARY
 E. BEDICO CREEK SEGMENT #
 US 190 RD.
 JOINER-WYMER RD.
 SCALE IN FEET
 500 0 500 1000
 Google

NO.	DATE	REVISION DESCRIPTION

DESIGNED	CHECKED	D.W./F.M.	DATE

PROJECT	DATE
ST. TAMMANY	AUGUST 2018

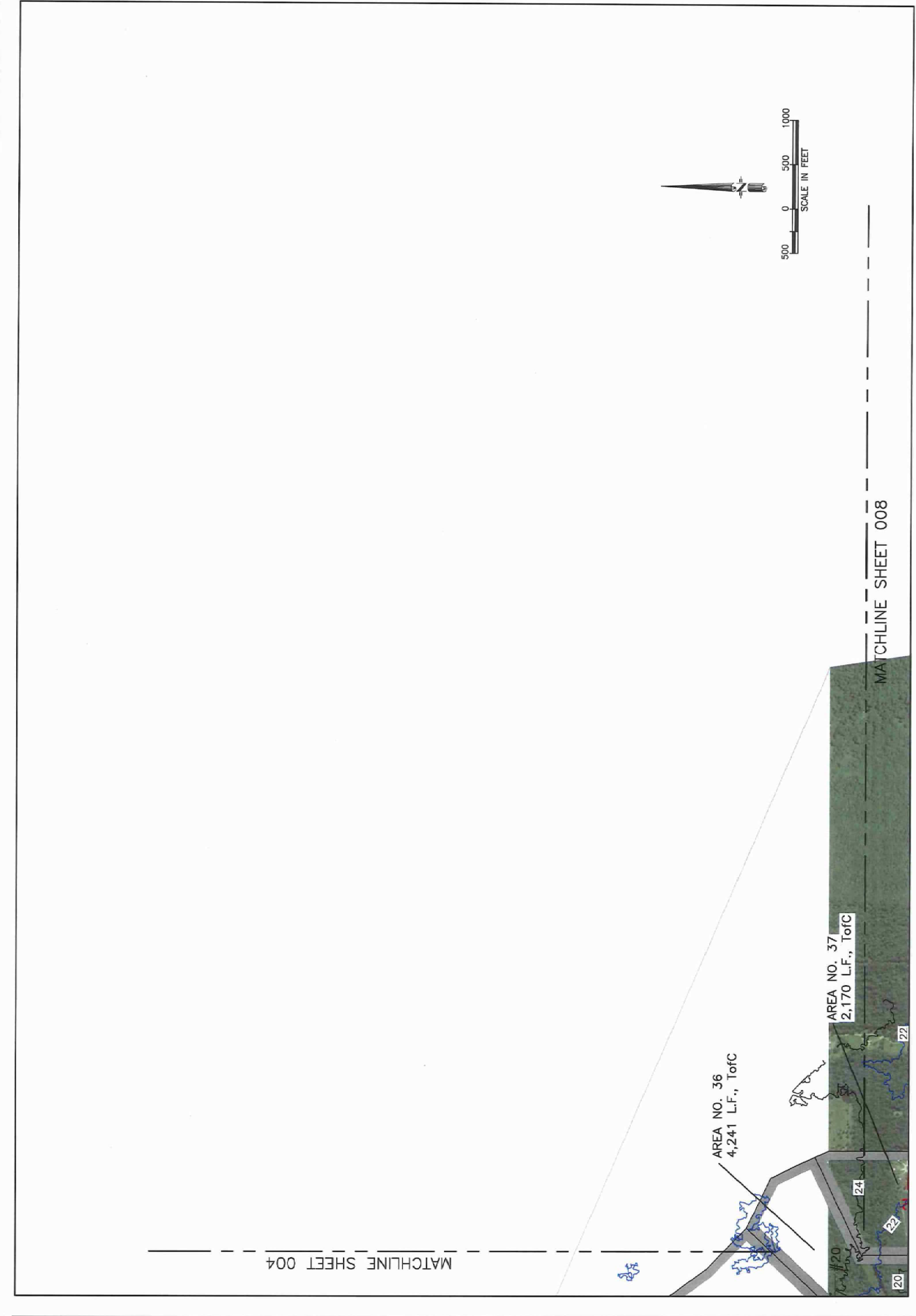




LA 1077/1085 DRAINAGE STUDY
 EXISTING DRAINAGE
 INDEX AREA C-3
 ST. TAMMANY PARISH, LOUISIANA

NO.	DATE	REVISION DESCRIPTION	BY

DESIGNED	F.M.	
CHECKED	D.N.	
DRAWN	D.V./M.	
CHECKED	F.M.	
DATE	AUGUST 2016	
SHEET		



SHEET NUMBER
 005

007

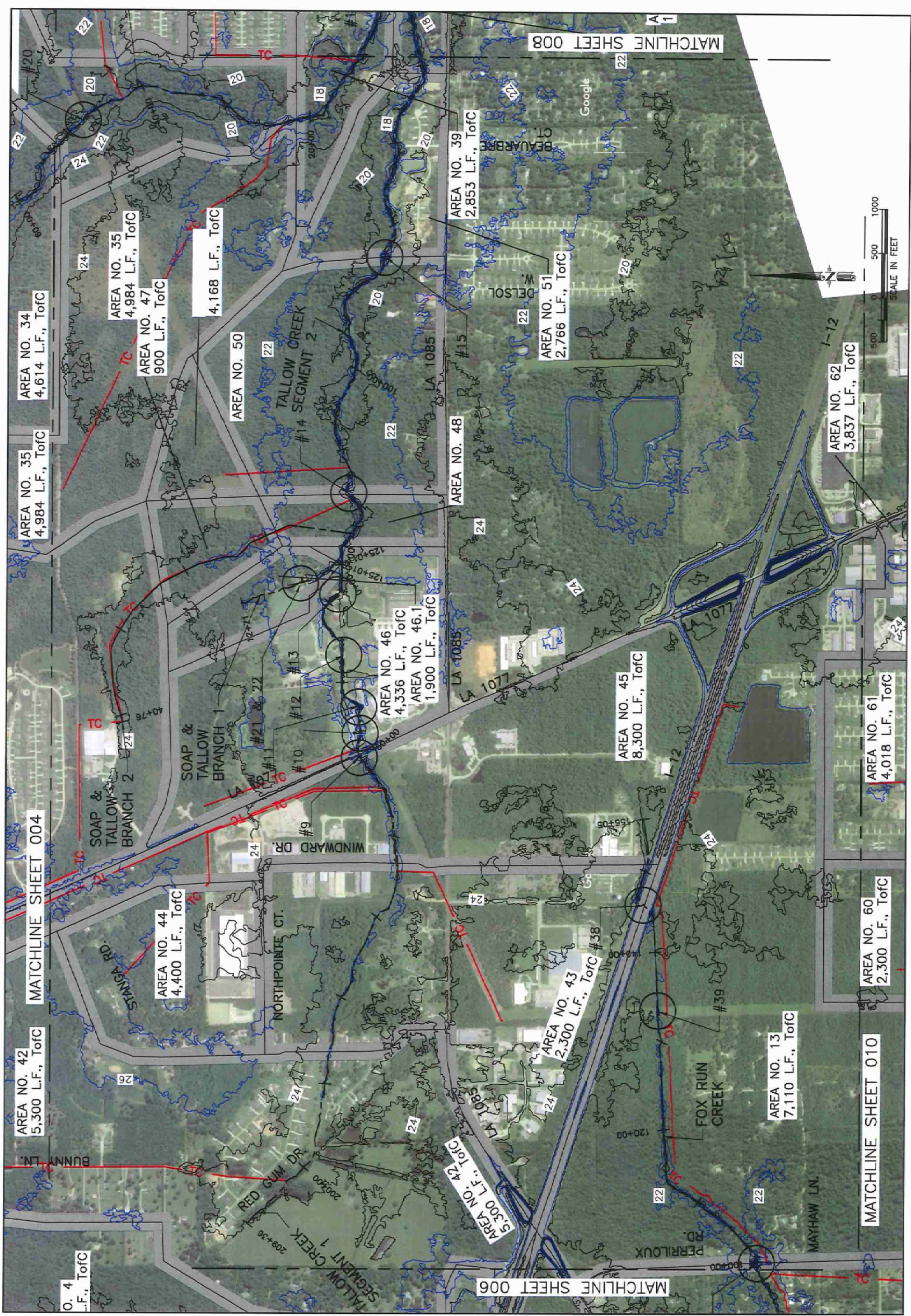
DESIGNED	F.M.	ST. TAMMANY
CHECKED	C.N.	
DATE	AUGUST 2018	

NO.	DATE	REVISION DESCRIPTION

PROJECT NUMBER	007
PARISH	ST. TAMMANY

LA 1077/1085 DRAINAGE STUDY
 EXISTING DRAINAGE
 INDEX AREA D-2
 ST. TAMMANY PARISH, LOUISIANA

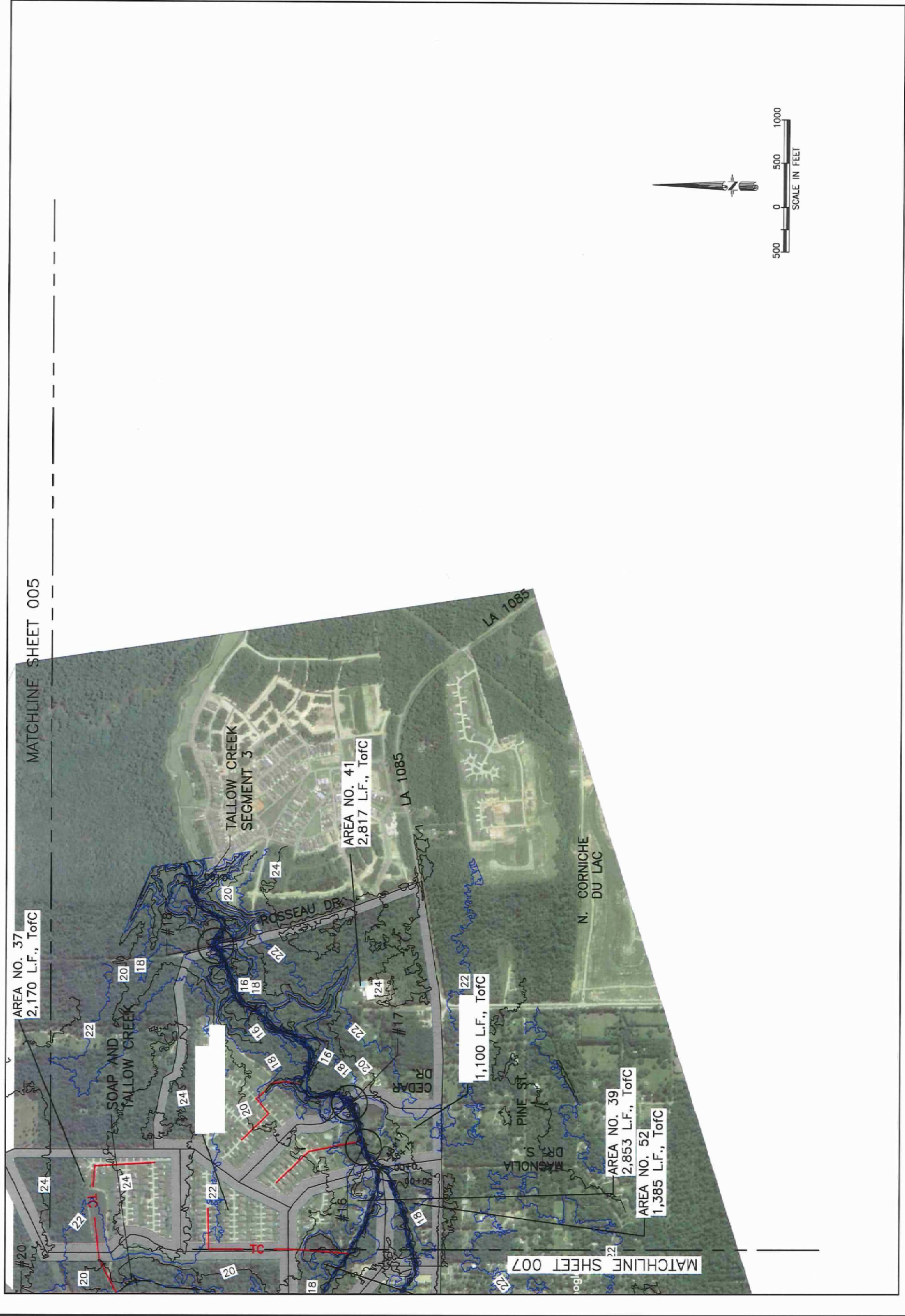
M ASSOCIATES, INC.
 ENGINEERS - ARCHITECTS - PLANNERS
 PROJECT MANAGERS



005
SHEET NUMBER

DESIGNED	F.M.	D.N.	CHECKED	D.N.	CHECKED	D.V./F.M.	DATE	BY	NO.	DATE	NO.
							AUGUST 2016				
ST. TAMMANY PARISH, LOUISIANA											
LA 1077/1085 DRAINAGE STUDY											
INDEX AREA D-3											
ST. TAMMANY PARISH, LOUISIANA											

LA 1077/1085 DRAINAGE STUDY
INDEX AREA D-3
ST. TAMMANY PARISH, LOUISIANA



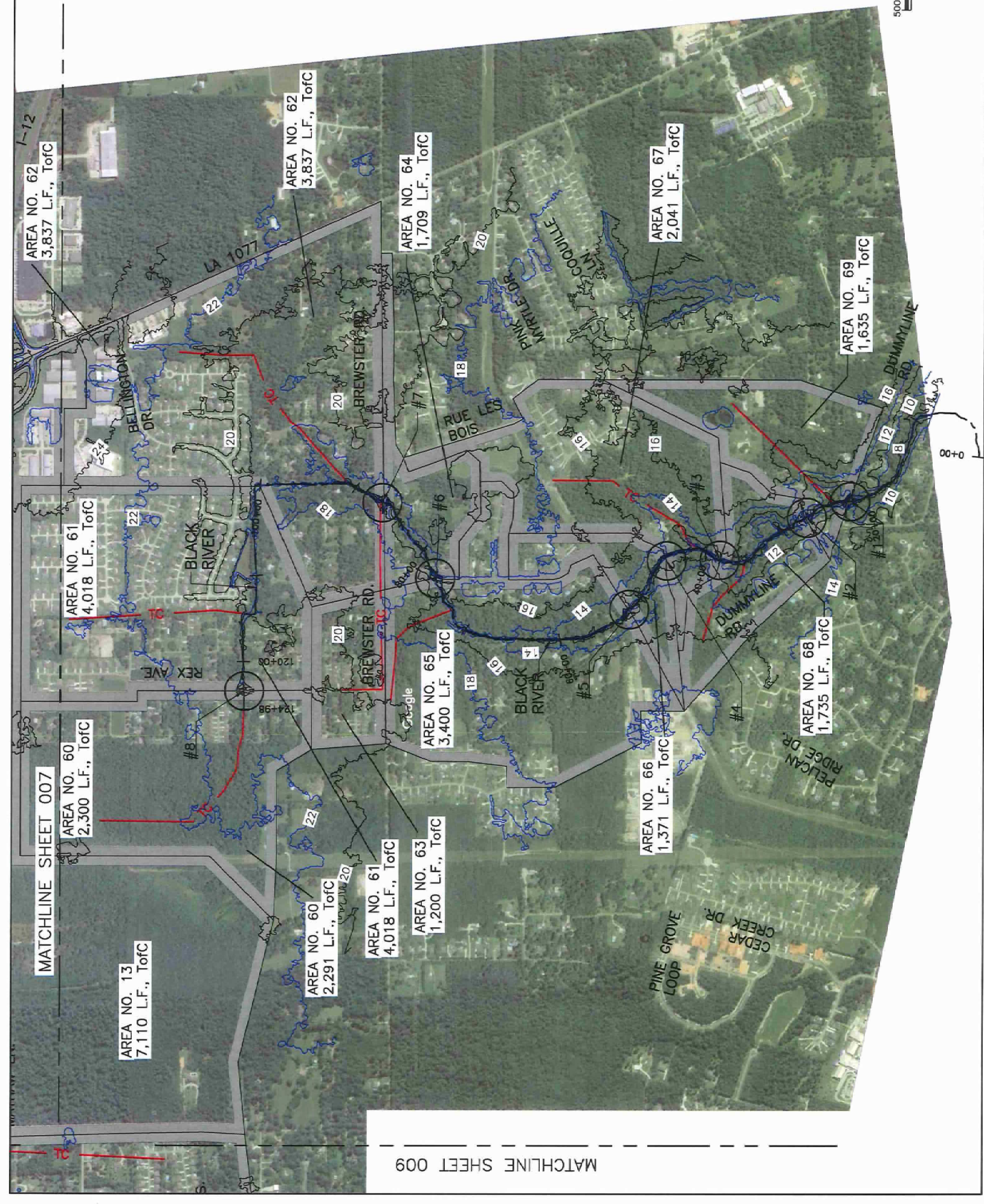
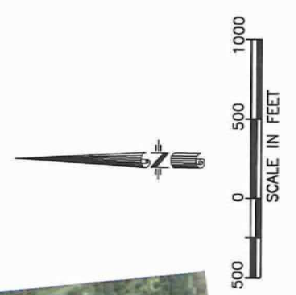
MATCHLINE SHEET 005

MATCHLINE SHEET 007

NO.	DATE	REVISION DESCRIPTION

DATE	BY	CHK'D	DATE
AUGUST 2016			
DESIGNED F.M.			
CHECKED D.V./M.			
DESIGNED D.N.			
CHECKED F.M.			

PROJECT	ST. TAMMANY
SHEET NUMBER	010



AREA NO. 62
3,837 L.F., TofC

AREA NO. 62
3,837 L.F., TofC

AREA NO. 64
1,709 L.F., TofC

AREA NO. 67
2,041 L.F., TofC

AREA NO. 69
1,635 L.F., TofC

AREA NO. 61
4,018 L.F., TofC

AREA NO. 65
3,400 L.F., TofC

AREA NO. 68
1,735 L.F., TofC

AREA NO. 60
2,300 L.F., TofC

AREA NO. 60
2,291 L.F., TofC

AREA NO. 61
4,018 L.F., TofC

AREA NO. 63
1,200 L.F., TofC

AREA NO. 66
1,371 L.F., TofC

AREA NO. 13
7,110 L.F., TofC

MATCHLINE SHEET 009

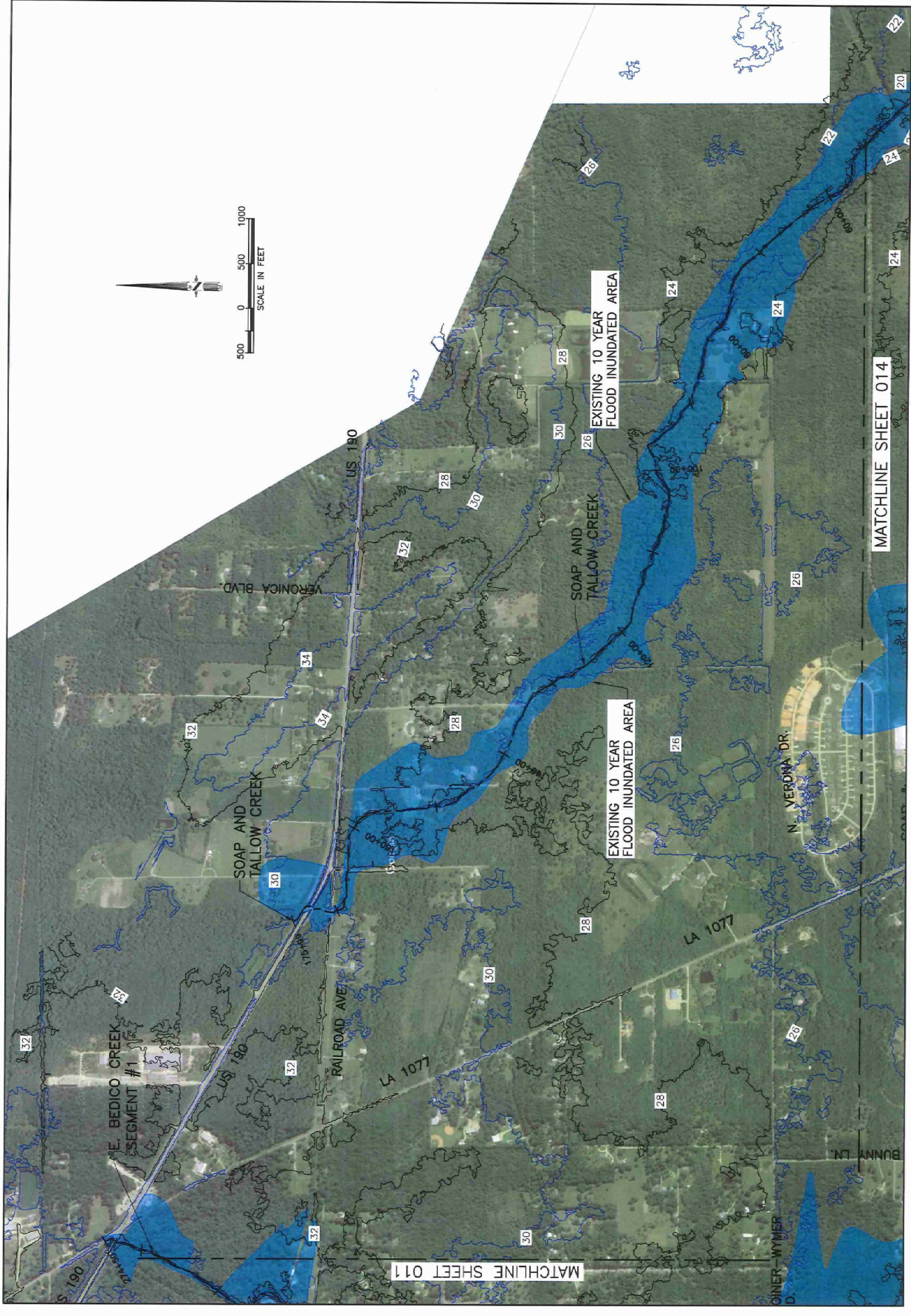
MATCHLINE SHEET 007

APPENDIX D – Flood Inundation Maps Existing & Proposed 10 Year – 24 Hour Storm Sheets

NO.	DATE	REVISION DESCRIPTION	BY

DESIGNED	CHECKED	DATE	SHEET
F.M.	D.N.	AUGUST 2016	012
D.V./F.M.	F.M.		

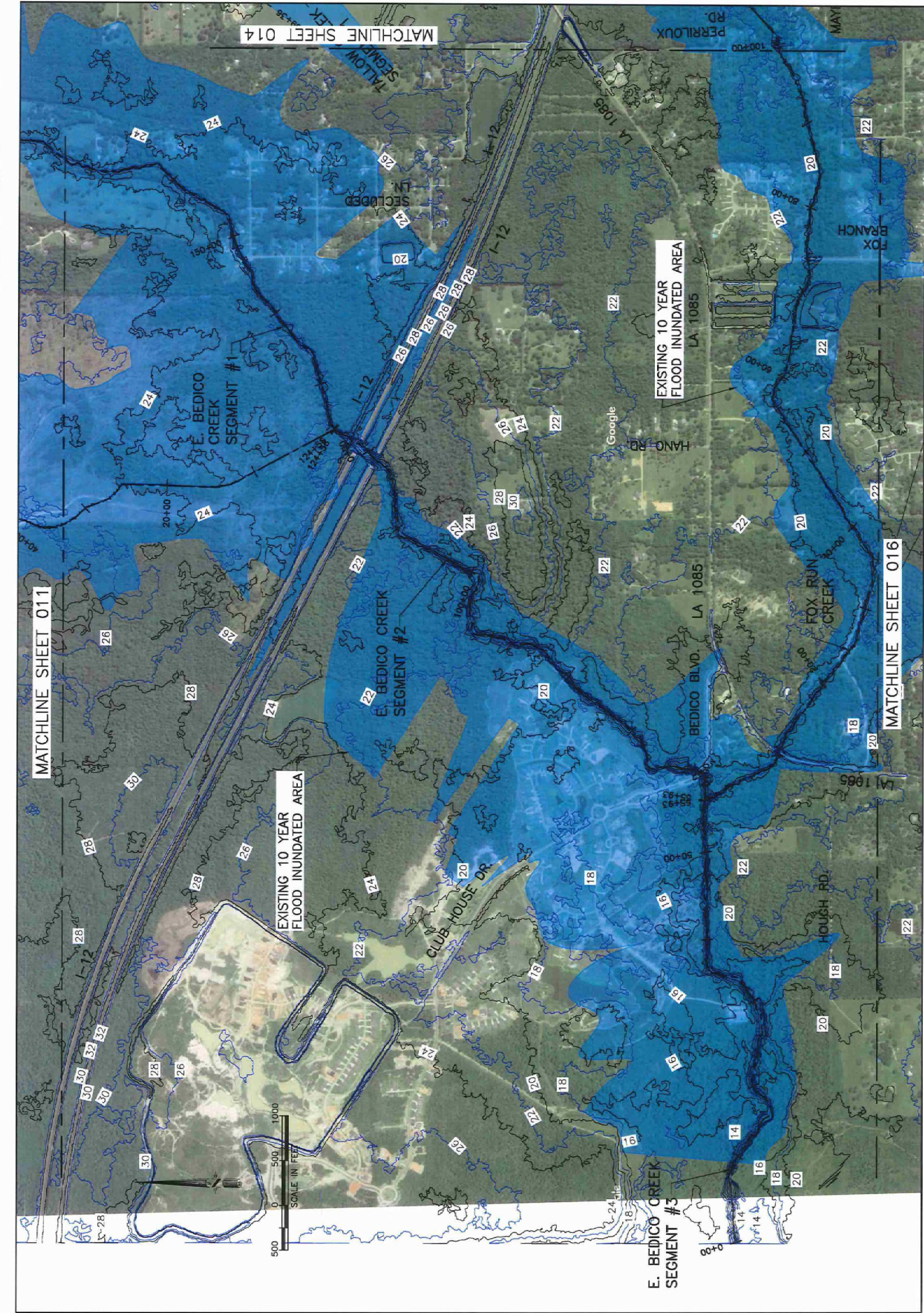
PARISH ST. TAMMANY



NO.	DATE	REVISION DESCRIPTION

DESIGNED	CHECKED	DATE
F.M.	D.M.	AUGUST 2016

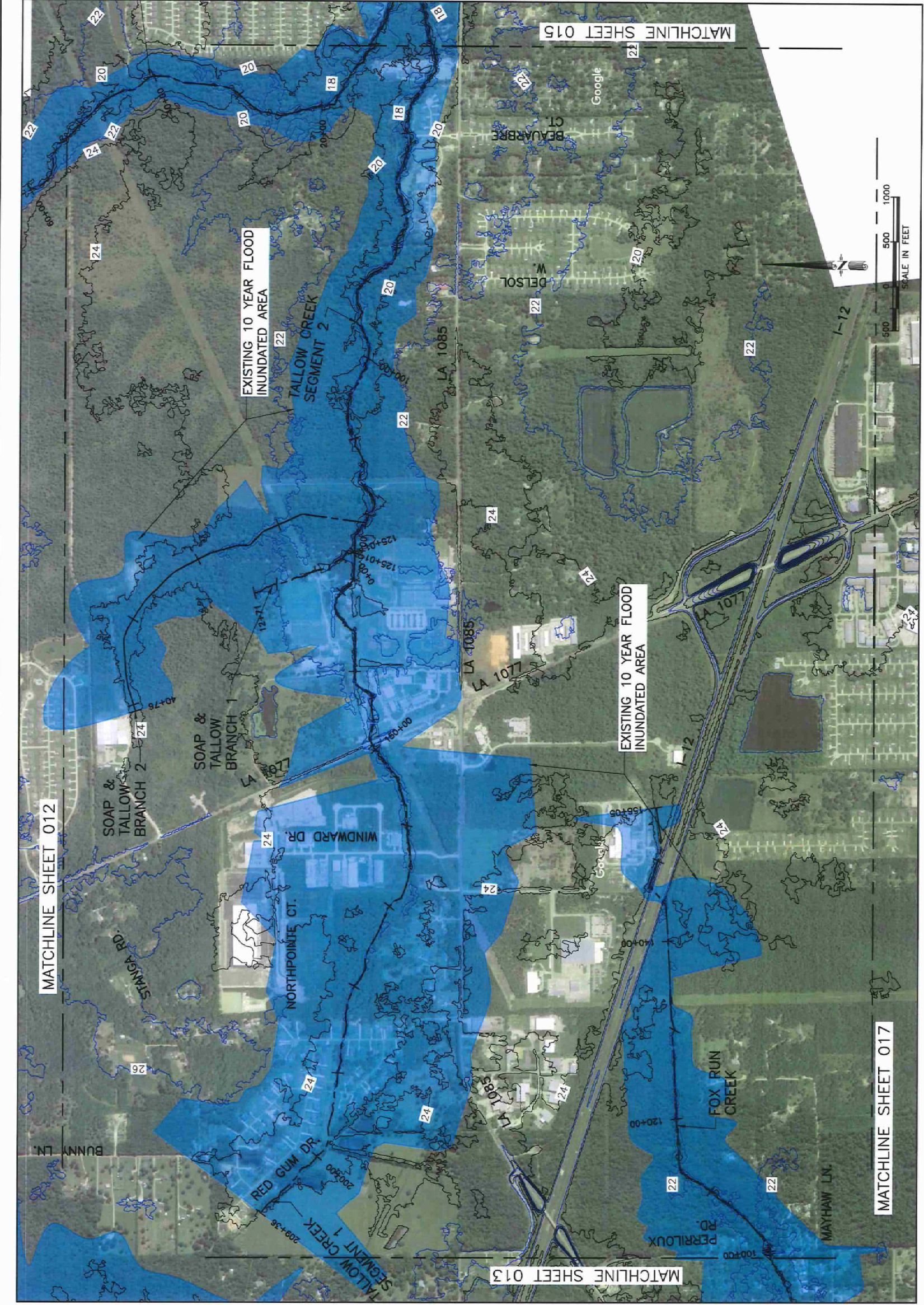
PROJECT	DATE	BY
ST. TAMMANY	AUGUST 2016	



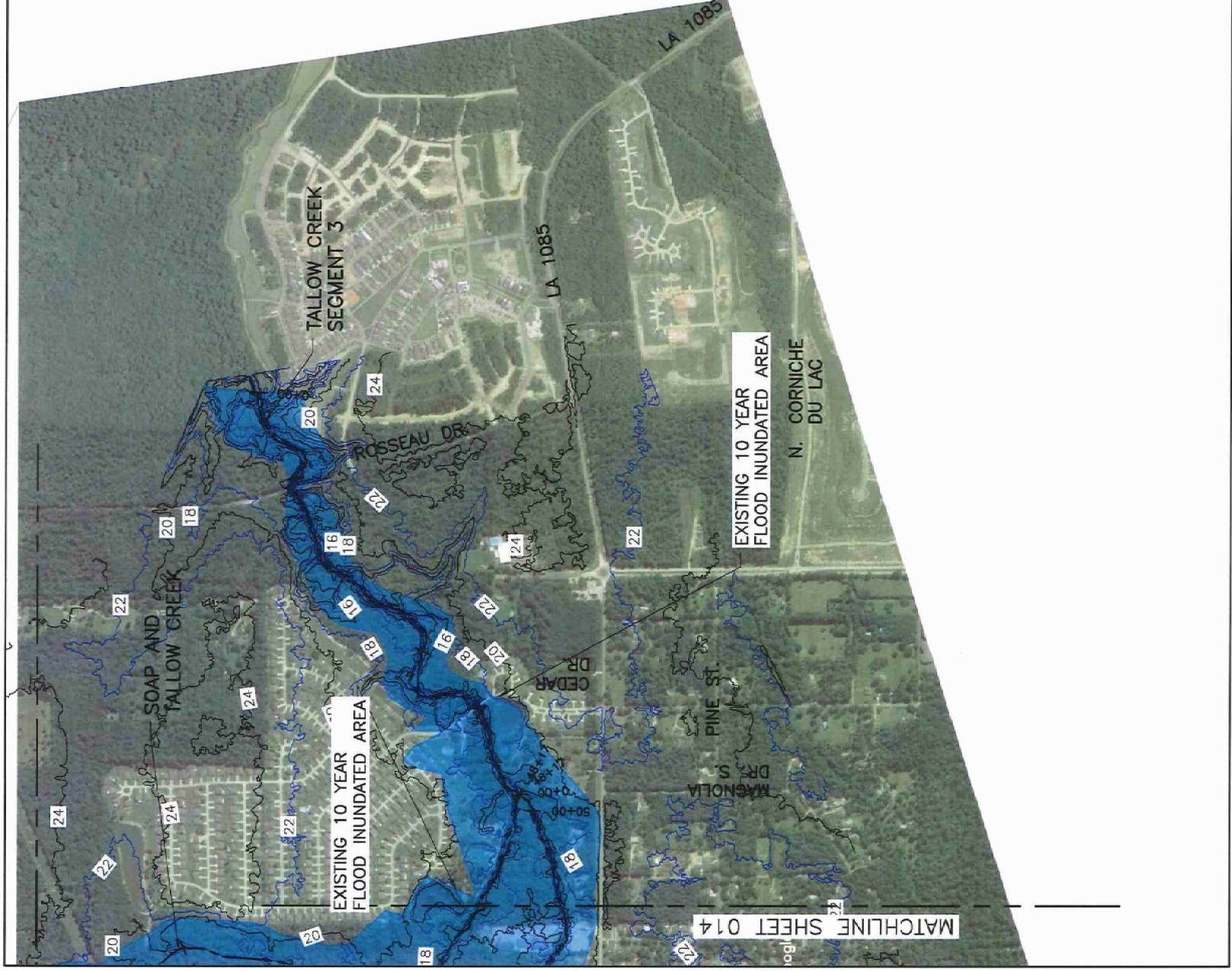
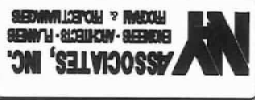
NO.	DATE	REVISION DESCRIPTION

DESIGNED	CHECKED	DRAWN	DATE
F.M.	D.N.	F.M.	AUGUST 2016

PROJECT	DATE	SHEET	OF
ST. TAMMANY			



DESIGNED F.M.	D.N.	CHECKED D.M.	DESIGNED F.M.	D.V./F.M.	CHECKED F.M.	DATE AUGUST 2016	SHEET 015
LA 1077/1085 DRAINAGE STUDY EXISTING 10 YR. INUNDATION INDEX AREA D-3 ST. TAMMANY PARISH, LOUISIANA							
REGION DESCRIPTION NO. DATE REVISIONS							



NO.	DATE	REVISION DESCRIPTION	BY	SHEET
				017
DESIGNED	F.M.			
CHECKED	D.N.			
DRAWN	D.V./F.M.			
CHECKED	F.M.			
DATE	AUGUST 2016			

ST. TAMMANY PARISH
ST. TAMMANY



MATCHLINE SHEET 014

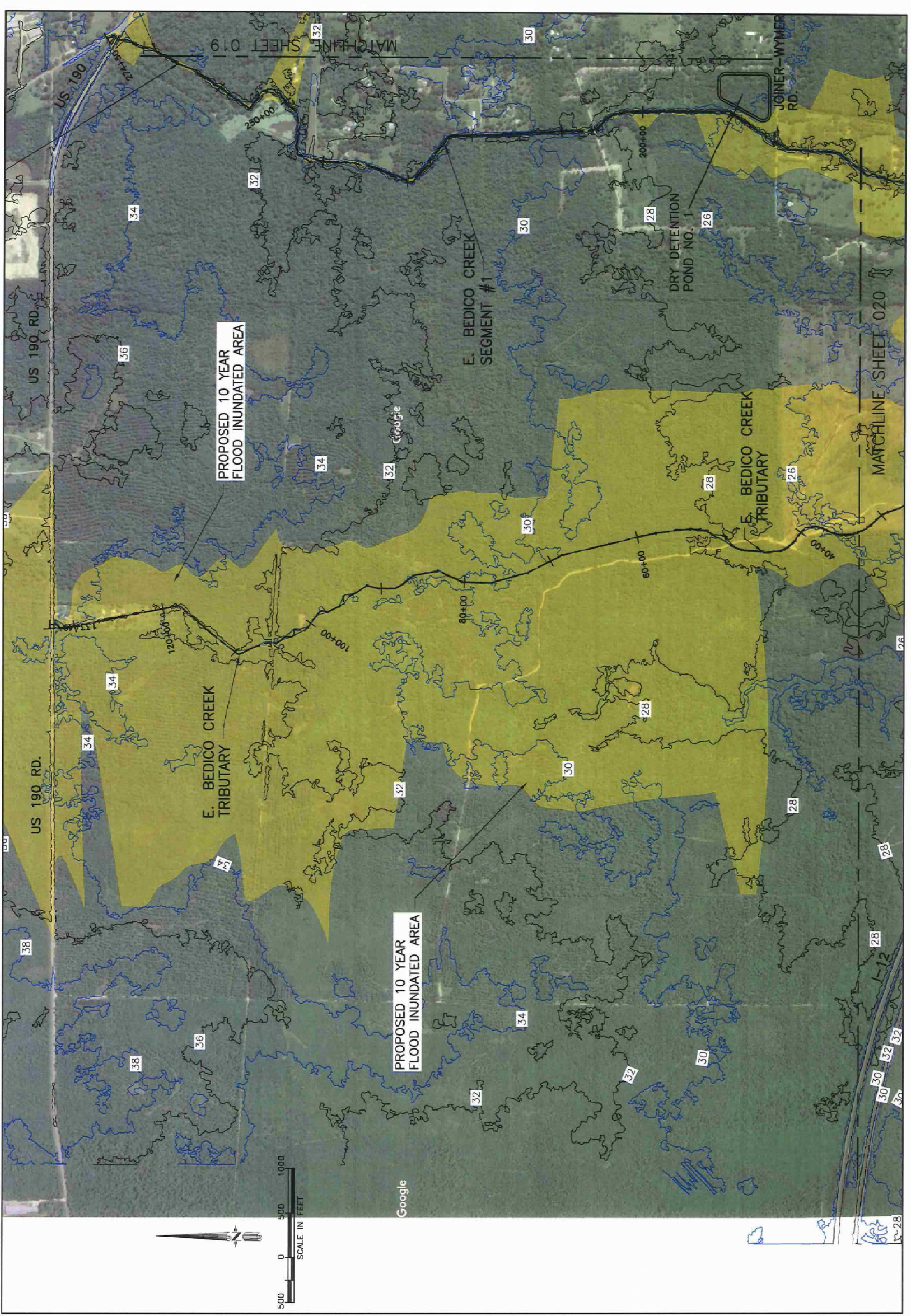
MATCHLINE SHEET 016

EXISTING 10 YEAR
FLOOD INUNDATED AREA

EXISTING 10 YEAR
FLOOD INUNDATED AREA

NO.	DATE	REVISION DESCRIPTION

DESIGNED	F.M.	CHECKED	D.M.
DRAWN	D.V./F.M.	CHECKED	F.M.
DATE	AUGUST 2016	SHEET	

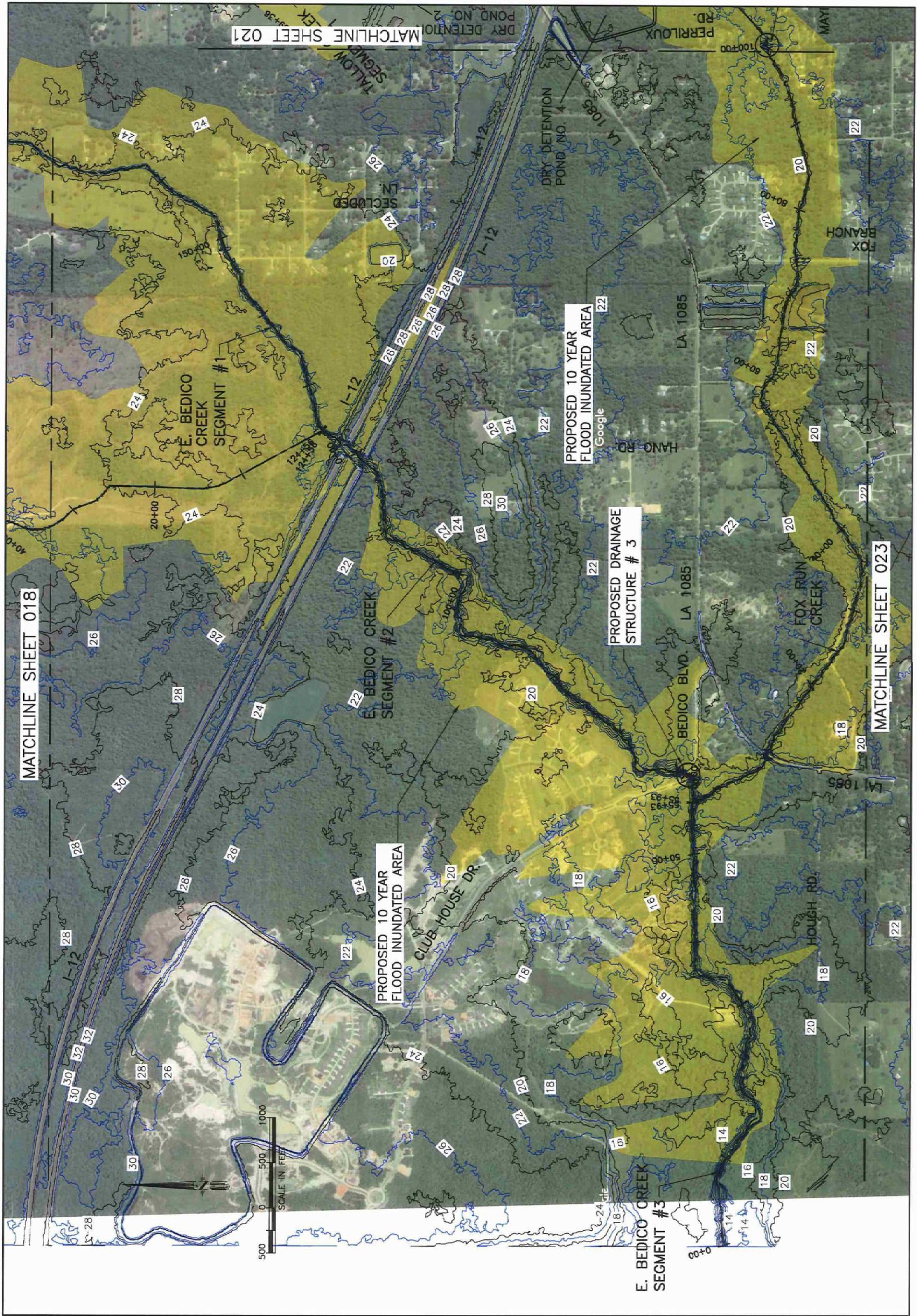


020

DESIGNED	F.M.	ST. TAMMANY
CHECKED	D.N.	
DATE	AUGUST 2016	
BY		
PROJECT		
NO.		
DATE		
DESCRIPTION		

PROJECT & PROJECT NUMBER	LA 1077/1085 DRAINAGE STUDY
PROPOSED 10 YR. INUNDATION INDEX AREA D-1	
ST. TAMMANY PARISH, LOUISIANA	

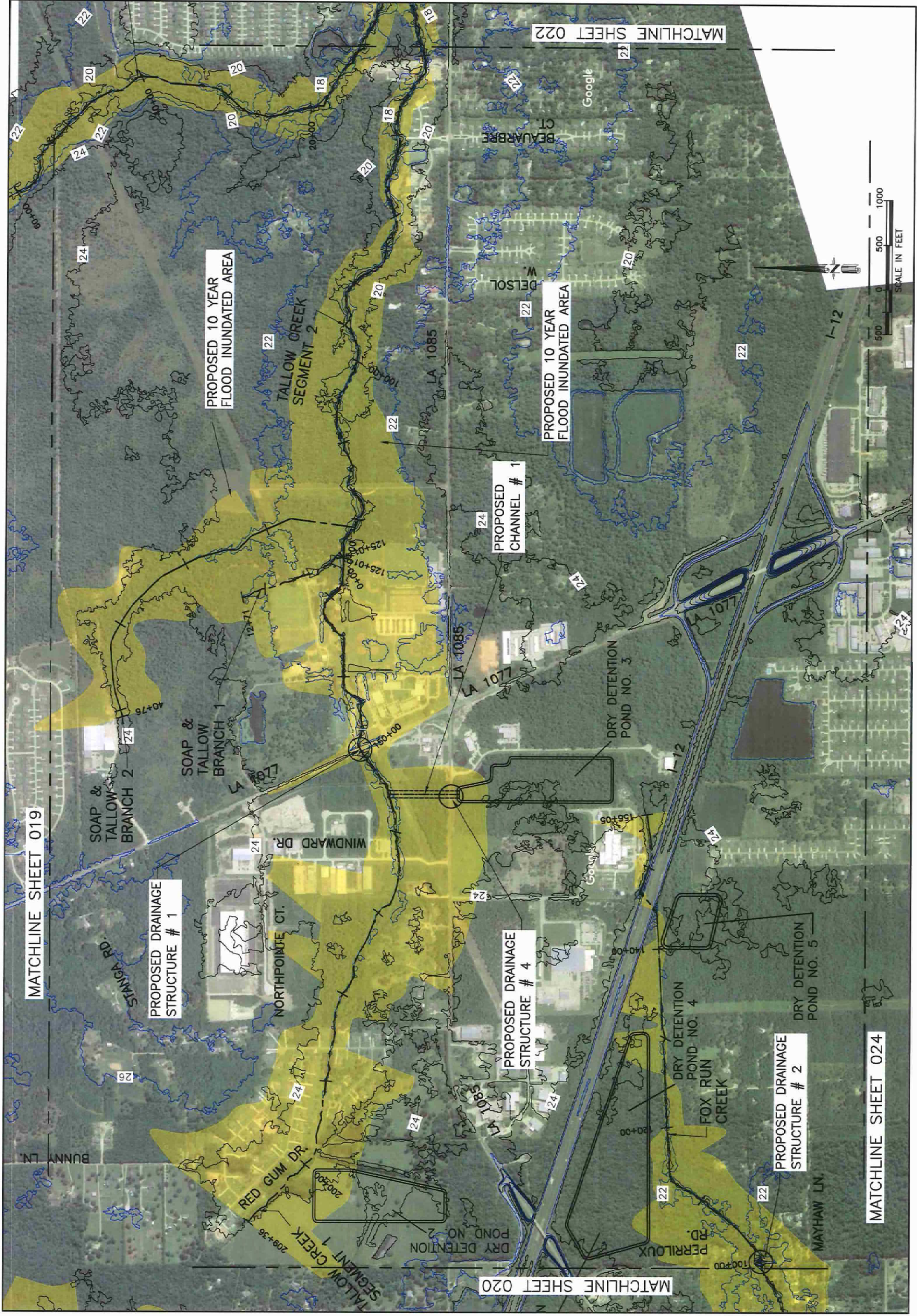
M ASSOCIATES, INC.
 ENGINEERS & ARCHITECTS - PLANNERS
 PROGRAM & PROJECT MANAGERS



NO.	DATE	REVISION DESCRIPTION

DESIGNED	CHECKED	D.N.	PARISH
F.M.	F.M.	ST. TAMMANY	ST. TAMMANY

DATE	SHEET
AUGUST 2016	021





LA 1077/1085 DRAINAGE STUDY
PROPOSED 10 YR. INUNDATION
INDEX AREA D-3
ST. TAMMANY PARISH, LOUISIANA

NO.	DATE

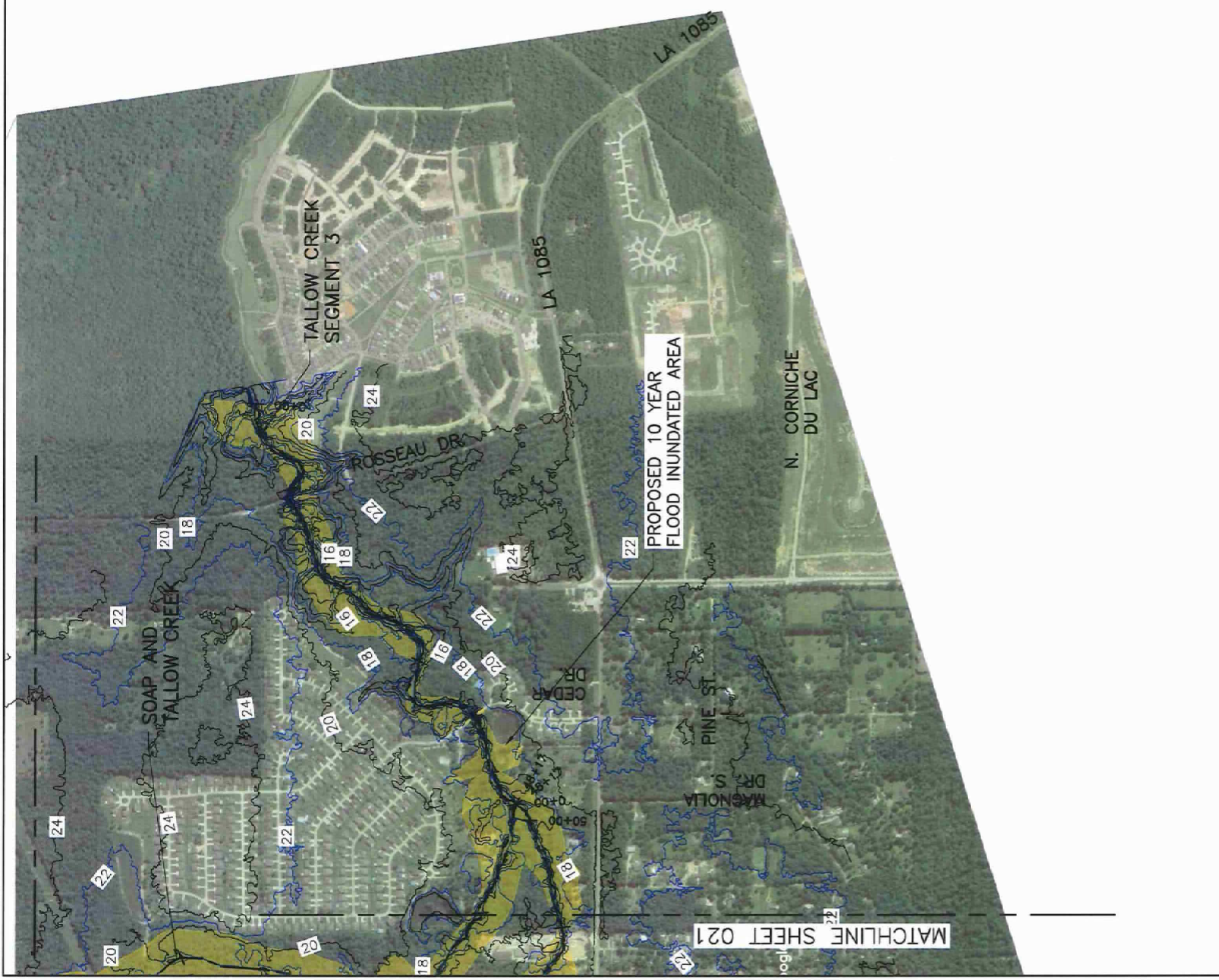
PERSON DESCRIPTION

BT	DATE

DESIGNED	CHECKED	D.V./F.M.	DATE
F.M.	D.M.	F.M.	AUGUST 2016

ST. TAMMANY
PARISH

SHEET NUMBER
022



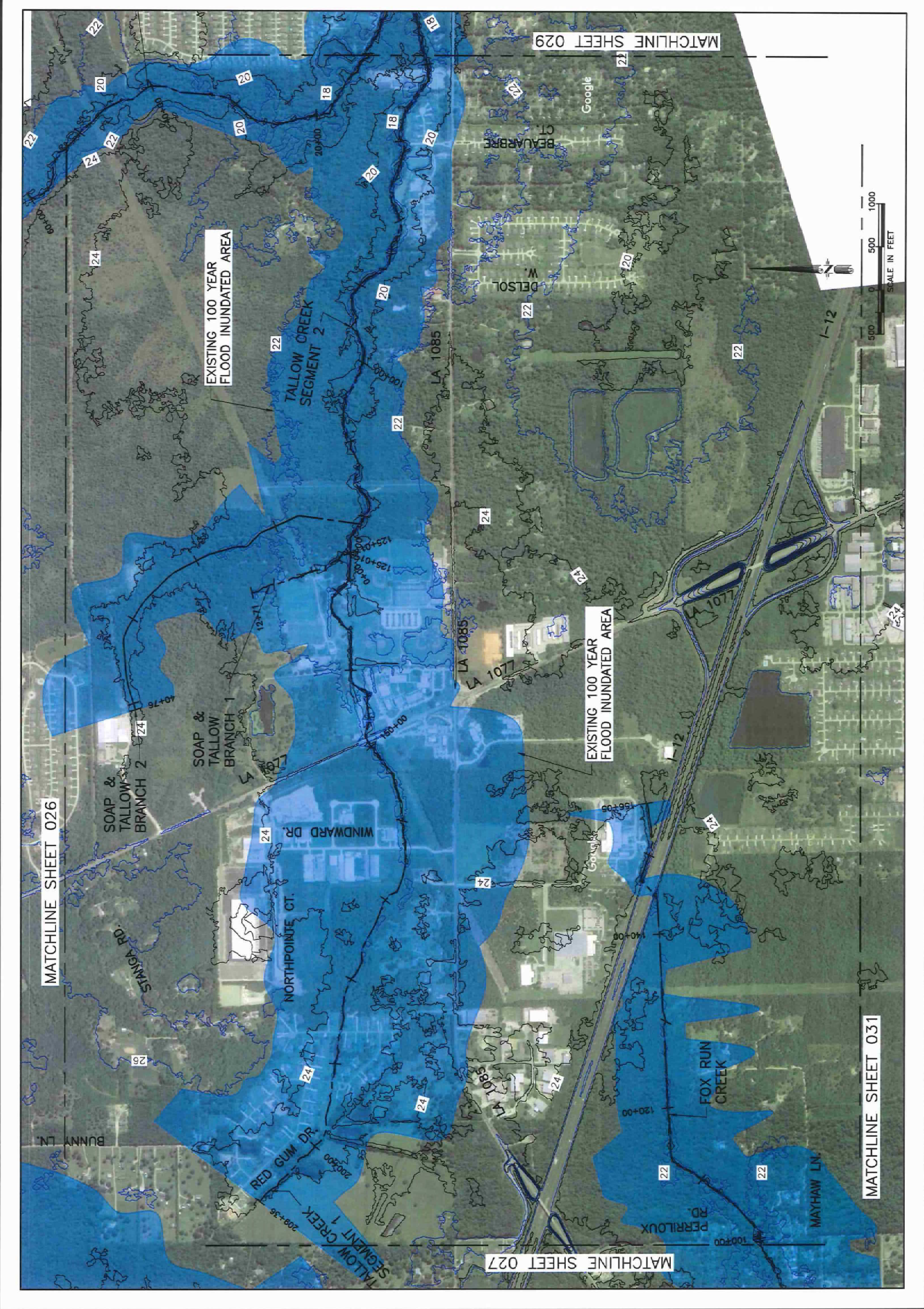
APPENDIX E – Flood Inundation Maps Existing & Proposed 100 Year – 24 Hour Storm Sheets

NO.	DATE	REVISION DESCRIPTION

DATE	BY
AUGUST 2016	

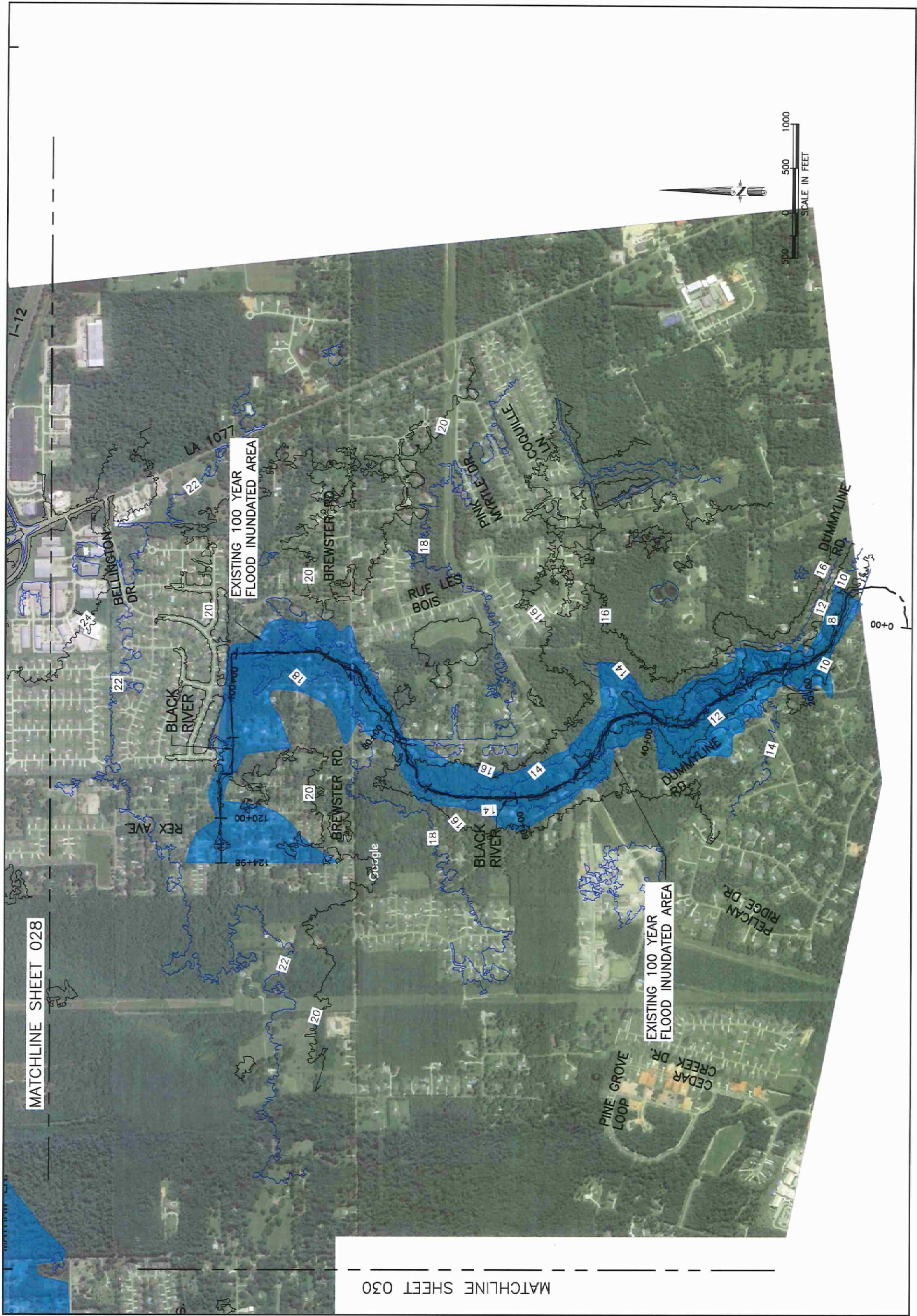
DESIGNED	CHECKED	DATE
F.M.	D.V./F.M.	

PROJECT	PARISH
LA 1077/1085 DRAINAGE STUDY	ST. TAMMANY



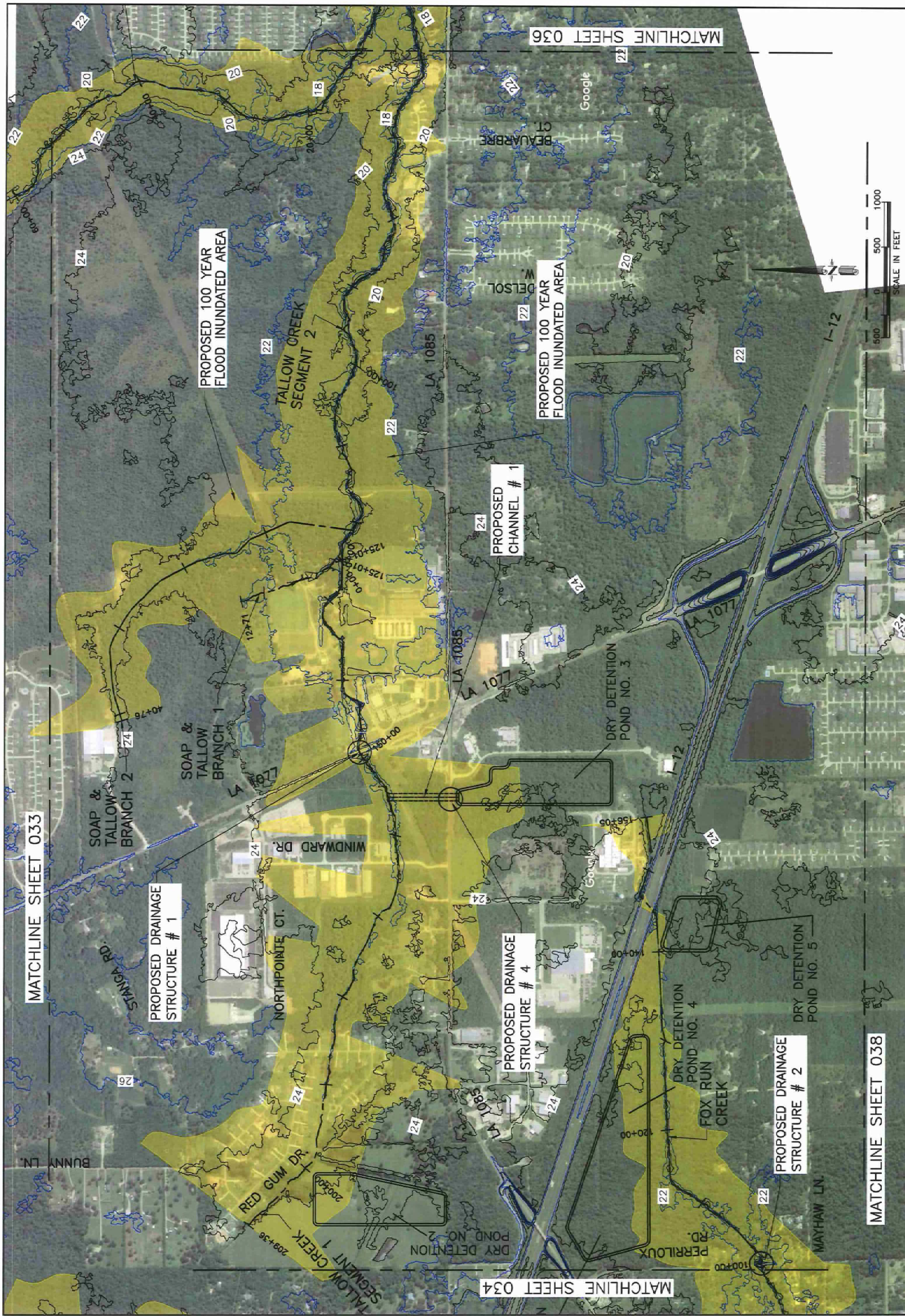
NO.	DATE	REVISION DESCRIPTION	BY	SHEET
				AUGUST 2016
DESIGNED	F.M.			
CHECKED	D.N.			
DRAWN	F.M.			
DATE				

ST. TAMMANY PARISH, LOUISIANA
 SHEET NUMBER 031



NO.	DATE	REVISION DESCRIPTION	BY	SHEET
	AUGUST 2016			035
DESIGNED	F.M.			
CHECKED	D.M.			
DESIGNED	D.V./T.M.			
CHECKED	F.L.			

PARISH ST. TAMMANY
SHEET NUMBER 035



MATCHLINE SHEET 033

MATCHLINE SHEET 036

MATCHLINE SHEET 034

MATCHLINE SHEET 038

PROPOSED 100 YEAR
FLOOD INUNDATED AREA

PROPOSED 100 YEAR
FLOOD INUNDATED AREA

PROPOSED DRAINAGE
STRUCTURE # 1

PROPOSED DRAINAGE
STRUCTURE # 4

PROPOSED DRAINAGE
STRUCTURE # 2

SOAP &
TALLOW
BRANCH 1

SOAP &
TALLOW
BRANCH 2

NORTHPOINTE CT.

RED GUM DR.

DRY DETENTION
POND NO. 2

PROPOSED
CHANNEL # 1

DRY DETENTION
POND NO. 3

DRY DETENTION
POND NO. 4

DRY DETENTION
POND NO. 5

FOX RUN
CREEK

PERRILOUX
RD.

MAYHAW LN.

BUNNY LN.

STANGA RD.

WINDWARD DR.

TALLOW CREEK
SEGMENT 2

TALLOW CREEK
SEGMENT 1



APPENDIX F

Existing Water Surface Profile Elevations, Culverts

Table 1.4

River	Reach	River Sta	Profile	E.G. US. (ft)	W.S. US. (ft)	E.G. IC (ft)	E.G. OC (ft)	Min EI Weir Flow (ft)	Q Culv Group (cfs)	Q Weir (cfs)	Delta WS (ft)	Culv Vel US (ft/s)	Culv Vel DS (ft/s)
Tallow Cr	T Cr No.2	14912.13 1077 Culvert #2	100 yr 24 hour	24.03	24.03	18.21	24.03	23.51	13	865.66	0.01	0.55	0.55
Tallow Cr	T Cr No.2	14912.13 1077 Culvert #1	100 yr 24 hour	24.03	24.03	18.14	24.03	23.51	22.34	865.66	0.01	0.54	0.54
Tallow Cr	T Cr No.2	14912.13 1077 Culvert #2	10 yr 24 hr	23.77	23.76	19.08	23.76	23.51	40.56	797.07	0.07	1.73	1.73
Tallow Cr	T Cr No.2	14912.13 1077 Culvert #1	10 yr 24 hr	23.77	23.76	18.99	23.77	23.51	70.37	797.07	0.07	1.69	1.69
Tallow Cr	T Cr No.2	14683.69 School 2 - 72' c Culvert #1	100 yr 24 hour	24	23.99	23.99	24	22.32	32.52	1046.48	0.01	0.58	0.58
Tallow Cr	T Cr No.2	14683.69 School 2 - 72' c Culvert #1	10 yr 24 hr	23.72	23.66	23.72	23.69	22.32	527.78	250.22	0.01	9.33	9.33
Tallow Cr	T Cr No.2	13692.5 School 2 - 48" c Culvert #1	100 yr 24 hour	23.8	23.8	23.8	23.8	21.01	16.83	1062.17	0.01	0.67	0.67
Tallow Cr	T Cr No.2	13692.5 School 2 - 48" c Culvert #1	10 yr 24 hr	23.45	23.44	23.43	23.45	21.01	25.67	752.33	0.02	1.02	1.02
Tallow Cr	T Cr No.2	12839.83 School 90" x 13 Culvert #1	100 yr 24 hour	23.67	23.67	23.66	23.67	21	53.79	1111.21	0.01	0.7	0.7
Tallow Cr	T Cr No.2	12839.83 School 90" x 13 Culvert #1	10 yr 24 hr	23.31	23.31	23.31	23.31	21	31.35	799.89	0	0.41	0.41
Tallow Cr	T Cr No.2-1	11577.05 Cleco Access Roa Culvert #1	100 yr 24 hour	23.37	23.35	23.13	23.37	23	492.9	1355.1	0.38	4.71	4.71
Tallow Cr	T Cr No.2-1	11577.05 Cleco Access Roa Culvert #1	10 yr 24 hr	23.13	23.12	20.43	23.13	23	758.71	324.29	0.93	7.24	7.24
Tallow Cr	T Cr No.2-1	8428.31 White Chapel Roa Culvert #1	100 yr 24 hour	21.91	21.88	21.89	21.91	20.01	102.31	1745.69	0.01	1.3	1.3
Tallow Cr	T Cr No.2-1	8428.31 White Chapel Roa Culvert #1	10 yr 24 hr	20.82	20.79	20.81	20.82	20.01	86.85	996.15	0	1.11	1.11
Tallow Cr	T Cr No.2-1	6080 New Road Culvert #1	100 yr 24 hour	21.29	21.21	21.29	21.29	18.01	54.87	1975.13	0.03	0.7	0.7
Tallow Cr	T Cr No.2-1	6080 New Road Culvert #1	10 yr 24 hr	20.04	20	20.03	20.04	18.01	87.74	1056.26	0.02	1.12	1.12
Soap & Tallow Cr	S & T No.2	8700 Fitzsimmons Road Culvert #1	100 yr 24 hour	24.31	24.3	17.15	24.31	23.51	29.84	177.16	0	0.38	0.38

Existing Water Surface Profile Elevations, Culverts

Table 1.4

River	Reach	River Sta	Profile	E.G. US.	W.S. US.	E.G. IC	E.G. OC	Min EI Weir Flow	Q Culv Group	Q Weir	Delta WS	Culv Vel US	Culv Vel DS
Soap & Tallow Cr	S & T No.2	8700 Fitzsimmons Road Culvert #1	10 yr 24 hr	23.82	23.81	16.82	23.82	23.51	59.14	121.86	0.01	0.75	0.75
Black River	B River No.1	12310.73 Rex Road Culvert #1	100 yr 24 hour	21.81	21.79	21.81	21.81	21.3	130.55	2111.06	0.8	6.78	6.78
Black River	B River No.1	12310.73 Rex Road Culvert #1	10 yr 24 hr	21.54	21.53	21.43	21.54	21.3	138.01	3.99	1.27	8.43	8.63
Black River	B River No.1	8666 Brewster Rd. Culvert #1	100 yr 24 hour	18.51	18.47	17.25	18.51	18.21	485.3	337.7	0.39	4.83	4.83
Black River	B River No.1	8666 Brewster Rd. Culvert #1	10 yr 24 hr	17.87	17.84	15.65	17.87	18.21	595		0.6	5.95	5.94
Black River	B River No.1	7684.62 Tchefuncte Parc Culvert #1	100 yr 24 hour	17.66	17.61	16.82	17.66	17.51	759.55	63.45	0.95	7.54	7.54
Black River	B River No.1	7684.62 Tchefuncte Parc Culvert #1	10 yr 24 hr	16.74	16.7	15.51	16.74	17.51	595		0.58	5.9	5.9
Black River	B River No.1	4444.8 Private Driveway Culvert #1	100 yr 24 hour	14.19	14.15	14.16	14.19	13.01	81.05	860.95	0.01	1.61	1.61
Black River	B River No.1	4444.8 Private Driveway Culvert #1	10 yr 24 hr	13.72	13.69	13.43	13.72	13.01	253.18	388.82	0.4	5.04	5.04
Black River	B River No.1	3827.40 Private Driveway Culvert #1	100 yr 24 hour	13.81	13.78	13.8	13.81	12.01	58.68	1254.32	0	1.17	1.17
Black River	B River No.1	3827.40 Private Driveway Culvert #1	10 yr 24 hr	12.95	12.92	12.94	12.95	12.01	54.91	746.09	0.01	1.09	1.09
Black River	B River No.1	2710.49 Hawthone - Bridg Culvert #1	100 yr 24 hour	13.42	13.32	13.4	13.42	12.01	140.95	1172.05	0.05	1.53	1.53
Black River	B River No.1	2710.49 Hawthone - Bridg Culvert #1	10 yr 24 hr	12.58	12.48	9.56	12.58	12.01	454.35	346.65	0.34	4.93	4.93
Black River	B River No.1	2207.93 Dummy Line Road Culvert #1	100 yr 24 hour	13.28	13.25	11.93	13.28	13.01	1124.38	188.62	0.9	7.27	7.26
Black River	B River No.1	2207.93 Dummy Line Road Culvert #1	10 yr 24 hr	12.04	12.01	9.34	12.04	13.01	801		0.49	5.45	5.42
Bedico Cr.	Bed. Cr. No.3	27316 LA HWY 190 Culvert #1	100 yr 24 hour	36.88	36.87	35.97	36.8	36.41	30.41	34.56	3.06	9.68	9.68
Bedico Cr.	Bed. Cr. No.3	27316 LA HWY 190 Culvert #2	100 yr 24 hour	36.88	36.87	36.9	36.67	36.41	136.87	34.56	3.06	10.89	11.83

Existing Water Surface Profile Elevations, Culverts

Table 1.4

River	Reach	River Sta	Profile	E.G. US.	W.S. US.	E.G. IC	E.G. OC	Min EI Weir Flow	Q Culv Group	Q Weir	Delta WS	Culv Vel US	Culv Vel DS
Bedico Cr.	Bed. Cr. No.3	27316 LA HWY 190 Culvert #1	10 yr 24 hr	36.53	36.52	36.01	36.52	36.41	30.56	9.79	3.17	9.73	10
Bedico Cr.	Bed. Cr. No.3	27316 LA HWY 190 Culvert #2	10 yr 24 hr	36.53	36.52	36.75	36.53	36.41	134.65	9.79	3.17	10.72	11.66
Bedico Cr.	Bed. Cr. No.3	20631 Baham Road Culvert #1	100 yr 24 hour	27.88	27.87	25.16	27.88	27.01	53.49	225.65	0.2	3.36	3.36
Bedico Cr.	Bed. Cr. No.3	20631 Baham Road Culvert #2	100 yr 24 hour	27.88	27.87	22.87	27.88	27.01	44.86	225.65	0.2	2.82	2.82
Bedico Cr.	Bed. Cr. No.3	20631 Baham Road Culvert #1	10 yr 24 hr	27.07	27.06	26.32	27.06	27.01	87.95	3.65	0.71	5.74	5.53
Bedico Cr.	Bed. Cr. No.3	20631 Baham Road Culvert #2	10 yr 24 hr	27.07	27.06	24.18	27.07	27.01	83.4	3.65	0.71	5.24	5.24
Bedico Cr.	Bed. Cr. No.3	18384 Joiner Road Culvert #1	100 yr 24 hour	25.7	25.7	22.19	25.7	25.01	103.63	436.37	0.01	1.01	1.01
Bedico Cr.	Bed. Cr. No.3	18384 Joiner Road Culvert #1	10 yr 24 hr	25.29	25.29	20.64	25.29	25.01	147.72	121.28	0.03	1.45	1.45
Bedico Cr.	Trib. No.3	13241.52 LA HWY 190 Culvert #1	100 yr 24 hour	37.55	37.52	37.55	37.55	37.01	111.13	2187.29	1.57	7.86	7.86
Bedico Cr.	Trib. No.3	13241.52 LA HWY 190 Culvert #1	10 yr 24 hr	37.45	37.43	37.44	37.45	37.01	117.98	1193.75	1.68	8.35	8.35
Bedico Cr.	Trib. No.3	10553.56 Trace Recreation Culvert #2	100 yr 24 hour	33.53	33.34	30.24	33.53	33.01	2.41	2083.23	0.17	0.34	0.34
Bedico Cr.	Trib. No.3	10553.56 Trace Recreation Culvert #1	100 yr 24 hour	33.53	33.34	29.43	33.54	33.01	3.54	2083.23	0.17	0.18	0.18
Bedico Cr.	Trib. No.3	10553.56 Trace Recreation Culvert #2	10 yr 24 hr	33.13	32.98	31.75	33.13	33.01	21.32	665.12	0.02	3.02	3.02
Bedico Cr.	Trib. No.3	10553.56 Trace Recreation Culvert #1	10 yr 24 hr	33.13	32.98	29.96	33.12	33.01	13.57	665.12	0.02	0.71	0.71
Bedico Cr.	Bed. Cr. No.2	5930.27 Bedico Cr. Blvd. Culvert #1	100 yr 24 hour	20.81	20.65	20.8	20.81	20.01	70.32	2943.68	0.11	0.55	0.55
Bedico Cr.	Bed. Cr. No.2	5930.27 Bedico Cr. Blvd. Culvert #1	10 yr 24 hr	20.4	20.12	20.39	20.4	20.01	173.79	2223.21	0.17	1.37	1.37
Bedico Cr.	Fox Branch	14560 I-12 Culvert #1	100 yr 24 hour	25.23	25.22	22.02	25.23	27.21	195		0.33	3.05	3.05
Bedico Cr.	Fox Branch	14560 I-12 Culvert #1	10 yr 24 hr	24.92	24.91	21.49	24.92	27.21	139		0.16	2.17	2.17

Existing Water Surface Profile Elevations, Culverts

Table 1.4

River	Reach	River Sta	Profile	E.G. US.	W.S. US.	E.G. IC	E.G. OC	Min EI Weir Flow	Q Culv Group	Q Weir	Delta WS	Culv Vel US	Culv Vel DS
Bedico Cr.	Fox Branch	9998.61 Perriloux Rd. Culvert #1	100 yr 24 hour	23.36	23.36	23.36	23.36	22.83	5.38	189.62	0	0.28	0.28
Bedico Cr.	Fox Branch	9998.61 Perriloux Rd. Culvert #1	10 yr 24 hr	23.05	23.05	21.9	23.05	22.83	58.12	80.88	0.18	3.02	3.02
Bedico Cr.	Fox Branch	5593.71 Private Driveway Culvert #1	100 yr 24 hour	22.38	22.36	22.35	22.38	22.01	78.57	1113.43	0.03	1.56	1.56
Bedico Cr.	Fox Branch	5593.71 Private Driveway Culvert #1	10 yr 24 hr	21.96	21.95	21.96	21.96	22.01	304.02	662.61	0.6	6.05	6.05

Existing Water Surface Profile Elevations, Bridge

Table 1.5

River	Reach	River Sta	Profile	E.G. U.S. (ft)	Min EI Prs (ft)	BR Open Area (sq ft)	Prs O WS (ft)	Q Total (cfs)	Min EI Weir Flow (ft)	Q Weir (cfs)	Delta EG (ft)	W.S. U.S. (ft)
Tallow Cr	T Cr No.2	14383.7 School Bridge	100 yr 24 hour	23.91	23	155.67		1079	22.65		0.01	23.89
Tallow Cr	T Cr No.2	14383.7 School Bridge	10 yr 24 hr	23.58	23	155.67		778	22.65		0.02	23.55
Soap & Tallow Cr	S & T No. 1	3947.96 Tallow Creek	100 yr 24 hour	20.63	21.6	571.14		3409	19.01		0.15	20.35
Soap & Tallow Cr	S & T No. 1	3947.96 Tallow Creek	10 yr 24 hr	18.97	21.6	571.14		2106	19.01		0.15	18.6
Soap & Tallow Cr	S & T No. 1	1106.54 Rousseau Road	100 yr 24 hour	15.85	15.7	545.94		3409	19.01		0.51	15.33
Soap & Tallow Cr	S & T No. 1	1106.54 Rousseau Road	10 yr 24 hr	15.14	15.7	545.94		2175	19.01		0.22	14.9
Bedico Cr.	Bed. Cr. No.3	14857.8 Bridge - Private	100 yr 24 hour	25.39	27	236.91		551	23		0	25.39
Bedico Cr.	Bed. Cr. No.3	14857.8 Bridge - Private	10 yr 24 hr	24.98	27	236.91		300	23		0	24.98
Bedico Cr.	Bed. Cr. No.3	14711.98 Bridge - Private	100 yr 24 hour	25.38	23.3	102.29		551	23		0	25.38
Bedico Cr.	Bed. Cr. No.3	14711.98 Bridge - Private	10 yr 24 hr	24.97	23.3	102.29		300	23		0	24.97
Bedico Cr.	Bed. Cr. No.2	12122.58 I - 12 West B.	100 yr 24 hour	24.8	25.4	1030.44		2281	27.41		0.05	24.71
Bedico Cr.	Bed. Cr. No.2	12122.58 I - 12 West B.	10 yr 24 hr	24.48	25.4	1030.44		2039	27.41		0.04	24.41
Bedico Cr.	Bed. Cr. No.2	11884.24 I - 12 East B.	100 yr 24 hour	24.66	25.4	937.26		2281	27.41		0.06	24.55
Bedico Cr.	Bed. Cr. No.2	11884.24 I - 12 East B.	10 yr 24 hr	24.36	25.4	937.26		2039	27.41		0.05	24.26
Bedico Cr.	Fox Branch	7400.48 Fox Branch Cross	100 yr 24 hour	22.98	23.5	176.3		963	21.51		0.02	22.97
Bedico Cr.	Fox Branch	7400.48 Fox Branch Cross	10 yr 24 hr	22.46	23.5	176.3		506	21.51		0.02	22.45
Bedico Cr.	Fox Branch	1056.25 LA HWY 1085	100 yr 24 hour	21.18	21.5	342.07		1257	23		0.28	20.96
Bedico Cr.	Fox Branch	1056.25 LA HWY 1085	10 yr 24 hr	20.48	21.5	342.07		741	23		0.13	20.38

APPENDIX G

Proposed Water Surface Profile Elevations, Culverts

Table 1.6

River	Reach	River Sta	Profile	E.G. US. (ft)	W.S. US. (ft)	E.G. IC (ft)	E.G. OC (ft)	Min El Weir Flow (ft)	Q Culv Group (cfs)	Q Weir (cfs)	Delta WS (ft)	Culv Vel US (ft/s)	Culv Vel DS (ft/s)
Tallow Cr	T Cr No.2	14912.13 1077 Culvert #3	100 yr 24 hour	23.73	23.73	19.93	23.74	23.51	45.47	703.99	0.06	2.32	2.32
Tallow Cr	T Cr No.2	14912.13 1077 Culvert #2	100 yr 24 hour	23.73	23.73	19.23	23.74	23.51	46.24	703.99	0.06	1.97	1.97
Tallow Cr	T Cr No.2	14912.13 1077 Culvert #1	100 yr 24 hour	23.73	23.73	18.83	23.73	23.51	60.3	703.99	0.06	1.45	1.45
Tallow Cr	T Cr No.2	14912.13 1077 Culvert #3	10 yr 24 hr	23.46	23.45	22.23	23.46	23.51	123.54		0.43	6.29	6.29
Tallow Cr	T Cr No.2	14912.13 1077 Culvert #2	10 yr 24 hr	23.46	23.45	21.26	23.47	23.51	132.36		0.43	5.65	5.65
Tallow Cr	T Cr No.2	14912.13 1077 Culvert #1	10 yr 24 hr	23.46	23.45	20.45	23.45	23.51	173.09		0.43	4.16	4.16
Tallow Cr	T Cr No.2	14683.69 School 2 - 72' c Culvert #1	100 yr 24 hour	23.72	23.65	23.72	23.72	22.32	12.55	843.45	0.05	0.22	0.22
Tallow Cr	T Cr No.2	14683.69 School 2 - 72' c Culvert #1	10 yr 24 hr	23.01	22.99	22.6	23.01	22.32	50.86	378.14	0.02	0.9	0.9
Tallow Cr	T Cr No.2	13692.5 School 2 - 48" c Culvert #1	100 yr 24 hour	23.55	23.53	23.54	23.55	21.01	16.14	839.86	0.01	0.64	0.64
Tallow Cr	T Cr No.2	13692.5 School 2 - 48" c Culvert #1	10 yr 24 hr	22.79	22.78	22.79	22.79	21.01	10.36	418.64	0.01	0.41	0.41
Tallow Cr	T Cr No.2	12839.83 School 90" x 13 Culvert #1	100 yr 24 hour	23.45	23.44	23.44	23.45	21	53.76	893.24	0.01	0.7	0.7
Tallow Cr	T Cr No.2	12839.83 School 90" x 13 Culvert #1	10 yr 24 hr	22.7	22.7	21.57	22.7	21	33.76	524.24	0	0.44	0.44
Tallow Cr	T Cr No.2-1	11577.05 Cleco Access Roa Culvert #1	100 yr 24 hour	23.3	23.27	23.02	23.3	23	793.57	823.43	1.01	7.58	7.58
Tallow Cr	T Cr No.2-1	11577.05 Cleco Access Roa Culvert #1	10 yr 24 hr	22.59	22.57	19.4	22.59	23	840		1.14	8.02	8.02
Tallow Cr	T Cr No.2-1	8428.31 White Chapel Roa Culvert #1	100 yr 24 hour	20.93	20.87	20.88	20.93	20.01	165.14	1451.86	0.04	2.1	2.1
Tallow Cr	T Cr No.2-1	8428.31 White Chapel Roa Culvert #1	10 yr 24 hr	20.31	20.29	20.17	20.31	20.01	530.6	309.4	0.8	7.04	6.8
Tallow Cr	T Cr No.2-1	6080 New Road Culvert #1	100 yr 24 hour	20.21	20.1	20.16	20.21	18.01	170.67	1601.33	0.09	2.17	2.17
Tallow Cr	T Cr No.2-1	6080 New Road Culvert #1	10 yr 24 hr	18.94	18.88	18.44	18.94	18.01	583.69	318.31	0.91	7.43	7.43
Soap & Tallow Cr	S & T No.2	8700 Fitzsimmons Road Culvert #1	100 yr 24 hour	24.28	24.28	17.15	24.28	23.51	26.75	180.25	0	0.34	0.34

Proposed Water Surface Profile Elevations, Culverts

Table 1.6

River	Reach	River Sta	Profile	E.G. US.	W.S. US.	E.G. IC	E.G. OC	Min El Weir Flow	Q Culv Group	Q Weir	Delta WS	Culv Vel US	Culv Vel DS
Soap & Tallow Cr	S & T No.2	8700 Fitzsimmons Road Culvert #1	10 yr 24 hr	23.76	23.75	16.83	23.76	23.51	80.17	101.83	0.01	1.02	1.02
Black River	B River No.1	12310.73 Rex Road Culvert #1	100 yr 24 hour	21.46	21.46	21.31	21.46	21.3	135.55	1.45	1.71	8.77	9.75
Black River	B River No.1	12310.73 Rex Road Culvert #1	10 yr 24 hr	20.98	20.97	20.74	20.98	21.3	117		1.41	8.29	9.19
Black River	B River No.1	8666 Brewster Rd. Culvert #1	100 yr 24 hour	18.19	18.15	16.64	18.19	18.21	736		0.94	7.41	7.41
Black River	B River No.1	8666 Brewster Rd. Culvert #1	10 yr 24 hr	16.89	16.85	15.22	16.89	18.21	534		0.55	5.79	5.75
Black River	B River No.1	7684.62 Tchefuncte Parc Culvert #1	100 yr 24 hour	16.94	16.9	16.33	16.94	17.51	736		0.98	7.85	7.73
Black River	B River No.1	7684.62 Tchefuncte Parc Culvert #1	10 yr 24 hr	16.01	15.98	15.13	16.01	17.51	534		0.59	6.13	6.02
Black River	B River No.1	4444.8 Private Driveway Culvert #1	100 yr 24 hour	13.96	13.91	13.73	13.96	13.01	216.65	655.35	0.27	4.31	4.31
Black River	B River No.1	4444.8 Private Driveway Culvert #1	10 yr 24 hr	13.58	13.55	13.36	13.58	13.01	306.47	281.53	0.76	6.11	6.1
Black River	B River No.1	3827.40 Private Driveway Culvert #1	100 yr 24 hour	13.46	13.39	13.45	13.46	12.01	71.1	1223.9	0.01	1.41	1.41
Black River	B River No.1	3827.40 Private Driveway Culvert #1	10 yr 24 hr	12.64	12.59	12.52	12.64	12.01	148.36	597.64	0.1	2.95	2.95
Black River	B River No.1	2710.49 Hawthone - Bridg Culvert #1	100 yr 24 hour	13.13	12.95	13.06	13.13	12.01	210.02	1084.98	0.08	2.28	2.28
Black River	B River No.1	2710.49 Hawthone - Bridg Culvert #1	10 yr 24 hr	12.28	12.17	8.93	12.28	12.01	643.57	102.43	0.76	6.98	6.98
Black River	B River No.1	2207.93 Dummy Line Road Culvert #1	100 yr 24 hour	13	12.96	11.84	13	13.01	1295		1.37	8.99	9
Black River	B River No.1	2207.93 Dummy Line Road Culvert #1	10 yr 24 hr	11.35	11.32	9.05	11.35	13.01	746		0.49	5.43	5.39
Bedico Cr.	Bed. Cr. No.3	27316 LA HWY 190 Culvert #1	100 yr 24 hour	36.88	36.87	36.23	36.79	36.41	31.47	34.96	3.82	10.02	10.02

Proposed Water Surface Profile Elevations, Culverts

Table 1.6

River	Reach	River Sta	Profile	E.G. US.	W.S. US.	E.G. IC	E.G. OC	Min El Weir Flow	Q Culv Group	Q Weir	Delta WS	Culv Vel US	Culv Vel DS
Bedico Cr.	Bed. Cr. No.3	27316 LA HWY 190 Culvert #2	100 yr 24 hour	36.88	36.87	36.9	36.67	36.41	136.87	34.96	3.82	10.89	11.83
Bedico Cr.	Bed. Cr. No.3	27316 LA HWY 190 Culvert #1	10 yr 24 hr	36.52	36.52	36.01	36.52	36.41	30.56	9.01	3.8	9.73	10
Bedico Cr.	Bed. Cr. No.3	27316 LA HWY 190 Culvert #2	10 yr 24 hr	36.52	36.52	36.73	36.52	36.41	134.43	9.01	3.8	10.7	11.65
Bedico Cr.	Bed. Cr. No.3	20631 Baham Road Culvert #1	100 yr 24 hour	27.27	27.26	26.6	27.26	27.01	96.44	33.64	0.83	6.24	6.06
Bedico Cr.	Bed. Cr. No.3	20631 Baham Road Culvert #2	100 yr 24 hour	27.27	27.26	24.4	27.27	27.01	89.91	33.64	0.83	5.65	5.65
Bedico Cr.	Bed. Cr. No.3	20631 Baham Road Culvert #1	10 yr 24 hr	26.43	26.42	26.14	26.42	27.01	82.63		0.85	7.99	5.8
Bedico Cr.	Bed. Cr. No.3	20631 Baham Road Culvert #2	10 yr 24 hr	26.43	26.42	24.45	26.43	27.01	91.37		0.85	5.74	5.74
Bedico Cr.	Bed. Cr. No.3	18384 Joiner Road Culvert #1	100 yr 24 hour	25.29	25.28	21.84	25.29	25.01	355.7	120.3	0.16	3.48	3.48
Bedico Cr.	Bed. Cr. No.3	18384 Joiner Road Culvert #1	10 yr 24 hr	24.86	24.86	20.61	24.86	25.01	265		0.09	2.59	2.59
Bedico Cr.	Trib. No.3	13241.52 LA HWY 190 Culvert #1	100 yr 24 hour	37.55	37.51	37.54	37.55	37.01	115.42	2148.9	1.7	8.16	8.16
Bedico Cr.	Trib. No.3	13241.52 LA HWY 190 Culvert #1	10 yr 24 hr	37.06	37.06	37.06	36.77	37.01	151.28	31.67	3.31	10.7	11.84
Bedico Cr.	Trib. No.3	10553.56 Trace Recreation Culvert #2	100 yr 24 hour	33.29	33.28	31.54	33.29	33.01	18.05	1403.28	0.13	2.55	2.55
Bedico Cr.	Trib. No.3	10553.56 Trace Recreation Culvert #1	100 yr 24 hour	33.29	33.28	29.83	33.29	33.01	10.67	1403.28	0.13	0.55	0.55
Bedico Cr.	Trib. No.3	10553.56 Trace Recreation Culvert #2	10 yr 24 hr	33.07	33.05	32.96	33.06	33.01	41.01	187.04	0.88	6.79	7.06
Bedico Cr.	Trib. No.3	10553.56 Trace Recreation Culvert #1	10 yr 24 hr	33.07	33.05	30.59	33.08	33.01	31.97	187.04	0.88	1.66	1.66
Bedico Cr.	Bed. Cr. No.2	5930.27 Bedico Cr. Blvd. Culvert #1	100 yr 24 hour	20.35	20.16	17.4	20.35	20.01	1328.23	1825.77	0.08	3.62	3.62
Bedico Cr.	Bed. Cr. No.2	5930.27 Bedico Cr. Blvd. Culvert #1	10 yr 24 hr	20.08	19.96	15.34	20.08	20.01	2129.7	195.3	0.48	5.8	5.8
Bedico Cr.	Fox Branch	14560 I-12 Culvert #1	100 yr 24 hour	24.15	24.15	22.67	24.15	27.21	272		0.66	4.25	4.25

Proposed Water Surface Profile Elevations, Culverts

Table 1.6

River	Reach	River Sta	Profile	E.G. US.	W.S. US.	E.G. IC	E.G. OC	Min El Weir Flow	Q Culv Group	Q Weir	Delta WS	Culv Vel US	Culv Vel DS
Bedico Cr.	Fox Branch	14560 I-12 Culvert #1	10 yr 24 hr	23.65	23.65	22.49	23.65	27.21	250		0.5	4.04	4.08
Bedico Cr.	Fox Branch	9998.61 Perriloux Rd. Culvert #1	100 yr 24 hour	22.97	22.97	20.7	22.98	22.83	91.35	26.71	0.44	4.75	4.75
Bedico Cr.	Fox Branch	9998.61 Perriloux Rd. Culvert #3	100 yr 24 hour	22.97	22.97	20.92	22.97	22.83	153.93	26.71	0.44	4.84	4.84
Bedico Cr.	Fox Branch	9998.61 Perriloux Rd. Culvert #1	10 yr 24 hr	22.5	22.49	20.74	22.5	22.83	93.14		0.45	4.84	4.84
Bedico Cr.	Fox Branch	9998.61 Perriloux Rd. Culvert #3	10 yr 24 hr	22.5	22.49	20.97	22.49	22.83	156.86		0.45	4.93	4.93
Bedico Cr.	Fox Branch	5593.71 Private Driveway Culvert #1	100 yr 24 hour	21.96	21.95	21.96	21.96	22.01	418.34	668.37	1.15	8.32	8.32
Bedico Cr.	Fox Branch	5593.71 Private Driveway Culvert #1	10 yr 24 hr	20.79	20.78	18.59	20.79	22.01	351		0.8	6.98	6.98

Proposed Water Surface Profile Elevations, Bridges

Table No. 1.7

River	Reach	River Sta	Profile	E.G. US. (ft)	Min El Prs (ft)	BR Open Area (sq ft)	Prs O WS (ft)	Q Total (cfs)	Min El Weir Flow (ft)	Q Weir (cfs)	Delta EG (ft)	W.S. US. (ft)
Tallow Cr	T Cr No.2	14383.7 School Bridge	100 yr 24 hour	23.66	23	155.67		856	22.65		0.03	23.58
Tallow Cr	T Cr No.2	14383.7 School Bridge	10 yr 24 hr	22.93	23	155.67		429	22.65		0.03	22.81
Soap & Tallow Cr	S & T No. 1	3947.96 Tallow Creek	100 yr 24 hour	18.88	21.6	571.14		3114	19.7		0.19	17.94
Soap & Tallow Cr	S & T No. 1	3947.96 Tallow Creek	10 yr 24 hr	17.05	21.6	571.14		1988	19.7		0.12	16.46
Soap & Tallow Cr	S & T No. 1	1106.54 Rousseau Road	100 yr 24 hour	15.1	15.7	545.94		3114	19.01		0.24	14.56
Soap & Tallow Cr	S & T No. 1	1106.54 Rousseau Road	10 yr 24 hr	13.6	15.7	545.94		1988	19.01		0.16	13.27
Bedico Cr.	Bed. Cr. No.3	14857.8 Bridge - Private	100 yr 24 hour	24.37	27	236.91		388	23		0.01	24.37
Bedico Cr.	Bed. Cr. No.3	14857.8 Bridge - Private	10 yr 24 hr	24.04	27	236.91		265	23		0.01	24.03
Bedico Cr.	Bed. Cr. No.3	14711.98 Bridge - Private	100 yr 24 hour	24.36	23.3	102.29		388	23		0.01	24.34
Bedico Cr.	Bed. Cr. No.3	14711.98 Bridge - Private	10 yr 24 hr	24.02	23.3	102.29		265	23		0.01	24
Bedico Cr.	Bed. Cr. No.2	12122.58 I - 12 West B.	100 yr 24 hour	23.26	25.4	1030.44		2095	27.41		0.03	23.13
Bedico Cr.	Bed. Cr. No.2	12122.58 I - 12 West B.	10 yr 24 hr	23.24	25.4	1030.44		2132	27.41		0.03	23.11
Bedico Cr.	Bed. Cr. No.2	11884.24 I - 12 East B.	100 yr 24 hour	23.15	25.4	937.26		2095	27.41		0.04	23
Bedico Cr.	Bed. Cr. No.2	11884.24 I - 12 East B.	10 yr 24 hr	23.13	25.4	937.26		2132	27.41		0.04	22.97
Bedico Cr.	Fox Branch	7400.48 Fox Branch Cross	100 yr 24 hour	22.23	23.5	176.3		409	21.51		0.02	22.2
Bedico Cr.	Fox Branch	7400.48 Fox Branch Cross	10 yr 24 hr	21.23	23.5	176.3		250	21.51		0.04	21.16
Bedico Cr.	Fox Branch	1056.25 LA HWY 1085	100 yr 24 hour	20.27	21.5	342.07		756	23		0.07	20.16
Bedico Cr.	Fox Branch	1056.25 LA HWY 1085	10 yr 24 hr	19.58	21.5	342.07		400	23		0.03	19.54



**ADDENDUM NO. 1 TO:
LA 1077/1085 DRAINAGE STUDY
ST. TAMMANY PARISH, LOUISIANA**

MARCH, 2017

Prepared By:

N-Y JOB NO. 15008

NY ASSOCIATES, INC.
ENGINEERS • ARCHITECTS • PLANNERS
PROGRAM & PROJECT MANAGERS



**ADDENDUM NO. 1 TO:
LA 1077/1085 DRAINAGE STUDY
ST. TAMMANY PARISH, LOUISIANA**

MARCH, 2017

Prepared By:

N-Y JOB NO. 15008

NY ASSOCIATES, INC.
ENGINEERS - ARCHITECTS - PLANNERS
PROGRAM & PROJECT MANAGERS

TABLE OF CONTENTS

	PAGE
Section 1 – Summary	
1.1 Phasing Recommendations	1
1.2 Methodology	1
1.3 Water Surface Elevation Reduction	1
1.4 Estimated Construction Cost per Phase	2
1.5 Conclusion	3
1.5.1 Table 1.1 Cost of Construction Summary	3
1.5.2 Figure 1.1 Phases I, II, III, and IV	4
Section 2 – Water Surface Elevation Comparison Tables	
Table 2.1 Phase I Water Surface Elevations Pre and Post Conditions	5
Table 2.2 Phases II Thru IV Water Surface Elevations Pre and Post Conditions	6
Section 3 – Estimated Construction Cost of Proposed Improvements per Phase	
Table 3.1 Estimated Construction Cost per Phase	7-9
Table 3.2 Estimate Construction Cost Perilloux Rd. Culverts	10
Table 3.3 Estimate Construction Cost La Hwy 1077 Culverts	11
Table 3.4 Estimate Construction Cost La Hwy 1085 Culvert	12
Table 3.5 Estimate Construction Cost Bedico Creek Bridge	13

Section 1 – Summary

1.1 Phasing Recommendations

N-Y associates, Inc. was tasked with phasing the storm water drainage improvements recommended in the La 1077 / 1085 Drainage Study, dated January 2017. The recommended improvements included dry detention ponds, roadway culverts and a bridge at Bedico Creek Blvd. Construction within residential areas of a higher density of development were phased first to optimize the cost to benefit ratio for reducing the WSE for the 10 year storm. Phasing will enable construction of the improvements over time as funding allows. Also, phasing is needed for the coordination of items such as utilities and haul routes, which may impact the flow of local and interstate traffic. Phasing is necessary for construction management and phases should be constructed in consecutive order, starting with Phase I. In general within each phase ponds should be constructed before culverts.

1.2 Methodology

The area evaluated in Phase I has a negligible impact on the water surface elevations (WSE) of areas included in Phases II thru IV and therefore required no additional modeling. The WSEs in Table 2.1 Phase I Water Surface Elevations Pre and Post Conditions, are in accordance with the LA 1077 / 1085 Drainage Study, St. Tammany Parish, January 2017.

The water surface elevations for Phases II, and III were determined by revising the Pre and Post Conditions SWMM models used for the LA 1077 / 1085 Drainage Study. The SWMM model for Phase II only included Pond No. 4 and Structure No. 2. The SWMM model for Phase III included all items in Phase II and Pond Nos. 3, and 5 and Structure No. 1. The WSEs from SWMM models for Phases II and III are shown in “Table 2.2 Phases II, III and IV Water Surface Elevations Pre and Post Conditions” as a cumulative percentage of the final WSEs of the Hec Ras model shown in the LA 1077 / 1085 Drainage Study. Phase IV is the final phase and therefore shows a cumulative percentage of 100%.

1.3 Water Surface Elevation Reduction for Phases I thru IV

Phase I includes the construction of a dry detention pond just west of Rex Road on the Black River. The Black River has the highest density of development adjacent to its banks and therefore is phased first. Table 2.1 shows the water surface elevation (WSE) at Brewster Road will be reduced by 0.99 feet (from 17.84 to 16.85) for the 10 year storm. Also, Downstream at Tchefuncte Parc Road, Hawthone Road and Dummnyline Road the WSEs are reduced for both 10 and 100 year storms, see Table 2.1. Therefore, the WSE is reduced within the Madisonville Farms subdivision and in the residential area downstream along the Black River for Phase I

Phases II thru IV are included in Table 2.2 which shows the WSE reduction at roadway crossings for Fox Run Branch, Bedico Creek, Soap and Tallow Creek and Tallow Creek for both the 10 and 100 year storms. Also Table 2.2 shows the cumulative percentage of the total WSE reduction achieved per phase. Because, the creeks are naturally interconnected work performed in one drainage area will have an impact on WSE reduction in other areas.

Phase II includes the construction of Pond No. 4 and culverts at Perilloux Road and Fox Run Branch. Fox Run Branch has the second highest density of development adjacent to its banks and therefore is phased second. Note that percent of WSE reduction is 110% at La Hwy 1085 at Fox Run Branch. This occurs because the existing culvert at Bedico Creek Blvd. is not sufficient for the 10 year storm and will be replaced in Phase IV. The proposed culvert at Bedico Creek Blvd. will reduce the WSE upstream on Bedico Creek and increase the flow downstream where Bedico Creek and Fox Run Branch merge. This dynamic reoccurs in Phase III.

Phase III includes the construction of Pond Nos. 3 and 5, a culvert crossing La Hwy 1077 at Tallow Creek and a culvert crossing La Hwy 1085 near Division Blvd. Tallow Creek has the third highest density of development adjacent to its banks and therefore is phased third. The culvert on La Hwy 1085 connects Pond No. 5 to Tallow Creek. The design of Pond Nos. 3 and 5 will require reinforced concrete control structures for inter-connection and reverse flow between the ponds. Therefore, reverse flow will occur though the existing 4 barrel concrete box under I – 12.

Phase IV includes the construction of Pond Nos. 1 and 2 and a cast in place reinforced concrete bridge on Bedico Creek Blvd. at Bedico Creek. Bedico Creek has the fourth highest density of development adjacent to its banks and therefore is phased last. Table 2.2 shows that Phase IV has a cumulative percent reduction of WSE of 100% for all creeks.

1.4 Estimated Construction Cost per Phase

Table 3.1 itemizes the estimated construction cost of the project for Phases I thru IV. Tables 3.2, 3.3, 3.4, and 3.5 provide a detailed cost itemization of the structures included in Table 3.1.

Phase I includes the construction of a dry detention pond just west of Rex Road on the Black River and has an estimate construction cost of \$889,300.

Phase II includes the construction of Pond No. 4 and culverts at Perilloux Road and Fox Run Branch and has an estimated construction cost of \$6,535,200.

Phase III includes the construction of Ponds Nos. 3 and 5, a culvert on La Hwy 1077 at Tallow Creek and a culvert on La Hwy 1085 near Division Blvd and has an estimated construction cost of \$5,121,200.

Phase IV includes the construction of Pond Nos. 1 and 2 and a cast in place reinforced concrete bridge on Bedico Creek Blvd and has an estimated construction cost of \$5,241,300.

1.4 Conclusion

Phasing is necessary to manage the construction and to optimize the cost per WSE reduction per density of development. Phase I provides the greatest reduction of WSE within the residential area of the highest density of development, Phase I includes Madisonville Farms subdivision. Phase I doesn't have a significant impact on any other area and is essentially independent of the other Phases. Phases II, III and IV are dependent on one another meaning the reduction in WSE for previous phases increases when the next phase is completed. Phase II provides the second highest reduction of WSE per density of development of residential area, Phase II reduces flooding in the Bonita Estates and Fox Branch Estates Subdivision. Phase III provides the third highest reduction of WSE per density of development of residential area. Phase III primarily impacts the areas adjacent to La Hwy 1077 along the Tallow Creek. Phase IV provides the least amount reduction of WSE per density of development of residential area. Phase IV primarily impacts the areas along the Tallow Creek and the area adjacent to La Hwy 1077 and the area along Bedico Creek between Baham Rd. and Bedico Creek Blvd. Phases should be constructed in consecutive order to obtain the optimum cost to benefit ration of WSE reduction per density of development. See Table 1.1 Cost of Construction Summary, below. Also, see Figure 1.1 Phases I, II, III and IV.

Table 1.1 Cost of Construction Summary

<u>Phase</u>	<u>Cost of Construction</u>
Phase I	\$889,300.00
Phase II	\$6,535,200.00
Phase III	\$5,121,200.00
Phase IV	\$5,241,300.00
Total	\$17,787,000.00

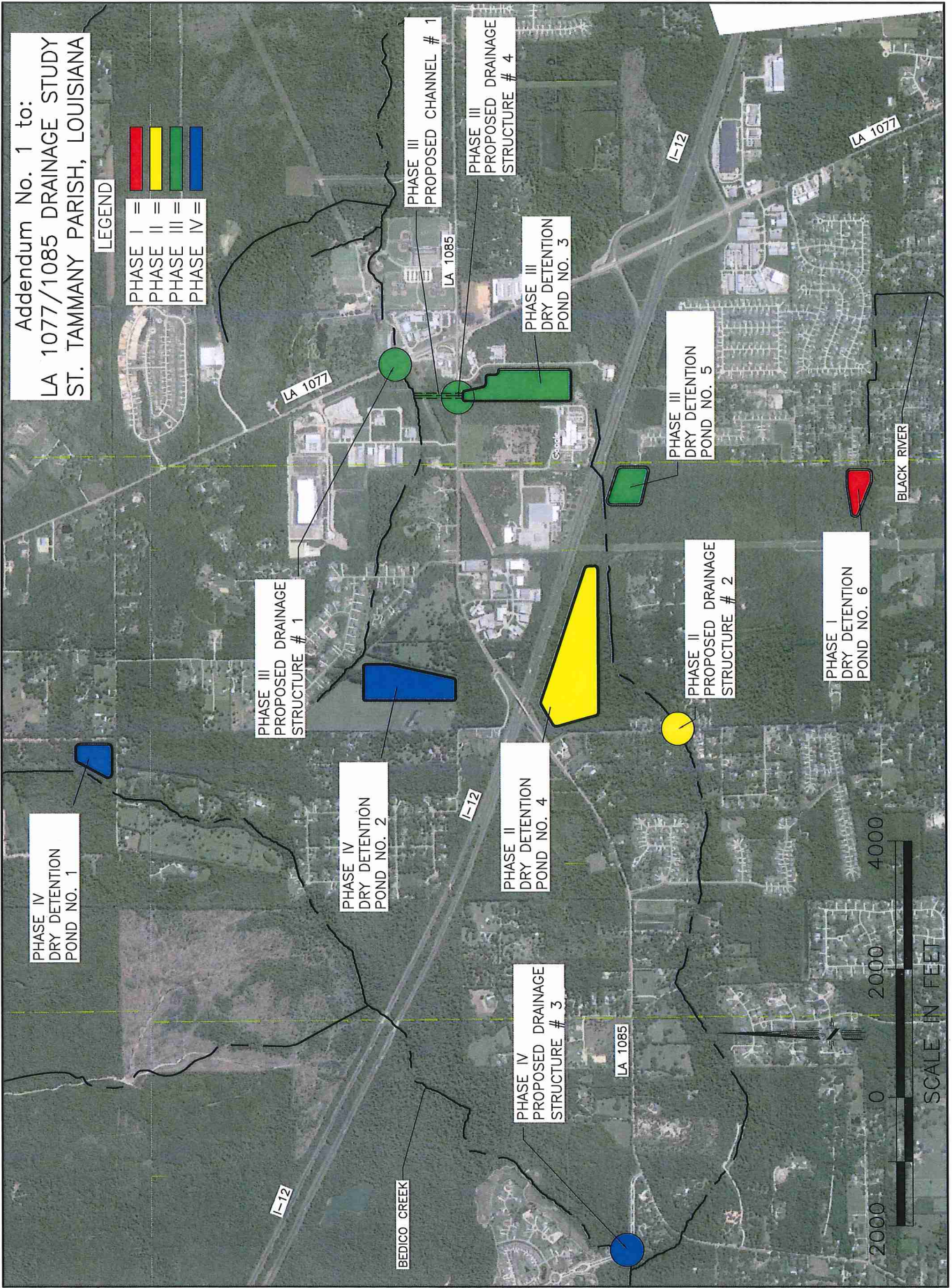


FIGURE 1.1

PHASES I, II, III & IV

TABLE 2.1 PHASE I WATER SURFACE ELEVATIONS PRE AND POST CONDITIONS

Location (Upstream to Downstream)	Roadway Elevation (feet)	Water Surface Elevation (Hec Ras) Existing Conditions		Water Surface Elevation (Hec Ras) Proposed Conditions		Reduction in Water Surface Elevation Existing W.S.E. - Proposed W.S.E.	
		10 Year Storm (feet)	100 Year Storm (feet)	10 Year Storm (feet)	100 Year Storm (feet)	10 Year Storm (feet)	100 Year Storm (feet)
Rex Rd. @ Black River	21.30	21.53	21.79	20.97	21.46	0.56	0.33
Brewster Rd. @ Black River	18.21	17.84	18.47	16.85	18.15	0.99	0.32
Tchefuncte Parc Rd. @ Black River	17.51	16.7	17.61	15.98	16.9	0.72	0.71
Hawthorne Rd. @ Black River	12.00	12.48	13.32	12.17	12.95	0.31	0.37
Dummyline Rd. @ Black River	13.00	12.01	13.25	11.32	12.96	0.69	0.29

Note: **Red** = Roadway Overtopped

TABLE 2.2 PHASES II THRU IV WATER SURFACE ELEVATIONS PRE AND POST CONDITIONS

Location	Roadway Elevation (feet)	Water Surface Elevation (Hec Ras)		Water Surface Elevation (Hec Ras)		Reduction in Water Surface Elevation (Existing W.S.E. -- Proposed W.S.E.)		Cumulative Percentage of (A) Reduction Per Phase		
		Existing Conditions		Proposed Conditions		(A)		Phase II	Phase III	Phase IV
		10 Year Storm (feet)	100 Year Storm (feet)	10 Year Storm (feet)	100 Year Storm (feet)	10 Year Storm (feet)	100 Year Storm (feet)	10 Yr. Storm	10 Yr. Storm	10 Yr. Storm
Perriloux Rd. @ Fox Run Branch	22.83	23.05	23.36	22.49	22.97	0.56	0.39	54%	96%	100%
Fox Branch Crossing @ Fox Run Branch	21.51	22.45	22.97	21.16	22.20	1.29	0.77	77%	106%	100%
Private Driveway @ Fox Run Branch	22.01	21.95	22.36	20.78	21.95	1.17	0.41	72%	108%	100%
La Hwy 1085 @ Fox Run Branch	23.00	20.38	20.96	19.54	20.16	0.84	0.80	110%	134%	100%
Baham Rd. @ Bedico Creek	27.01	27.06	27.87	26.42	27.26	0.64	0.61	0%	0%	100%
Joiner Rd. @ Bedico Creek	25.01	25.29	25.7	24.86	25.28	0.43	0.42	4%	4%	100%
Interstate 12 @ Bedico Creek	27.41	24.41	24.71	23.11	23.13	1.30	1.58	5%	7%	100%
Bedico Creek Blvd. @ Bedico Creek	20.01	20.12	20.65	19.96	20.16	0.16	0.49	6%	7%	100%
Fitzsimmons Rd. @ Soap & Tallow Creek	23.51	23.81	24.3	23.75	24.28	0.06	0.02	0%	0%	0%
La Hwy 1077 @ Tallow Creek	23.51	23.76	24.03	23.45	23.73	0.31	0.30	5%	42%	100%
Cleco Access Road @ Tallow Creek	23.00	23.12	23.35	22.57	23.27	0.55	0.08	5%	52%	100%
White Chapel Rd. @ Tallow Creek	20.01	20.79	21.88	20.29	20.87	0.50	1.01	10%	40%	100%

Note: Bold Red = Roadway Overtopped

Estimated Construction Cost per Phase

TABLE 3.1 ESTIMATED CONSTRUCTION COST PER PHASE

Phase I

<u>Location</u>	<u>Item</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Cost</u>
Pond No. 6	Reinforced Concrete Control Structure	Cu Yd.	24.0	\$1,564.00	\$37,536.00
Pond No. 6	Rock Channel Protection	Cu Yd.	400.0	\$100.00	\$40,000.00
Pond No. 6	Excavation	Cu Yd.	38,889	\$10.70	\$416,112.30
Pond No. 6	Hydro-Seeding	Acre	4.7	\$2,000.00	\$9,420.00
Pond No. 6	Grading	Acre	4.7	\$2,000.00	\$9,420.00
Pond No. 6	Real Estate Acquisition ¹	Acre	4.7	\$30,000.00	\$141,300.00
Pond No. 6	Wet Lands Mitigation ²	Acre	4.7	\$50,000.00	\$235,500.00
Estimated Construction Cost, Phase I					\$889,288.30

Phase II

<u>Location</u>	<u>Item</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Cost</u>
Fox Run Branch & Perilloux Rd. Culvert	2 - 54 inch RCP Barrels, Each Barrel 40' long, w/ Headwalls, Including 100 Lin. Ft., 24 wide Asphalt Roadway, Guardrail, Mobilization	Lump	Lump	1.0	\$160,000.00
Pond No. 4	Reinforced Concrete Control Structure	Cu Yd.	24.0	\$1,564.00	\$37,536.00
Pond No. 4	Rock Channel Protection	Cu Yd.	400.0	\$100.00	\$40,000.00
Pond No. 4	Excavation	Cu Yd.	337,037	\$10.70	\$3,606,295.90
Pond No. 4	Hydro-Seeding	Acre	32.0	\$2,000.00	\$64,080.00
Pond No. 4	Grading	Acre	32.0	\$2,000.00	\$64,080.00
Pond No. 4	Real Estate Acquisition ¹	Acre	32.0	\$30,000.00	\$961,200.00
Pond No. 4	Wet Lands Mitigation ²	Acre	32.0	\$50,000.00	\$1,602,000.00
Estimated Construction Cost, Phase II					\$6,535,191.90

Estimated Construction Cost per Phase

TABLE 3.1 CONTINUED

<u>Location</u>	<u>Item</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Cost</u>
1077 & Tallow Creek Culvert	40 Lin. Ft. of a 54 inch RCP w/ Headwalls, Including 100 Lin. Ft., 28 wide Asphalt Roadway, Guardrail, Mobilization	Lump	Lump	1.0	\$160,000.00
LA HW 1085 - between LaHwy 1077 & Divesified Blvd.	RCB Hieght - 48 in. x Width - 96 inch. w/ Headwalls, Roadway, Mobilization	Lump	Lump	1.0	\$225,000.00
Ponds No. 3 and No. 5	Reinforced Concrete Control Structure	Cu Yd.	48.0	\$1,564.00	\$75,072.00
Ponds No. 3 and No. 5	Rock Channel Protection	Cu Yd.	1,200.0	\$100.00	\$120,000.00
Ponds No. 3 and No. 5	Excavation	Cu Yd.	237,408	\$10.70	\$2,540,265.60
Ponds No. 3 and No. 5	Hydro-Seeding	Acre	23.8	\$2,000.00	\$47,640.00
Ponds No. 3 and No. 5	Grading	Acre	23.8	\$2,000.00	\$47,640.00
Ponds No. 3 and No. 5	Real Estate Acquisition ¹	Acre	23.8	\$30,000.00	\$714,600.00
Ponds No. 3 and No. 5	Wet Lands Mitigation ²	Acre	23.8	\$50,000.00	\$1,191,000.00
Estimated Construction Cost, Phase III					\$5,121,217.60

Estimated Construction Cost per Phase

TABLE 3.1 CONTINUED

Phase IV

<u>Location</u>	<u>Item</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Cost</u>
Bedico Creek & Bedico Creek Blvd. Box Culvert	44 Lin. Ft. Cast in Place Concrete Box 2-Barrels @ 17.5' wide X 12.5' high each, w/ Concrete WingWalls, HeadWalls, Includes 150 Lin.Ft. of 28' wide Asphalt Pavement, Concrete Curb & Gutter, Guardrail, Base, TTC, Mobilization.	Lump	Lump	1.0	\$800,000.00
Ponds No. 1 and No. 2	Reinforced Concrete Control Structure	Cu Yd.	48.0	\$1,564.00	\$75,072.00
Ponds No. 1 and No. 2	Rock Channel Protection	Cu Yd.	800.0	\$100.00	\$80,000.00
Ponds No. 1 and No. 2	Excavation	Cu Yd.	226,851	\$10.70	\$2,427,305.70
Ponds No. 1 and No. 2	Hydro-Seeding	Acre	22.1	\$2,000.00	\$44,260.00
Ponds No. 1 and No. 2	Grading	Acre	22.1	\$2,000.00	\$44,260.00
Ponds No. 1 and No. 2	Real Estate Acquisition ¹	Acre	22.1	\$30,000.00	\$663,900.00
Ponds No. 1 and No. 2	Wet Lands Mitigation ²	Acre	22.1	\$50,000.00	\$1,106,500.00
Estimated Construction Cost, Phase IV					\$5,241,297.70

1. Cost Estimate Based on local real estate data.

2. Cost Estimate based on data obtained from wetland banks under the Louisiana Nature Conservatory. A wetlands determination study has not been made.

Total Estimated Cost of Construction

\$17,786,995.50

NOTE: This cost estimate represents a professional opinion based on currently available information. Actual construction cost may vary significantly from this figure depending upon the time of construction, changed conditions, availability of materials, and other factors beyond the control of the consultant or owner. This figure is not a guaranteed maximum cost.

Table 3.2 Estimate Construction Cost Perilloux Rd. Culverts (Structure No. 2)

<u>Item No.</u>	<u>Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Item Cost</u>
1	54" RCP, 2 - Barrels at 40' per Barrel	Lin Ft.	80	\$360.00	\$28,800.00
2	Head & Wing Walls, Footings	Cu. Yd.	24	\$1,200.00	\$28,800.00
3	Reinforcing Steel	LBS.	2,800	\$3.00	\$8,400.00
4	Asphalt 8" thick	Sq. Yd.	267	\$85.00	\$22,695.00
5	Concrete Curb & Gutter	Lin Ft.	0	\$30.00	\$0.00
6	Compacted Aggregate Base 12", Roadway	Cu. Yd.	60	\$30.00	\$1,800.00
7	Geogrid & Filter Fabric	Sq. Yd.	267	\$15.00	\$4,005.00
8	Guard Rail includes Terminal End Types	Lin Ft.	150	\$95.00	\$14,250.00
9	Guard Rail End Treatment Flared	Each	4	\$2,300.00	\$9,200.00
10	Compacted Aggregate Base 18", Culvert	Cu. Yd.	34	\$100.00	\$3,400.00
11	Rip Rap (30lbs., 18" Thick)	Sq. Yd.	36	\$100.00	\$3,600.00
12	Backfill (Specified Material) and Compaction	Cu. Yd.	0	\$30.00	\$0.00
13	Removal and Disposal of Existing pavement and Structure	Lin Ft.	0	\$100.00	\$0.00
14	Temporary Traffic Control (Flaggers and Detour)	Lump	1	\$20,000.00	\$20,000.00
15	Mobilization (5%)	Lump	1	\$7,247.50	\$7,247.50
				Total Cost of Roadway and Culvert:	\$152,197.50

Table 3.3 Estimate Construction Cost La Hwy 1077 Culverts (Structure No. 1)

<u>Item No.</u>	<u>Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Item Cost</u>
1	54" RCP	Lin Ft.	40	\$360.00	\$14,400.00
2	Head & Wing Walls, Footings	Cu. Yd.	19	\$1,200.00	\$22,800.00
3	Reinforcing Steel	LBS.	2,000	\$3.00	\$6,000.00
4	Asphalt 12" thick	Sq. Yd.	311	\$96.00	\$29,856.00
5	Concrete Curb & Gutter	Lin Ft.	0	\$30.00	\$0.00
6	Compacted Aggregate Base 12", Roadway	Cu. Yd.	104	\$30.00	\$3,120.00
7	Geogrid & Filter Fabric	Sq. Yd.	311	\$15.00	\$4,665.00
8	Guard Rail includes Terminal End Types	Lin Ft.	150	\$95.00	\$14,250.00
9	Guard Rail End Treatment Flared	Each	4	\$2,300.00	\$9,200.00
10	Compacted Aggregate Base 18", Culvert	Cu. Yd.	20	\$100.00	\$2,000.00
11	Rip Rap (30lbs., 18" Thick)	Sq. Yd.	18	\$100.00	\$1,800.00
12	Backfill (Specified Material) and Compaction	Cu. Yd.	0	\$30.00	\$0.00
13	Removal and Disposal of Existing pavement and Structure	Lin Ft.	40	\$100.00	\$4,000.00
14	Temporary Traffic Control (Flaggers and Signals)	Lump	1	\$40,000.00	\$40,000.00
15	Mobilization (5%)	Lump	1	\$7,604.55	\$7,604.55
Total Cost of Roadway and Culvert:					\$159,695.55

Table 3.4 Estimate Construction Cost La Hwy 1085 Culvert (Structure No. 4)

<u>Item No.</u>	<u>Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Item Cost</u>
1	4' x 8' Reinforced Concrete Culvert, Head & Wing Walls, Fc	Cu. Yd.	69	\$1,200.00	\$82,800.00
2	Reinforcing Steel	LBS.	8,300	\$3.00	\$24,900.00
3	Asphalt 12" thick	Sq. Yd.	311	\$96.00	\$29,856.00
4	Concrete Curb & Gutter	Lin Ft.	0	\$30.00	\$0.00
5	Compacted Aggregate Base 12", Roadway	Cu. Yd.	104	\$30.00	\$3,120.00
6	Geogrid & Filter Fabric	Sq. Yd.	311	\$15.00	\$4,665.00
7	Guard Rail includes Terminal End Types	Lin Ft.	150	\$95.00	\$14,250.00
8	Guard Rail End Treatment Flared	Each	4	\$2,300.00	\$9,200.00
9	Compacted Aggregate Base 18", Culvert	Cu. Yd.	35	\$100.00	\$3,500.00
10	Rip Rap (30lbs., 18" Thick)	Sq. Yd.	20	\$100.00	\$2,000.00
11	Backfill (Specified Material) and Compaction	Cu. Yd.	0	\$30.00	\$0.00
12	Removal and Disposal of Existing pavement and Structure	Lin Ft.	0	\$100.00	\$0.00
13	Temporary Traffic Control (Flaggers and Signals)	Lump	1	\$40,000.00	\$40,000.00
14	Mobilization (5%)	Lump	1	\$10,714.55	\$10,714.55
Total Cost of Roadway and Culvert:					\$225,005.55

Table 3.5 Estimate Construction Cost Bedico Creek Bridge (Structure No. 3)

<u>Item No.</u>	<u>Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Item Cost</u>
1	Reinforced Concrete Culvert, Head & Wing Walls, Footings	Cu. Yd.	370	\$1,200.00	\$444,000.00
2	Reinforcing Steel	LBS.	45,000	\$3.00	\$135,000.00
3	Asphalt 8" thick	Sq. Yd.	400	\$85.00	\$34,000.00
4	Concrete Curb & Gutter	Lin Ft.	600	\$30.00	\$18,000.00
5	Compacted Aggregate Base 8", Roadway	Sq. Yd.	500	\$30.00	\$15,000.00
6	Geogrid & Filter Fabric	Sq. Yd.	742	\$15.00	\$11,130.00
7	Guard Rail includes Terminal End Types	Lin Ft.	150	\$95.00	\$14,250.00
8	Guard Rail End Treatment Flared	Each	4	\$2,300.00	\$9,200.00
9	Compacted Aggregate Base 24", Culvert	Cu. Yd.	151	\$100.00	\$15,100.00
10	Rip Rap (30lbs., 18" Thick)	Sq. Yd.	143	\$100.00	\$14,300.00
11	Backfill (Specified Material) and Compaction	Cu. Yd.	418	\$30.00	\$12,540.00
12	Removal and Disposal of Existing pavement and Structure	Lin Ft.	96	\$100.00	\$9,600.00
13	Temporary Traffic Control (Flaggers and Stop Signs)	Lump	1	\$30,000.00	\$30,000.00
14	Mobilization (5%)	Lump	1	\$38,106.00	\$38,106.00

Total Cost of Roadway and Culvert:

\$800,226.00

ATTACHMENT "B"

CONTRACT FOR PROFESSIONAL SERVICES

Contract No.: «txtContractNum»

Be it known, that on this _____ day of _____, 202_, the Parish of St. Tammany, through the Office of the Parish President (hereinafter sometimes referred to as the "Parish") and «txtREQCompanyName», an entity qualified to do and doing business in this State and Parish (hereinafter referred to as "Provider") do hereby enter into this Contract for Professional Services under the following terms and conditions.

1. SCOPE OF SERVICES

Provider hereby agrees to furnish the following services:
«txtScopeSummary»

2. DOCUMENTS

- A. The Provider shall furnish sufficient sets of plans, specifications and Contract documents.
- B. All data collected by the Provider and all documents, notes, drawings, tracings, and files shall remain the property of the Parish except as otherwise provided herein. The Provider shall furnish to the Parish copies of any project documents requested by the Parish.
- C. The Parish shall furnish without charge all standard plans and specifications and any other information which the Parish now has in its files which may be of use to the Provider. Provider has the duty to and must confirm and verify all information contained therein.
- D. The Provider shall use the most current version of the standard forms of documents adopted and specified by the Parish in the performance of the Contract, all as of the date of the signing of this Contract. Notwithstanding anything to the contrary in any other provision of this Contract, none of the Contract documents provided by the Parish are or will become the property of the Provider but shall remain the property of the Parish to the extent the Parish has a property interest therein.
- E. Notwithstanding any Section hereinafter, there will be retention of all related records as follows:

ATTACHMENT "B"

- 1) All records, reports, documents and other material delivered or transmitted to Provider by Parish shall remain the property of Parish, and shall be returned by Provider to Parish, at Provider's expense, at termination or expiration of this Contract. All records, reports, documents, exhibits or other material related to this Contract and/or obtained or prepared by Provider in connection with the performance of the services contracted for herein shall become the property of Parish, and shall, upon request, be returned by Provider to Parish, at Provider's expense, at termination or expiration of this Contract.
 - 2) The Parish and Provider acknowledge and agree that the Parish has the right to review all records, reports, worksheets or any other material of either party related to this Contract. Provider further agrees that Provider will furnish to the Parish, upon request, copies of any and all records, reports, worksheets, bills, statements or any other material of Provider or Parish related to this Contract.
 - 3) Provider shall maintain all books, documents, papers, accounting records and other evidence pertaining to costs incurred and shall make such materials available at its offices at any reasonable time for inspection and copying by the Parish.
 - 4) Provider shall retain all of its records and supporting documentation applicable to this Contract with the Parish for a period of three (3) years after termination of the Contract, except as follows:
 - a. Records that are subject to audit findings shall be retained for three (3) years after such findings have been resolved.
 - b. All such records and supporting documentation shall be made readily available, upon request, for inspection, copying or audit by representatives of the Parish. In the event the Provider goes out of existence, it shall turn over to the Parish all of its records relating to this Contract to be retained by the Parish for the required period of time.
- F.** In the event there is re-use of any documents created by Provider, Provider invokes the protections afforded it as per La. Revised Statute R.S. 38:2317.
- G.** All of Provider's pre-existing or proprietary computer programs, software, information, standard details or material developed by Provider outside of this agreement shall remain the exclusive property of the Provider.

ATTACHMENT "B"

3. PAYMENT OF ALL FEES AND ALL EXPENSES

This Section shall apply to all payments that may be due Provider by Parish. The Payment Schedule is set forth in Section I, above.

A. IF ON AN HOURLY BASIS:

- 1) Provider agrees to submit, at the end of each calendar month, a written and detailed itemization of all work performed listing time by date the work performed by hours with specific reference to the nature of the work performed (e.g., drafting of plans, review of files, etc.). All invoices submitted covering services rendered on an hourly basis shall include time sheets showing actual hours worked by each individual delineated incrementally to the tenth of the hour, their name, classifications, and a detailed description of the work performed.
- 2) Unless otherwise authorized in writing, Provider will not be paid for research, or for photocopies at more than \$0.15 (fifteen cents) per copy for copies less than 11" x 17" and copies larger than 11" x 17" shall be charged on a reasonable basis.
- 3) There shall be no fees charged by nor paid to Provider for consultation with the Parish, secretarial time, attendance at public meetings, and/or travel time for consultation with the Parish, unless specifically provided for in the Scope of Work to be performed, without the express written pre-approval of the Parish.
- 4) Invoices for services shall be submitted by Provider to the Director of the Department within the Parish issuing the work for review and approval.
 - (a) All invoices must indicate the Parish Purchase Order Number and Work Order Number.
 - (b) All billings by Provider for services rendered shall be submitted in writing.
 - (c) Provider shall be reimbursed for reasonable out-of-pocket expenses. Any out-of-pocket expense in excess of \$250.00 shall be pre-approved by the Parish. Failure by Provider to obtain pre-approval from the Parish of expenditures in excess of \$250.00 shall constitute grounds for denial of payment for that expense.

ATTACHMENT “B”

- (d) Out of state or parish travel time is billable as services only and specifically at the direction and convenience of the Parish, if it is performed during normal working hours, and if it does not cause service charges for the day to exceed eight hours. Such travel time must be pre-approved, in writing, by the Parish.
 - (e) Provider hereby agrees that it shall be solely responsible for the payment of all applicable local, state and, federal taxes on the funds it receives under this Contract.
- 5) The Parish agrees to make payment to Provider for services upon receipt and approval of each invoice. The Parish will pay Provider the amount due and payable within thirty (30) days of receipt, unless a conflict results in a delay of payment. Upon receipt of each invoice, the Parish shall have the right and opportunity to review, confirm or otherwise determine the accuracy of each invoice and performance of service. In the event that the Parish disputes or otherwise may question the accuracy of each invoice or quality of all work performed in connection with an invoice, the Parish may withhold full or partial payment of any invoice until a successful and satisfactory resolution can be reached between the Parties. Parish agrees to not unreasonably withhold payments of any invoice.
- 6) Other than the fee schedule herein, there will be absolutely no additional fees due Provider to cover its overhead costs, general expenses, capital expenses, expenses for principal/branch/ field offices, employees salaries, direct and indirect costs, additional costs or profit of any nature whatsoever in excess of the previously agreed hourly rate.

B. IF ON A LUMP SUM BASIS:

Where there is payment based upon a lump sum fee for all required for this project, the Parish shall pay the Provider a lump sum fee at the conclusion of the project and acceptance by the Parish, unless other terms are negotiated and agreed upon by both Parties in the Scope.

C. IF ON OTHER BASIS

If there is any other payment method, other than hourly or lump sum, the terms shall be specified in Section 1 (Scope of Services) above.

ATTACHMENT “B”

4. NON-ASSIGNABILITY

Provider shall not assign nor transfer any interest in this Contract (whether by assignment or novation) without prior written consent of the Parish. Failure to obtain the prior written consent of the Parish may be grounds for termination of this Contract. Claims for money due or to become due to the Provider from the Parish under this Contract may be assigned to a bank, trust company, or other financial institution without such prior written consent. Notice of any such assignment or transfer shall be furnished promptly to the Parish.

5. BUDGET LIMITATION

- A. The Parish shall determine the budget for this project, and the Parish shall advise the Provider of the budget limitation in writing. The Provider shall use its best judgment and expertise to design this project within the proposed budget. Any subsequent budget revisions shall be confirmed in writing.
- B. It is the responsibility of the Provider to advise the Parish in advance if Contract funds or Contract terms may be insufficient to complete Contract objectives. Provider understands and specifically warrants that it assumes the sole responsibility to advise the Parish in advance if Contract funds or Contract terms may be insufficient to complete Contract objectives. In providing opinions of probable construction cost, the Parish understands that the Provider has no control over costs and price of labor, equipment or materials or over the general Provider’s method of pricing, and that the opinion of probable costs provided herein are made on the basis of the Provider’s qualifications and experience.
- C. The continuation of this Contract is contingent upon the appropriation of funds by the Parish to fulfill the requirements of the Contract. If the Parish fails to appropriate sufficient monies to provide for the continuation of this or any other related Contract, or if such appropriation is reduced by the veto of Parish President by any means provided in the appropriations Ordinance to prevent the total appropriation for the year from exceeding revenues for that year, or for any other lawful purpose, and the effect of such reduction is to provide insufficient monies for the continuation of the Contract, the Contract shall terminate on the date of the beginning of the first fiscal year for which funds are not appropriated.

6. NOTICE TO PROCEED

ATTACHMENT "B"

The Parish, or a Department Director, shall issue the Provider a Notice to Proceed in writing. This notice shall include the Work Order Number, Purchase Order Number, and instructions to undertake the services stated herein. The Provider shall commence the services within ten (10) days after receipt of such notification, unless a shorter time period has been provided in the scope of services, or in emergency situations. The work necessary for the completion of each task shall be completed promptly following the Provider's receipt of the Notice to Proceed. If the Parish desires to divide the Project into various parts, a Notice to Proceed shall be issued for each part, and the Parish and the Provider shall mutually agree upon the period of time within which services for each part of the Project shall be performed. The Provider will be given time extensions for delays beyond its control, or for those delays caused by tardy approvals of work in progress by various official agencies, but no additional compensation shall be allowed or due Provider for such delays caused by the Provider.

7. INSURANCE

The Provider shall secure and maintain at its expense such insurance as may be required by the attached "Insurance Requirements". It is specifically understood that this agreement shall not be effective until such time as all insurance requirements are met by the Provider and approved by the Parish.

8. OTHER TERMS AND CONDITIONS

- A. The Provider shall, at all times during the term of this Contract, maintain valid Louisiana licenses and commissions as are customarily required of such a Provider, including but not limited to those that may be required by this State and/or Parish. The Provider agrees to renew and or keep current all licenses and commissions herein. The Provider agrees to maintain a copy of all such licenses or commissions on file at all time and make same available for review as may be reasonably requested by the Parish of St. Tammany.
- B. The professional and technical adequacy and accuracy of designs, drawings, specifications, documents, and other work products furnished under this Contract will be conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession in St. Tammany Parish. In the event the Parish must have work performed on a construction Contract via a Change Order resulting from an error or omission by the Provider, the Provider shall provide, at no cost to the Parish, all professional services attributable to that Change Order. This is in addition to Parish's right to recover from Provider any damages for its errors and omissions.
- C. To the fullest extent permitted by law, Provider shall indemnify and hold harmless the St. Tammany Parish Government, its elected and appointed officials, departments,

ATTACHMENT "B"

agencies, boards and commissions, their officers, agents, servants, employees including volunteers, from and against any and all claims, demands, suits, costs, liabilities or judgments for sums of money, and fines or penalties asserted by any party, firm or organization for loss of life, injury or damages to persons or property, growing out of, resulting from, or by reason of any acts, errors, and/or omissions, by Provider, its agents, servants or employees, and subcontractors, as well as any and all costs, expenses and/or attorney fees incurred as a result of any claims, demands, and/or causes of actions that arise while engaged in connection with the services required to be performed by the Provider under this Contract. Provider further agrees to pay all reasonable expenses and attorneys' fees incurred by the Parish in establishing the right to indemnity pursuant to the provisions in this Contract.

- D.** This Contract shall be binding upon the successors and assigns for the Parties hereto.
- E.** This Contract represents the entire Contract between Parish and Provider.
- F.** This Contract is made under the Laws of the State of Louisiana, and for all purposes shall be interpreted in its entirety in accordance with the laws of said State. The Provider hereby agrees and consents to the jurisdiction of the courts of the State of Louisiana over its person. The Parties hereto agree that the sole and exclusive venue for all lawsuits, claims, disputes, and other matters in question between the Parties to this Contract or any breach thereof shall be in the 22nd Judicial District Court for the Parish of St. Tammany, State of Louisiana. It is also understood and agreed that the laws and ordinances of St. Tammany shall apply.
- G.** In the event that the Provider modifies the Parish's Contract documents without the expressed prior written consent of the Parish, the Provider shall indemnify and hold harmless the Parish from any claims, lawsuits, or damages that arise out of or are attributable to the modification. This indemnification and hold harmless obligation shall include not only the damages suffered by the Parish but also all reasonable expenses including, but not limited to, any and all litigation or other dispute resolution costs and any and all professional fees incurred by the Parish as a result of the Provider's deviation from the Parish's Contract documents, or fees incurred by the Parish in establishing the right to indemnity pursuant to the provisions in this Contract.
- H.** Provider agrees to a covenant against contingent fees. Provider warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for the Provider, to solicit or secure this Contract, and that it has not paid or agreed to pay any company or person, other than a bona fide employee working solely for the Provider, any fee, commission, percentage, brokerage fee, gifts, or any other

ATTACHMENT "B"

consideration, contingent upon or resulting from the award or making of this Contract. For breach or violation of this warranty, the Parish shall have the right to annul this Contract without liability.

- I.** This Contract may be amended only by mutual written consent of the respective Parties.
- J.** Third Party Beneficiary: it is specifically agreed by and between the Parties to this Contract that no person or party is intended, deemed, considered, or construed to be a third party beneficiary of this Contract.
- K.** Neither party will be liable for failure to fulfill its obligations when due to causes beyond its reasonable control.
- L.** Any failure or delay by either party in exercising any right or remedy will not constitute a waiver of such right or remedy.
- M.** Severability: if any provision or item in this Contract is held invalid or unenforceable for any reason, then such invalidity or unenforceability shall not affect other provisions or items of this Contract. In such event, the remaining portions shall be given full force and effect without the invalid provision or item, and to this end the provisions or items of this Contract are hereby declared severable.
- N.** It is specifically understood that the terms "agreement" and "Contract" may be used interchangeably. It is specifically understood that the terms "Owner", "Director" and "Parish" and "the Parish of St. Tammany" may be used interchangeably.
- O.** Conflict of Interest: it is understood and agreed between the Parties hereto that Provider is not retained exclusively by the Parish but that the Parish may be retain other Providers during the term of this Contract. In the event of reasonably known conflicts of interest or potential conflicts of interest between the Parish and other Parties who have engaged Provider, the Provider agrees to make full disclosure of the same, and that they will take no action on behalf of any other client directly adverse to the Parish, nor will Provider take any action on behalf of the Parish directly adverse to any other client.
- P.** Provider warrants that Provider is qualified to perform the intended purposes of this agreement. In the event that Provider becomes not fit nor qualified for any reason whatsoever, then Provider agrees to withdraw from work herein at no cost to the Parish. In the event that the Parish determines that Provider is not suited for Parish purposes or otherwise fails to represent Parish policies to the satisfaction of the Parish, then Provider

ATTACHMENT "B"

agrees to withdraw from this agreement.

- Q.** Provider specifically agrees and understands that Provider shall not maintain or otherwise claim that it possesses any security interest in any aspect of the work that forms the basis of this agreement.
- R.** Provider agrees to ensure that its personnel are, at all times, educated and trained, and further, that Provider and its personnel will perform all work and services as would a reasonably-related Provider in St. Tammany Parish.
- S.** Provider agrees to perform all services in a workmanlike and professional manner. Provider recognizes and understands that time is of the essence. Provider agrees to perform and provide services in accordance with this agreement and all incorporated attachments.

9. TERMINATION, CANCELLATION, AND SUSPENSION

A. Termination

The term of this Contract shall be binding upon the Parties hereto until the work has been completed by the Provider and accepted by the Parish, and all payments required to be made to the Provider have been made. But, this Contract may be terminated upon thirty (30) days written notice under any or all of the following conditions:

- 1) By mutual agreement and consent of the Parties hereto;
- 2) By the Parish as a consequence of the failure of the Provider to comply with the terms, progress, or quality of the work in a satisfactory manner, proper allowances being made for circumstances beyond the control of the Provider;
- 3) By either party upon failure of the other party to fulfill its obligations as set forth in this Contract;
- 4) By the Parish with less than thirty (30) days notice due to budgetary reductions and changes in funding priorities by the Parish;
- 5) In the event of the abandonment of the project by the Parish.

Upon termination, the Provider shall be paid for actual work performed prior to the Notice of Termination, either based upon the established hourly rate for services actually

ATTACHMENT "B"

performed, or on a pro-rata share of the basic fee based upon the phase or percentage of work actually completed, depending on the type of compensation previously established under this Contract.

Upon Termination, the Provider shall deliver to the Parish all original documents, notes, drawings, tracings, computer files, and other files pertaining to this Contract or the Work performed, except for the Provider's personal and administrative files.

B. Cancellation

The continuation of this Contract is contingent upon the appropriation of funds to fulfill the requirements of the Contract by the Parish. If the Parish fails to appropriate sufficient monies to provide for the continuation of this or any other Contract, or if such appropriation is reduced by the veto of Parish President by any means provided in the appropriations Ordinance to prevent the total appropriation for the year from exceeding revenues for that year, or for any other lawful purpose, and the effect of such reduction is to provide insufficient monies for the continuation of the Contract, the Contract shall terminate on the date of the beginning of the first fiscal year for which funds are not appropriated. It is understood and agreed that paragraph (9)(C) below may preempt this paragraph, all at the exclusive and unilateral option of the Parish.

C. Suspension

Should the Parish desire to suspend the work, but not definitely terminate the Contract, the Parish shall supply the Provider with thirty (30) days notice. The Parish will also supply Provider thirty (30) days notice that the work is to be reinstated and resumed in full force. Provider shall receive no additional compensation during the suspension period. The Parties may revisit the terms of this Contract during the suspension period. The suspension shall not exceed six (6) months, unless mutually agreed upon between the Parties.

D. In the event of a default and/or breach of this agreement and this matter is forwarded to legal counsel, then the prevailing party may be entitled to collect a reasonable attorney fees and all costs associated therewith whether or not litigation is initiated. Attorney fees shall be based upon the current, reasonable prevailing rate for counsel in the private sector. The Parties agree to be responsible for such attorney fees, together for all with legal interest from date of agreement breach, plus all costs of collection.

E. Termination or cancellation of this agreement will not affect any rights or duties arising under any term or condition herein.

F. As to the filing of voluntary or involuntary bankruptcy by Provider, Provider agrees that if any execution or legal process is levied upon its interest in this Contract, or if any liens

ATTACHMENT "B"

or privileges are filed against its interest, or if a petition in bankruptcy is filed against it, or if it is adjudicated bankrupt in involuntary proceedings, or if it should breach this Contract in any material respect, the Parish shall have the right, at its unilateral option, to immediately cancel and terminate this Contract. In the event that Provider is placed in any chapter of bankruptcy, voluntarily or involuntarily, or otherwise triggers any provision of the preceding sentence herein, it is understood and agreed that all materials, goods and/or services provided shall be and remain the property of the Parish. All rights of Provider as to goods, wares, products, services, materials and the like supplied to Parish shall be deemed forfeited.

10. AUDITORS

Notwithstanding other Sections herein, Provider shall maintain all records for a period of three years after the date of final payment under this Contract. It is hereby agreed that the Parish Department of Finance or its designated auditor shall have the sole, unilateral and exclusive option of auditing all accounts of Provider which relate to this Contract. Such audit may be commenced at any reasonable time. Provider agrees not to delay, retard, interrupt or unduly interfere with commencement and completion of such an audit. If in the exclusive and unilateral opinion of the Parish that Provider delays, retards, interferes with or otherwise interrupts such an audit, the Parish may seek such relief as per law. In such an event, Provider agrees to be liable for all reasonable attorney fees, costs of auditors, court costs, and any other reasonably related expenses with such litigation.

11. TERM OF CONTRACT

- A. The effective date of this agreement shall begin on the date of the Parish President's signature or acceptance of the Provider's insurance carrier, whichever occurs last. Notwithstanding the foregoing, in no event, shall this Contract be valid until it has been approved in writing by the Parish President or his designee.
- B. This Professional Services Contract shall terminate as follows:
 - 1) As per the terms and conditions of Paragraph 9 hereinabove, or;
 - 2) As per operation of law, or;
 - 3) As agreement between the Parties, or;
 - 4) Upon the satisfactory completion of all services and obligations described herein, or;
 - 5) As per the Parish Charter, under Section 5-06(B).

12. DISCRIMINATION CLAUSE

ATTACHMENT "B"

Provider agrees to comply with the Americans with Disabilities Act of 1990 and any current amendments thereto. All individuals shall have equal access to employment opportunities available to a similarly suited individual. Provider agrees not to discriminate in its employment practices, and will render services under this Contract without regard to race, color, religion, sex, national origin, veteran status, political affiliation, or disabilities. Any act of discrimination committed by Provider, or failure to comply with these statutory obligations when applicable shall be grounds for termination of this Contract. Provider agrees to abide by the requirements of all local, state, and/or federal law, including but not limited to the following: Title VI and VII of the Civil Rights Act of 1964, as amended by the Equal Opportunity Act of 1972, Federal Executive Order 11246, the Federal Rehabilitation Act of 1973, as amended, the Vietnam Era Veteran's Readjustment Assistance Act of 1974, Title IX of the Education Amendments of 1972, the Age Act of 1975, and the requirements of the Americans with Disabilities Act of 1990. Provider warrants and guarantees that it is an Equal Employment Opportunity employer. In all hiring or employment made possible by or resulting from this Contract, there shall not be any discrimination against any person because of race, color, religion, sex, national origin, disability, age or veterans status; and where applicable, affirmative action will be taken to ensure that Provider's employees are treated equally during employment without regard to their race, color, religion, sex, national origin, disability, age, political affiliation, disabilities or veteran status. This requirement shall apply to but not be limited to the following: employment upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. All solicitations or advertisements for employees shall state that all applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, disability, age or veteran status.

13. INDEPENDENT CONTRACTOR

- A. While in the performance of services or carrying out obligations herein, the Provider shall be acting in the capacity of an independent contractor (as defined in LA R.S. 23:1021(7)), and not as an employee of the Parish. Nothing herein shall create a partnership between the Provider and the Parish. The Parish shall not be obliged to any person, firm or corporation for any obligations of the Provider arising from the performance of its services under this agreement. The Provider shall not be authorized to represent the Parish with respect to services being performed, dealings with other agencies, and administration of specifically related contracts, unless done so in writing by the Parish.
- B. Provider hereby agrees to be responsible for payment of taxes from the funds thus received under this Contract. Provider agrees to be responsible for and to pay all applicable federal income taxes, federal social security tax (or self-employment tax in lieu thereof) and any other applicable federal or state unemployment taxes. Provider

ATTACHMENT "B"

agrees to indemnify and hold the Parish harmless for any and all federal and/or state income tax liability, including taxes, interest and penalties, resulting from the Parish's treatment of Provider as independent contractor. Provider further agrees to reimburse Parish for any and all costs it incurs, including, but not limited to, accounting fees and legal fees, in defending itself against any such liability.

C. Provider acknowledges Exclusions of Workmen's Compensation and/or Unemployment Coverage.

14. NOTICES

All notices shall be by certified mail, return receipt requested, and sent to the following individuals at the following addresses. Changes of person and addresses are to be exchanged in a like manner:

Parish of St. Tammany: Office of the Parish President
P.O. Box 628
Covington, La. 70434
(985) 898-2700

Provider: «txtREQCompanyName»
«txtREQAddress»
«txtREQCity», «txtREQState» «txtREQZip»

15. RECORDATION OF CONTRACT

Provider authorizes Parish to deduct from any payment due herein costs for recordation of this Contract in full or an excerpt hereof, or any revisions or modifications thereof as required by law. Provider agrees to execute an excerpt or extract of this agreement for recordation purposes. If Provider fails to execute such an excerpt, then the Parish shall file and record the entire Contract and all attachments at the expense of Provider and Parish is hereby authorized to deduct all related costs from any proceeds due to the Provider.

16. AUTHORITY TO ENTER CONTRACT

ATTACHMENT "B"

The undersigned representative of Provider warrants and personally guarantees that he/she has the requisite and necessary authority to enter and sign this Contract on behalf of the corporate entity, partnership, etc. The undersigned Parties warrant and represent that they each have the respective authority and permission to enter this Contract. In the event that Provider is a member of a corporation, partnership, LLC, LLP, or any other juridical entity, the Parish requires, as an additional provision, that Provider supplies a certified copy of a corporate resolution authorizing the undersigned to enter and sign this Contract.

This Contract is executed in **Three (3)** originals. IN TESTIMONY WHEREOF, they have executed this agreement, the date(s) written below.

WITNESSES:

PROVIDER:

Signature

Signature

Print Name

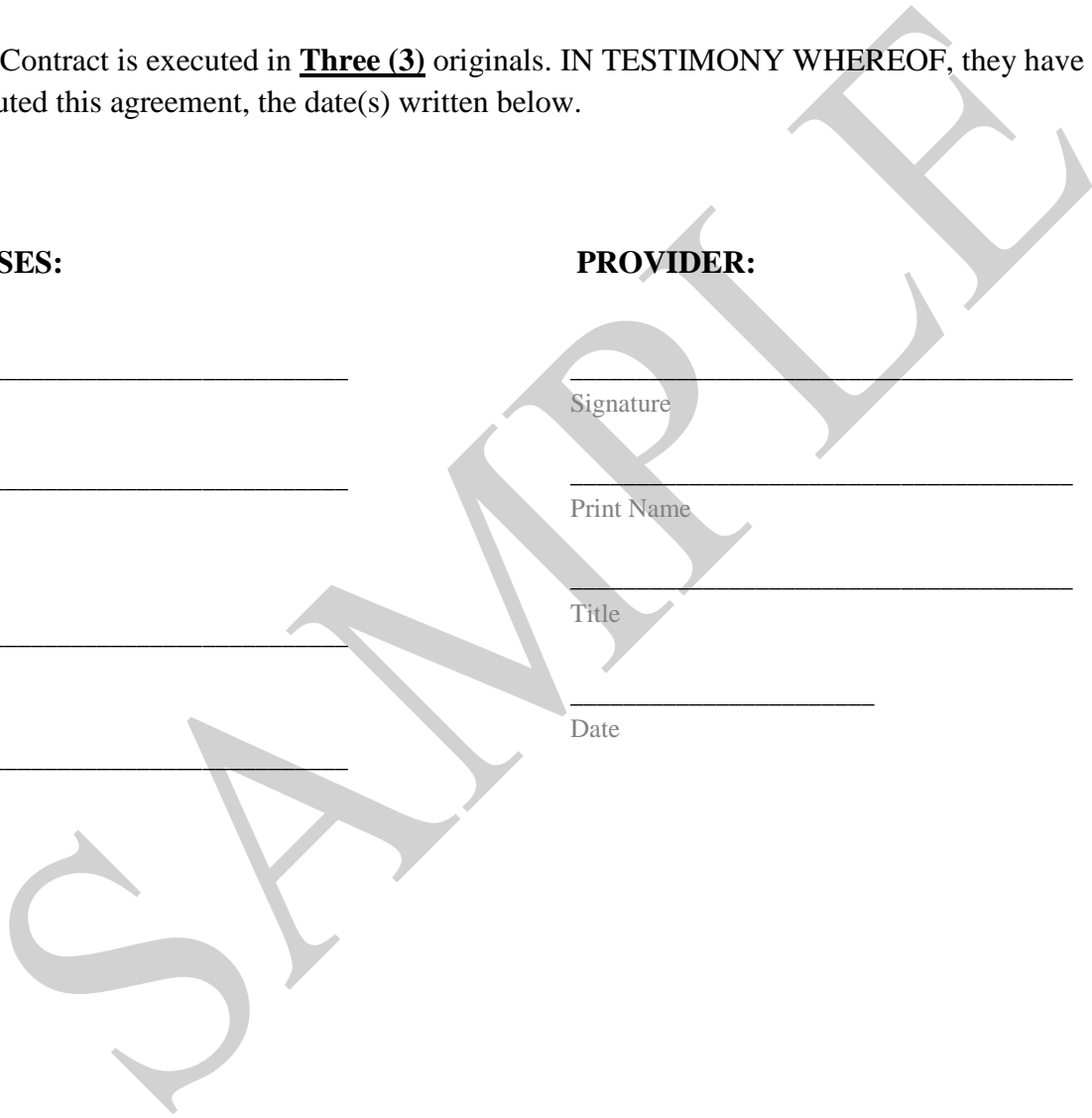
Print Name

Signature

Title

Print Name

Date



ATTACHMENT "B"

WITNESSES:

Signature

Print Name

Signature

Print Name

ST. TAMMANY PARISH GOVERNMENT:

Michael B. Cooper
Parish President

Date

APPROVED BY:

Assistant District Attorney – Civil Division

Date

SAMPLE

ACKNOWLEDGMENT AND WAIVER

_____ (“Respondent”) hereby acknowledges that it has received Request for Qualifications No. _____ (“RFQ”), issued by the St. Tammany Parish Government, and has been advised that same is not subject to the Louisiana Public Bid Law or the Louisiana Procurement Code. As such, Respondent understands and acknowledges that it has not been granted and otherwise possesses no right to protest, contest, debate or otherwise call in question the processes, procedures, methodology or results of the RFQ or the selection of a Contractor in connection therewith.

To the extent that the Respondent may otherwise have any such rights, Respondent herein waives all such rights to protest, contest, debate or otherwise call in question the processes, procedures, methodology or results of the RFQ or the selection of a Contractor in connection therewith and agrees it will not file claims of any type or manner, in a court of law or otherwise, in any way related to same.

SIGNED, this _____ day of _____, 202__.

WITNESSES:

Respondent

Printed Name: _____

By: _____
(Signature of Authorized Representative)

Printed Name: _____

Printed Name: _____
Title: _____

STATE OF _____

PARISH/COUNTY OF _____

SWORN TO and subscribed before me, Notary, on this _____ day of _____, 202__.

NOTARY PUBLIC
My Commission Expires: _____



INSURANCE REQUIREMENTS*

Professional Services Project: Coquille Pond

Project/RFQ#: 20-3-4

*****IMPORTANT – PLEASE READ*****

Prior to submitting your quote or bid, it is recommended that you review these insurance requirements with your insurance broker/agent.

These requirements modify portions of the insurance language found in the General Conditions and/or Supplementary General Conditions; however, there is no intention to remove all sections pertaining to insurance requirements and limits set forth in the General Conditions and/or Supplementary General Conditions, only to amend and specify those items particular for this Project.

- A. The Provider shall secure and maintain at its expense such insurance that will protect it and St. Tammany Parish Government (the "Parish") from claims for bodily injury, death or property damage as well as from claims under the Workers' Compensation Acts that may arise from the performance of services under this agreement. All certificates of insurance shall be furnished to the Parish and provide thirty (30) days prior notice of cancellation to the Parish, in writing, on all of the required coverage.
- B. All policies shall provide for and certificates of insurance shall indicate the following:
1. Waiver of Subrogation: The Provider's insurers will have no right of recovery or subrogation against the Parish of St. Tammany, it being the intention of the parties that all insurance policy(ies) so affected shall protect both parties and be the primary coverage for any and all losses covered by the below described insurance.
 2. Additional Insured: St. Tammany Parish Government shall be named as Additional Insured with respect to general liability, automobile liability and excess liability coverages, as well as marine liability and pollution/environmental liability, when those coverages are required or necessary.
 3. Payment of Premiums: The insurance companies issuing the policy or policies will have no recourse against St. Tammany Parish Government for payment of any premiums or for assessments under any form of policy.
 4. Deductibles/Self-Insured Retentions: Any deductibles and/or self-insured retentions in the described insurance policies **must be declared on the Certificate of Insurance**, and are both assumed by and the sole risk of the Provider. The Parish will have the sole discretion to accept or reject deductibles and/or self-insured retentions exceeding \$100,000 as it deems appropriate. The Parish may require Provider to produce evidence of verifiable financial ability to satisfy its deductibles and/or self-insured retentions; however, the Parish assumes no liability or obligation resulting from its examination, acceptance, or rejection of information presented.
 5. Project Reference: The project(s) and location(s) shall be referenced in the Comment or Description of Operations section of the Certificate of Insurance (Project #-###, or Bid # if applicable, Type of Work, Location).
- C. Coverage must be issued by insurance companies authorized to do business in the State of Louisiana. Companies must have an A.M. Best rating of no less than A-, Category VII. St. Tammany Parish Risk Management Department may waive this requirement only for Workers Compensation coverage at their discretion.

Provider shall secure and present proof of insurance on forms acceptable to St. Tammany Parish Government, Office of Risk Management no later than the time of submission of the Contract to the Parish. However, should any work performed under this Contract by or on behalf of Provider include exposures that are not covered by those insurance coverages, Provider is not relieved of its obligation to maintain appropriate levels and types of insurance necessary to protect itself, its agents and employees, its subcontractors, St. Tammany Parish Government (Owner), and all other interested third parties, from any and all claims for damage or injury in connection with the services performed or provided throughout the duration of this Project, as well as for any subsequent periods required under this Contract.

The insurance coverages checked (✓) below are those required for this Contract.

1. **Commercial General Liability*** insurance – **Occurrence Form** - with a Combined Single Limit for bodily injury and property damage of at least \$1,000,000 per Occurrence / \$2,000,000 General Aggregate and \$2,000,000 Products-Completed Operations. Contracts over \$1,000,000 may require higher limits. The insurance shall provide for and the certificate(s) of insurance shall indicate the following coverages:
- a) Premises - operations;
 - b) Broad form contractual liability;
 - c) Products and completed operations;
 - d) Personal/Advertising Injury.
2. **Business Automobile Liability*** insurance with a Combined Single Limit of \$1,000,000 per Occurrence for bodily injury and property damage, and shall include coverage for the following:
- a) Any auto;
 - or**
 - b) Owned autos; **and**
 - c) Hired autos; **and**
 - d) Non-owned autos.
- (If no owned vehicles, hired and non-owned may be acceptable, subject to the review and approval of St. Tammany Parish, Office of Risk Management.)
3. **Workers' Compensation/Employers Liability insurance*** - Workers' Compensation coverage as required by State law. Employers' liability limits shall be a minimum of \$500,000 each accident, \$500,000 each disease, \$500,000 disease policy aggregate. When water activities are expected to be performed in connection with this project, limits shall be a minimum of \$1,000,000 each accident, \$1,000,000 each disease, \$1,000,000 disease policy aggregate and coverage under the USL&H Act, Jones Act and/or Maritime Employers Liability (MEL) must be included. **Coverage for owners, officers and/or partners in any way engaged in the Project shall be included in the policy.** The names of any excluded individual must be shown in the Description of Operations/Comments section of the Certificate.
4. **Pollution Liability and Environmental Liability*** insurance in the minimum amount of \$1,000,000 per occurrence / \$2,000,000 aggregate including full contractual liability and third party claims for bodily injury and/or property damage, for all such hazardous waste, pollutants and/or environmental exposures that may be affected by this project stemming from pollution/environmental incidents as a result of Contractor's operations.

If coverage is provided on a claims-made basis, the following conditions apply:

- 1) the retroactive date must be prior to or coinciding with the effective date of the Contract, or prior to the commencement of any services provided by the Contractor on behalf of the Parish, whichever is earlier; AND
- 2) continuous coverage must be provided to the Parish with the same retro date for 24 months following acceptance or termination of the Project by the Parish either by
 - a) continued renewal certificates **OR**
 - b) a 24 month Extended Reporting Period

*The Certificate must indicate whether the policy is written on an occurrence or claims-made basis and, if claims-made, the applicable retro date must be stated.



5. **Professional Liability/Errors and Omissions*** insurance in the sum of at least \$5,000,000 per claim is required when work performed by Contractor or on behalf of Contractor includes professional or technical services including, but not limited to, construction administration and/or management, engineering services such as design, surveying, and/or inspection, technical services such as testing and laboratory analysis, and/or environmental assessments. An occurrence basis policy is preferred.

If coverage is provided on a claims-made basis, the following conditions apply:

- 1) the retroactive date must be prior to or coinciding with the effective date of the Contract, or prior to the commencement of any services provided by the Contractor on behalf of the Parish, whichever is earlier; AND
- 2) continuous coverage must be provided to the Parish with the same retro date for 24 months following acceptance or termination of the Project by the Parish either by
 - a) continued renewal certificates **OR**
 - b) a 24 month Extended Reporting Period

*The Certificate must indicate whether the policy is written on an occurrence or claims-made basis and, if claims-made, the applicable retro date must be stated.



6. **Marine Liability/Protection and Indemnity*** insurance is required for any and all vessel and/or marine operations in the minimum limits of \$1,000,000 per occurrence / \$2,000,000 per project general aggregate. The coverage shall include, but is not limited to, the basic coverages found in the Commercial General Liability insurance and coverage for third party liability

***Excess/Umbrella Liability** insurance may be provided to meet the limit requirements for any Liability coverage. For example: if the General Liability requirement is \$3,000,000 per occurrence, but the policy is only \$1,000,000 per occurrence, then the excess policy should be at least \$2,000,000 per occurrence thereby providing a combined per occurrence limit of \$3,000,000.)

- D. All policies of insurance shall meet the requirements of the Parish prior to the commencing of any work. The Parish has the right, but not the duty, to approve all insurance coverages prior to commencement of work. If any of the required policies are or become unsatisfactory to the Parish as to form or substance; or if a company issuing any policy is or becomes unsatisfactory to the Parish, the Provider shall promptly obtain a new policy, timely submit same to the Parish for approval, and submit a certificate thereof as provided above. The Parish agrees not to unreasonably withhold approval of any insurance carrier selected by Provider. In the event that Parish cannot agree or otherwise authorize a carrier, Provider shall have the option of selecting and submitting a new insurance carrier within 30 days of said notice by the Parish. In the event that the second submission is insufficient or is not approved, then the Parish shall have the unilateral opportunity to thereafter select a responsive and responsible insurance carrier all at the cost of Provider and thereafter deduct from Provider's fee the cost of such insurance.
- E. Provider shall maintain a current copy of all annual insurance policies and agrees to provide a certificate of insurance to the Parish on an annual basis or as may be reasonably requested for the term of the contract or any required Extended Reporting Period. Provider further shall ensure that all insurance policies are maintained in full force and effect throughout the duration of the Project and shall provide the Parish with annual renewal certificates of insurance evidencing continued coverage, without any prompting by the Parish.
- F. Provider shall maintain a current copy of all annual insurance policies and agrees to provide same to the Parish on an annual basis or as may be reasonably requested. Provider further shall ensure that all insurance policies are maintained in full force and effect throughout the duration of the Project and shall provide the Parish with annual renewal certificates of insurance evidencing continued coverage, without any prompting by the Parish.

- G. It shall be the responsibility of Provider to require that these insurance requirements are met by all contractors and sub-contractors performing work for and on behalf of Provider. Provider shall further ensure the Parish is named as an additional insured on all insurance policies provided by said contractor and/or sub-contractor throughout the duration of the project.
- H. Certificates of Insurance shall be issued as follows:

**St. Tammany Parish Government
Attn: Risk Management
P O Box 628
Covington, LA 70434**

To avoid contract processing delays, be certain the project name/number is included on all correspondence including Certificates of Insurance.

***NOTICE: St. Tammany Parish Government reserves the rights to remove, replace, make additions to and/or modify any and all of the insurance requirements at any time.**

Any inquiry regarding these insurance requirements should be addressed to:

**St. Tammany Parish Government
Office of Risk Management
P O Box 628
Covington, LA 70434
Telephone: 985-898-5226
Email: riskman@stpgov.org**

HOLD HARMLESS AGREEMENT

_____ (Contractor) agrees to protect, defend, indemnify, save, and hold harmless St. Tammany Parish Government, its elected and appointed officials, departments, agencies, boards and commissions, its officers, agents servants, employees, including volunteers, from and against any and all claims, demands, expense and liability arising out of injury or death to any person or the damage, loss or destruction of any property to the extent caused by any act or omission of Contractor, its agents, servants, employees, and subcontractors, or any and all costs, expense and/or attorney fees incurred as a result of any claim, demands, and/or causes of action that results under the performance or non-performance of this contract.

_____ (Contractor) agrees to investigate, handle, respond to, provide defense for and defend any such claims, demand, or suit, as described in the paragraph above, at its sole expense and agrees to bear all other costs and expenses related thereto, even if it (claims, etc.) is groundless, false or fraudulent.

SIGNED, this ____ day of _____, 20__

WITNESSES:

(Name of Contractor)

Print Name: _____

BY: _____
(Signature of Authorized Officer)

Print Name: : _____

Print Name: _____

Title: _____

STATE OF _____

PARISH/COUNTY OF _____

SWORN TO and subscribed before me, Notary, on this ____ day of _____, 20__.

NOTARY PUBLIC

My Commission Expires: _____

Please complete the following:

Claims contact for this project will be:

(Print name and title of Contact Person)

Address

Email address

Telephone#

Cell #

Fax #

**AFFIDAVIT PURSUANT TO LA R.S. 38:2224 AND ETHICS PROVISIONS
FOR PROFESSIONAL & ESSENTIAL SERVICE CONTRACTS**

STATE OF _____

PARISH/COUNTY OF _____

BEFORE ME, the undersigned authority, in and for the above stated State and Parish (or County), personally came and appeared:

Print Name

who, after first being duly sworn, did depose and state:

1. That affiant is appearing on behalf of _____, who is seeking a Professional or Essential Service Contract with St. Tammany Parish Government.
2. That affiant employed no person, corporation, firm, association, or other organization, either directly or indirectly, to secure the public contract under which he received payment, other than persons regularly employed by the affiant whose services in connection with the construction, alteration or demolition of the public building or project or in securing the public contract were in the regular course of their duties for affiant; and

3. That no part of the contract price received by affiant was paid or will be paid to any person, corporation, firm, association, or other organization for soliciting the contract, other than the payment of their normal compensation to persons regularly employed by the affiant whose services in connection with the construction, alteration or demolition of the public building or project were in the regular course of their duties for affiant.

4. If affiant is a sole proprietor, that neither affiant, nor his/her immediate family is a public servant of St. Tammany Parish Government or the Contract is not under the supervision or jurisdiction of the public servant's agency.

5. If affiant is executing this affidavit on behalf of a juridical entity such as a partnership, corporation, or LLC, etc., that no public servant of St. Tammany Parish Government, or his/her immediate family, either individually or collectively, has more than a 25% ownership interest in the entity seeking the Contract with St. Tammany Parish Government if the Contract will be under the supervision or jurisdiction of the public servant's agency.

Printed Name: _____

Title: _____

Entity name: _____

THUS SWORN TO AND SUBSCRIBED BEFORE ME,
THIS _____, DAY OF _____, 202__.

Notary Public

Print Name: _____

Notary I.D./Bar No.: _____

My commission expires: _____

**AFFIDAVIT PURSUANT TO LA R.S. 38:2212.10 CONFIRMING
REGISTRATION AND PARTICIPATION IN A STATUS VERIFICATION
SYSTEM**

STATE OF _____

PARISH/COUNTY OF _____

BEFORE ME, the undersigned authority, in and for the above stated State and Parish (or County), personally came and appeared:

Print Name

who, after first being duly sworn, did depose and state:

1. That affiant is appearing on behalf of _____, a private employer seeking a bid or a contract with St. Tammany Parish Government for the physical performance of services within the State of Louisiana.
2. That affiant is registered and participates in a status verification system to verify that all employees in the state of Louisiana are legal citizens of the United States or are legal aliens; and
3. That affiant shall continue, during the term of the contract, to utilize a status verification system to verify the legal status of all new employees in the state of Louisiana.
4. That affiant shall require all subcontractors to submit to the affiant a sworn affidavit verifying compliance with this law.

Printed Name: _____

Title: _____

Name of Entity: _____

THUS SWORN TO AND SUBSCRIBED BEFORE ME,

THIS _____, **DAY OF** _____, **202**__.

Notary Public

Attachment G
Sample Scoring Matrix
 RFQ # 20-3-4
 Coquille Pond

 Vendor/Business Name

 Evaluator's Name

CRITERIA	POSSIBLE POINTS	ASSIGNED POINTS	COMMENTS
Compliance with the RFQ	15pts		
Understanding of the Project	15pts		
Approach to the Project	15pts		
Ability to perform within the stated timeframe	20pts		
Qualifications of the Respondent, including, but not limited to, its experience and personnel assigned to similar projects	20pts		
Proposal quality and references	15pts		

Vendor Total 100pts

Signature of Evaluator: _____

Date: _____