REQUEST FOR PROPOSALS

Professional Consultant Services For

AIRLINE COMMUNITY PARK MASTER PLAN

Solicitation No: 188
RFP Issue Date: January 15, 2020

Proposal Opening Date: February 18, 2020
Proposal Opening Time: 11 am CT

BREC
Parks and Recreation Commission
for the Parish of East Baton Rouge
6201 Florida Boulevard
Baton Rouge, LA 70806

Project Management Team:
BREC Planning & Engineering Department

(12/30/2019)

NOTE TO PROPOSERS:

- Submit your marked original and required copies of the Request for Proposal as outlined within this document, with all required information as your Proposal.
- Retain a copy of your Request for Proposal Response, and a complete copy of this RFP, for your records.

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for
PROFESSIONAL CONSULTANT SERVICES FOR
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PART I. ADMINISTRATIVE AND GENERAL INFORMATION

1.1 Statement of Purpose

The Recreation and Parks Commission for the Parish of East Baton Rouge (BREC) requests proposals from highly qualified and innovative design teams to develop a master plan for the 120-acre Airline Community Park. BREC seeks an ambitious master plan that outlines a bold vision for the future with a planning and design approach that emphasizes green infrastructure and resilience. The master plan should address stormwater mitigation, preservation and provide the community in the southeastern portion of the parish with a unique world class community park.

Currently Airline Highway Park is designated as a Special Use Facility within BREC's Park System and is the annual site for the Greater Baton Rouge State Fair which is generally held over a period of 10 days in late October and early November. The rest of the year the property generally operates in a manner similarly to a Neighborhood Park with a playground, four youth baseball / softball fields, an air gun range, a large picnic pavilion, open lawn and wooded areas. Airline Community Park is also a Land and Water Conservation Fund Park (LWCF).

BREC intends to convert the park from the Special Use Facility designation into a dynamic Community Park. One of the key features of the Master Plan will be a new BREC Recreation Center. The Recreation Center will also serve the region as a designated FEMA Safe Room. FEMA Safe Rooms are built to exceedingly high standards of building construction and are intended to provide near-absolute protection in extreme-wind events, including tornadoes and hurricanes as well as be sited to mitigate the likelihood of potential for flooding. When needed the Recreation Center will serve as a regional staging point and operations center for first responders and support personnel and must be able to operate -by power for lengths of time if required. The Recreation Center will be made available to serve in support of natural disaster responses but it will be a BREC facility with BREC programming at all other times.

Other Community Park amenities that are being considered include a competitive baseball complex, multi-use athletic fields, native meadows, picnic pavilions, a splash pad, adventure playground, amphitheater, a new air gun range, kayak launch, hiking and nature trails and a maintenance facility. BREC intends to go through the public input process and the final project amenity program will be refined and finalized through the public engagement master plan process.

One of BREC's primary objectives with the redesign of Airline Park is to implement green infrastructure practices, design for resilience and sustainability, implement nature-based stormwater management practices to help mitigate flood damage to properties in the watershed. The amenities shall be designed and sited so that the operation of the park and Recreation Center can continue to operate while certain portions of the park are inundated.

The selected master plan team should allow for responsiveness to changing recreational patterns, demographics, green infrastructure, conservation, current and future park programming and possible public-private partnerships for financial sustainability. BREC seeks to engage consultants of prior public park design excellence, sustainability, maintainability, and innovative thinking in their work experience. Design consultants are expected to form multidisciplinary teams, but the lead consultant should demonstrate advanced municipal planning and design experience of parks and landscapes of comparable size and scope. BREC seeks exceptional submissions that address this bold but realistic vision for Airline Community Park.

1.2 Background:

With a population of over 440,000, East Baton Rouge Parish is the most populous parish in Louisiana and includes the cities of Baton Rouge (the state capital and parish seat), Baker, Central, and Zachary. The highest population densities in East Baton Rouge Parish are found within the City of Baton Rouge and the southern portion of the parish. The City of Baton Rouge is the Capital City of Louisiana. It has a warm climate almost year-round. Summers are long and hot with oppressive humidity. Baton Rouge's average annual rainfall is 64 inches, making it one of the top wettest cities in the United States.

Economy

East Baton Rouge Parish is located right off the Mississippi River. It has a competitive job market in engineering and health care, is home to Louisiana State University, and Southern University.

The East Baton Rouge Parish economy is diverse, which helps to ensure stability. It is the largest employment center in the nine-parish metropolitan statistical area. The unemployment rate in the Baton Rouge region has remained lower than both the national and state averages. The largest employers in East Baton Rouge Parish are:

- State and local governments
- Education, particularly higher education due to the presence of LSU, Southern, and Baton Rouge Community College
- The petrochemical industry
- The medical industry

Major transportation routes, which include the I-10 and I-12 corridors and the Mississippi River, provide the City of Baton Rouge and the entire parish with key routes to transport goods, services, and people.

Overview of BREC

BREC was created by a State Legislative Act in 1946 as a separate and distinct body whose purpose is to develop, maintain and operate public park and recreational properties and facilities for all the people in East Baton Rouge Parish. BREC is a political subdivision of the State of Louisiana and does not operate under the City-Parish Government. Money for financing land purchases, construction of facilities, maintenance, and the operation of many varied programs is obtained from ad-valorem property taxes voted by the citizens of East Baton Rouge Parish and income from facilities, concessions and programs. Other funds come from federal and non-profit grants as well as philanthropic and donor funding. The BREC system encompasses 6,624 acres across more than 180 parks broadly organized into four classifications: Bike/Ped Greenways, community parks, neighborhood parks, and special use facilities. BREC was among the first park agencies to earn national accreditation and recently earned reaccreditation for an unprecedented fifth

time, meeting all 144 standards. BREC is a two-time National Gold Medal winner and is a fourteen-time national finalist.

Park Context

Airline Highway Park is in the extreme southern limits of the City of Baton Rouge. The park is 120 acres. Its situated between Airline Highway (Highway 61) on its east side and Ward's Creek on the park's west side. The northern end of the park abuts an industrial area but is separated by an existing stand of woods. The southern end is wooded as well and bordered by Bayou Manchac. Ward's Creek and Bayou Manchac converge in the south-west corner of the park. Bayou Manchac is the southern border of East Baton Rouge Parish and separates EBR Parish from Ascension Parish directly to the south.

The surrounding land uses include industrial, light industrial and commercial properties along Airline Highway as well as single family property on the other side of Ward's Creek. The single-family neighborhood on the opposite side of Ward's Creek, Santa Maria, includes a BREC golf course. The neighborhood was designed as a master planned golf community. BREC purchased the golf course in 1989 when the property was in Chapter 11. The houses within the property are still privately owned. Beyond the commercial corridor of Airline Highway there are large enclaves of residential developments.

The park and surrounding areas were heavily impacted by the 2016 Louisiana Floods. During that event multiple parishes recorded rainfall that exceeded 20 inches. Much of the flooding was a result of backwater flooding related to the Amite and Comite Rivers. Bayou Manchac and Ward's Creek are part of the Amite River Watershed. GIS Mapping from East Baton Rouge Parish indicates that approximately three fourths of the park was completely inundated. Only the northern portion of the park that runs along Airline Highway did not flood. Approximately 90 acres of the park are in the 100-yr flood plain.

There are stands of mature trees primarily on the north-west and south-west corners of the site. There are (10) designated PFO wetland areas on the site. The largest being 1 acre in size, centered on the eastern boundary and part of the drainage network associated with Ward's Creek. The next (2) largest wetland areas are .47 and .35 acres and located in the existing stands of mature trees. One in the northern grouping and one in the southern grouping. The remaining (7) wetland areas range in size from .17 acres to .09 acres with the majority located within the tree clusters but (2) are associated with open ditches along Airline Highway.

A Parish-wide Bike/Pedestrian master plan is also currently underway by BREC and the Louisiana Department of Transportation that will call for greater bicycle and pedestrian connectivity in all areas of the parish including areas surrounding Airline Park.

1.3 Project Goals and Objectives

The goal of the project is for Airline Community Park to become an exceptional regional public park that the citizens of East Baton Rouge Parish will be proud of. It will be planned and designed with the intent of making an impactful contribution to the improved quality of life and health and wellness, of its surrounding neighborhoods, the entire Parish and the region. The master plan will:

- Demonstrate a high level of park planning and design with the understanding of the essential natural, historic, and visual character of the site.
- Integrate ecological design, natural resource management, and conservation strategies that protect the

site's natural ecosystems while offering visitor experiences in these environments for enrichment, education, health, wellness, and spiritual outcomes.

- Demonstrate the park as an innovative green infrastructure system that can be part of smart regional planning, a natural flood management system and a contributor to the reduction of excessive heat as well as the improvement of air and water quality.
- Offer a variety of choices for people of all ages, backgrounds and interests who will want to come back frequently for relaxation, respite, play, exercise or to connect with other people.
- Integrate with and be mutually supportive of other surrounding community planning efforts and BREC's greenway trails planning initiatives (CAPP).
- Demonstrate the benefits of a strong inclusive public engagement process that informs the park design and creates long-term support of the community.

A multi discipline team approach will be needed to achieve these goals. Teams should include expertise in landscape architecture; urban design; land use planning; cultural resources planning; civil engineering; ecological planning and sustainability; public engagement; recreation programming; and operations and maintenance.

In 2014 BREC completed a ten-year strategic plan, Imagine Your Parks2, that outlines eight strategic directions:

1. Continue to place a priority on the wise use of taxpayer dollars
2. Continue innovation in recreation programming
3. Continue to raise the standard for parks and recreation facilities and ensure equitable access to park and recreation experiences across the parish.
4. Strengthen and increase natural resource related recreational opportunities.
5. Enhance connectivity by improving the network of multi-use trails to, within, and between parks and community assets.
6. Increase local awareness of BREC's programs and facilities and the overall value of BREC.
7. Work with partners and the BREC Foundation to achieve common goals and leverage resources.
8. Ensure that BREC's parks and facilities are operated and maintained efficiently and according to best practices and to defined standards for park types.

The respondents will work to incorporate most of these strategic directions into the master plan efforts.

1.4 Definitions

a. BREC - Recreation and Parks Commission for the Parish of East Baton Rouge
b. Consultant - Awarded Proposer on this RFP.
c. Contract - Refers to the binding document signed and agreed upon by BREC and the successful Proposer concerning this RFP.
d. Department - Department for whom the Request for Proposal is issued.
e. Discussions - For the purposes of this RFP presentation, a formal, structured means of conducting written or oral communications/presentations with responsible Proposers who submit proposals in response to this RFP.
f. May - The term "may" denote an advisory or permissible action.
g. Must - The term "must" denote mandatory requirements.
h. Project Manager – Planning & Engineering Department staff member assigned to oversee the

project.

i. RFP - Request for Proposal
j. Selection Committee - Individuals assigned to review the proposals and recommend award.
k. Shall - The term "shall" denote mandatory requirements.
l. Should - The term "should" denote desirable.
m. State - The State of Louisiana.
n. Team – Project Management Team assigned to work with the selected Consultant throughout the project.

1.5 RFP and Consultant Selection Timeline

Listed below is the proposed schedule for this process. BREC reserves the right to deviate from these dates. If BREC finds it necessary to alter these dates/times, each Consultant will be notified in writing.

Event/Action	*Anticipated Schedule*
1. RFP Advertisement	**Wednesday, January 15, 2020**
2. Pre-proposal conference call (non-mandatory)	January 21, 2020; 1:00 P.M. CT.
3. Deadline for Proposers to send written inquiries	Feb 5, 2020; 11:00 A.M CT.
4. Deadline for BREC answer written inquiries via addenda	Feb 11, 2020; 11:00 A.M CT.
5. **Proposal Submittal Deadline**	**February 18, 2020; 11:00 A.M CT.**
6. Committee Review & Selection Period	Feb 19 – March 6
7. Contract Negotiation	March 6 – 23
8. Selection of Professionals Recommendation to Commission	March 24th
9. Commission approval	March 26, 2020

1.6 Procedures for Submission

Submittals are to be either mailed or hand-delivered and marked:

REQUEST FOR PROPOSALS No. 188
PROFESSIONAL CONSULTANT SERVICES FOR
Airline Community Park Master Plan
PROPOSAL OPENING DATE/TIME: Tuesday, February 18, 2020; 11am CT

to:

BREC Purchasing Department
6201 Florida Blvd.
Baton Rouge, LA 70806

All submittals shall be received no later than 11am CT, Tuesday, February 18, 2020.

BREC assumes no responsibility for delays caused by delivery service. Postmarking by the due date will not substitute for actual receipt.

Faxed or emailed submittals will not be accepted.

1.7 Submittal Format

Submittals should be organized in a clear and concise manner. **One (1) bound marked original, six (6) bound copies, and one (1) digital copy shall be provided.** The format for the submittal should be as follows:

1. **Cover letter** – Provide an introductory letter serving as an Executive Summary (maximum of two pages) on firm letterhead indicating:

    a. Contact information: Name of firm, contact person and title, address, phone, e-mail;
    b. Summary: A short statement summarizing the Proposer's ability to perform the services described in the RFP and confirms that Proposer is willing to perform those services and enter into a contract with BREC.
    c. RFP Compliance: Illustrating and describing compliance with the RFP requirements.
    d. Signature: By signing the letter and/or the proposal, the Proposer certifies compliance with the signature authority required in accordance with Louisiana law. The person signing the proposal must be:
        i. A current corporate officer, partnership member, or other individual specifically authorized to submit a proposal as reflected in the appropriate records on file with the secretary of state; or
        ii. An individual authorized to bind the company as reflected by a corporate resolution, certificate or affidavit; or other documents indicating authority which are acceptable to the public entity. See attached example forms.

2. **Proposer Qualifications and Experience** – Provide a statement of the team's qualifications and ability to perform the work as described in 2.1 Scope of Services including but not limited to the following:

    a. Minimum Qualifications (Prime Consultant): Provide information showing your firm meets the minimum qualifications as described below:
        i. Understand the public agency process, i.e. citizen input and the operations of park facilities.
        ii. Have proven experience and expertise in successfully leading a large multi-discipline team managing large municipal projects of a broad scope and program complexity from design through construction.
        iii. Have proven experience leading projects of a similar size, complexity and/or scope that are $1 million or more in construction cost.

    b. Requirements for Team Organization & Qualifications: Please submit all of the following information:
        i. Design Team Organization – Provide a description of your project team with an organization chart. List the firm names, and names of the individuals involved and the roles they will perform (principal-in-charge, project manager, architects, engineers, and all other subconsultants, etc.).
            a. A Project Manager must be clearly identified that will be assigned to lead the project throughout its entirety.
        ii. Individual Qualifications & Experience - Provide a description of the qualifications and experience of all key individuals who will be actively involved in the work of the

project (include registration numbers of professionals such as landscape architects, architects, and engineers). Clearly identify each key individual's experience with similar type projects, the specific role that individual performed, and the firm they were employed by at the time of the project work. **(NOTE: Failure to provide this information for key individuals will affect your evaluation.)**

iii. Sub-Consultant Qualifications & Experience – provide credentials of all sub-consultants on the project team including location of the firm's headquarters, background, experience, services offered.

3. **Other Qualifications:**
    a. BREC encourages Minority and Women Owned Business Enterprises to participate in its procurement and contracting opportunities. As such, BREC will give preference in scoring for the participation and inclusion of Disadvantaged Business Enterprises (DBE).

4. **Relevant Project Experience and References** –
    a. Provide examples of five (5) projects that demonstrate the experience with relevant park projects meeting the following criteria:
        i. Projects should be of similar size and scope as the proposed project;
        ii. Projects shall have been completed within the last 10 years.;
        iii. A minimum of two (2) projects must be completed construction;
        iv. A minimum of two (2) shall be municipal/public sector projects that required public meetings;
        v. A minimum of two (2) projects shall have had a minimum of $1,000,000 in total construction costs.

    b. For each project example submit:
        i. A minimum of five (5) graphics (multiple images per sheet are acceptable), and a two-page (maximum) description of the graphics and/or photographs.
        ii. Fully describe each project, including size and scope, and current status. The narrative shall address the design approach, design objectives, challenges and resolutions, and project success.
        iii. For each project list the key individuals, such as project manager, project landscape architect, and project architect who were responsible for the work and the firms they were employed by at the time of the project work. If the project is a joint project, estimate the percent of the project that was the responsibility of the key individual.
        iv. Provide the name and current telephone number of Owner contacts/References for each project shown. **(NOTE: Failure to provide this information for reference contacts will affect your evaluation.)**

5. **Approach and Scope** – Provide a written description of your firm's intended approach to the project that demonstrates an understanding of the scope of services (2.1), including how the Consultant Team will complete project goals and deliverables.

    a. Project Approach – Provide a statement that demonstrates the firm's understanding of the scope and objectives to be performed in this project. Indicate how this project will fit into the

total workload of the firm during the project period.

b. Public Participation – Provide a statement that describes the firm's approach to engaging public participation and the synthesis of their input in the schematic and design development process.

c. Ability to Work Within the Budget - It is important, and it will be the designer's responsibility to produce designs and construction documents that fall within this project's construction budget. Provide a statement and any supporting material that addresses your firm's ability to provide these design services and produce a constructed design that includes the identified program elements and amenities within this construction budget. Note that graphics/photographs of projects that your firm has been responsible for designing that reflect similarly funded projects should be included.

d. Project Schedule - provide a project schedule that corresponds to the following:

Selection will not be made on the basis of fee but the competence and qualifications of the proposer.

1.8 Procedures for Questions/Clarifications Prior to Submittal

All inquiries and/or requests for clarification must be submitted by email no later than February 5th, 2020; 11:00 A.M CT. Requests for clarification received after this date will be discarded.

Submit questions by email to:

Lori Foreman, BREC Purchasing Department
(225)-272-9200 ext 522
lori.foreman@brec.org

*Note: BREC has elected to use LaPAC, the state's online electronic bid posting and notification system that is resident on State Purchasing's website https://wwwcfprd.doa.louisiana.gov/osp/lapac/pubMain.cfm and is available for vendor self-enrollment. In that LaPAC provides an immediate e-mail notification to subscribing bidders that a solicitation and any subsequent addenda have been let and posted, notice and receipt thereof is considered formally given as of their respective dates of posting dates.

No negotiations, decisions, or actions shall be executed by any bidder as a result of any oral discussions with any BREC employee or BREC Consultant. BREC shall only consider written and timely communications from proposers.

Inquiries shall be submitted in writing by an authorized representative of the proposer, clearly cross-referenced to the relevant solicitation section. Only those inquiries received by the established deadline shall be considered by BREC. Answers to questions that change or substantially clarify the solicitations shall be issued by addendum and provided to all perspective proposers.

Non-Mandatory Pre-Proposal Conference Call / Meeting
Tuesday, January 21, 2020; 1pm CT

In person:
BREC Administration Building, Rm 2511
6201 Florida Blvd., Baton Rouge, Louisiana, 70806

On Device:

To join the meeting click the following link: https://zoom.us/j/5434694680. Participants may use computer audio or dial-in by phone at 646-558-8656 (New York) or 669-900-9128 (San Jose) and entering Meeting ID: 543 469 4680.

Prospective Proposers may participate in the conference to obtain clarification of the requirements of the Request for Proposal and to receive answers to relevant questions. Any firm intending to submit a proposal should have at least one duly authorized representative attend the Pre-proposal Conference.

Although impromptu questions will be permitted, and spontaneous answers will be provided during the conference, the official answer or position of BREC will be stated in writing via addendum.

1.9 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 your proposal. Your 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 (La. 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. Proposers 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 proposer at the time of submission of its Technical Proposal. Proposers should refer to the Louisiana Public Records Act for further clarification.

The Proposer 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 Proposer 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 Proposer as a result of or in connection with the submission of this proposal, BREC shall have the right to use or disclose the data therein to the extent provided in the contract. This restriction does not limit BREC's right to use or disclose data obtained from any source, including the proposer, without restrictions."

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

Proposers must be prepared to defend the reasons why the material should be held confidential. If a competing proposer or other person seeks review or copies of another proposer's confidential data, the state 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 BREC and hold BREC harmless against all actions or court proceedings that may ensue (including attorney's fees), which seek to order BREC to disclose the information. If the owner of the asserted data refuses to indemnify and hold BREC harmless, BREC may disclose the information.

BREC reserves the right to make any proposal, including proprietary information contained therein, available to the Purchasing Division personnel, or other BREC agencies or organizations for the sole purpose of assisting BREC in its evaluation of the proposal. BREC 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 Purchasing. When submitting your redacted copy, you should clearly mark the cover as such - "REDACTED COPY" - to avoid having this copy reviewed by a Committee member. The redacted copy should also state which sections or information has been removed."

1.10 Errors and Omissions in Proposal

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

1.11 Proposal Guarantee (not required)

1.12 Performance Bond (not required)

1.13 Changes, Addenda, Withdrawals

BREC reserves the right to change the calendar of events or issue Addenda to the RFP at any time. BREC also reserves the right to cancel or reissue the RFP.

If the proposer needs to submit changes or addenda, such shall be submitted in writing prior to the proposal opening, signed by an authorized representative of the proposer, cross-referenced clearly to the relevant proposal section, and submitted in a sealed envelope marked as stated in Section 1.7. Such shall meet all requirements for the proposal.

A proposer 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 proposer must be submitted to Purchasing.

1.14 Material in the RFP

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

1.15 Waiver of Administrative Informalities

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

1.16 Proposal Rejection

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

Failure to submit all non-mandatory information requested may result in BREC requiring prompt submission of missing information and/or giving a lower score in the evaluation of the proposal.

1.17 Ownership of Proposal

All materials submitted timely in response to this request become the property of BREC. Selection or rejection of a response does not affect this right. All proposals submitted timely will be retained by BREC and not returned to proposers. Any copyrighted materials in the response are not transferred to BREC.

1.18 Cost of Offer Preparation

BREC is not liable for any costs incurred by prospective Proposers or Consultants 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 Proposer in responding to the RFP are entirely the responsibility of the Proposer, and shall not be reimbursed in any manner by BREC.

1.19 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 (if applicable).

1.20 Taxes

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

1.21 Proposal Validity

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

1.22 Prime Consultant Responsibilities

The selected Proposer shall be required to assume responsibility for all items and services offered in his proposal whether or not he produces or provides them. BREC shall consider the selected Proposer to be

the sole point of contact with regard to contractual matters, including payment of any and all charges resulting from the contract.

1.23 Corporation Requirements

Upon the reward of the contract, if the Consultant is a corporation and not incorporated under the laws of the State of Louisiana, the Consultant shall have obtained a certificate of authority pursuant to R.S. 12:301-302 from the Secretary of State of Louisiana prior to the execution of the contract.

Upon the award of the contract, if the Consultant is a for-profit corporation whose stock is not publicly traded, the Consultant shall ensure that a disclosure of ownership form has been properly filed with the Secretary of State of Louisiana.

If services are to be performed in East Baton Rouge BREC, evidence of a current occupational license and/or permit issued by BREC shall be supplied by the successful vendor, if applicable.

1.24 Use of Subconsultants

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

BREC is an equal opportunity employer and encourages the participation of Disadvantaged Business Enterprises (DBE) in all of its projects. Proposers/Prospective Consultants are strongly encouraged to make positive efforts to utilize minority subconsultants for a portion of this project. Proposers are requested to include in their proposal a description of plans for minority participation under this Contract as suppliers or subconsultants.

Information required of the prime Consultant under the terms of the RFP, is also required for each subconsultant and the subconsultants must agree to be bound by the terms of the contract. The prime Consultant shall assume total responsibility for compliance.

1.25 Written or Oral Discussions/Presentations

Written or oral discussions may be conducted with Proposers who submit proposals determined to be reasonably susceptible of being selected for award. BREC reserves the right to enter into an Agreement without further discussion of the proposal submitted based on the initial offers received.

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 BREC understanding of any or all of the proposals submitted. Neither negotiations nor changes to vendor proposals will be allowed during these discussions. Proposals may be accepted without such discussions.

1.26 Acceptance of Proposal Content

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

1.27 Evaluation and Selection (see PART III. EVALUATION CRITERIA and SCORING CHART)

1.28 Contract Negotiations

If for any reason the Proposer whose proposal is most responsive to BREC's needs and evaluation factors set forth in the RFP considered, does not agree to a contract, that proposal shall be rejected, and BREC may negotiate with the next most responsive Proposer. Negotiation may include revision of non-mandatory terms, conditions, and requirements. Negotiation shall also allow price reductions. The final contract form shall be reviewed by the Purchasing Division and approved by BREC Commission prior to issuance of a purchase order, if applicable to complete the process.

1.29 Contract Award and Execution

BREC reserves the right to enter into an Agreement without further discussion of the proposal submitted based on the initial offers received.

The RFP, any addendums, and the proposal of the selected Consultant will become part of any contract initiated by BREC.

In no event is a proposer to submit its own standard contract terms and conditions as a response to this RFP. The proposer needs to address the specific language in the proposal form and submit with their proposal any exceptions or exact contract deviations that their firm wishes to negotiate. The terms may be negotiated as part of the negotiation process with the exception of contract provisions that are non-negotiable. BREC will be using AIA B101-2017 Owner/Architect Agreement as modified by Owner.

If the contract negotiation period exceeds 30 days or if the selected Proposer fails to sign the contract within **seven calendar** days of delivery of it, BREC may elect to cancel the award and award the contract to the next-highest-ranked Proposer.

Award shall be made to the Proposer whose proposal, conforming to the RFP, will be the most advantageous to BREC.

BREC intends to award to a single Proposer.

1.30 Notice of Intent to Award

Upon review and approval of the Committee's recommendation for award by Purchasing, a Notice of Intent to Award letter to the apparent successful Proposer will be issued. Fee negotiations shall follow immediately between BREC and the Proposer, in accordance with 1.28 and once agreement is made, a recommendation for award of Contract shall be brought before the Selection of Professionals Committee and BREC Commission for approval. If approved, a contract shall then be negotiated, 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 BREC, BREC may elect to cancel the Notice of Intent to Award letter and make the award to the next most advantageous Proposer.

Purchasing shall notify all unsuccessful Proposers as to the outcome of the evaluation process. The evaluation factors, points, Committee member names, and the completed evaluation summary and recommendation report shall be made available to all interested parties after the Intent to Award letter has been issued.

1.31 Debriefings

Debriefings may be scheduled by the participating Proposers after the Intent to Award letter has been issued by contacting Purchasing 72 hours in advance. Contact may be made by phone at 225-272-9200 or E-mail to lori.foreman@brec.org to schedule the debriefing. Debriefings will be for the sole purpose of reviewing with the requesting vendor their own proposal scoring results.

If the requesting vendor wishes to view other file documents, a Public Records request in accordance with R.S 44.1 et. seq. must be submitted.

1.32 Insurance Requirements

Consultant shall furnish BREC with certificates of insurance affecting coverage(s) required by the RFP (see Attachment B). 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 BREC before work commences. BREC reserves the right to require complete certified copies of all required policies, at any time.

1.33 Subconsultant Insurance

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

1.34 Indemnification

Service Provider agrees to indemnify, defend, and hold harmless BREC from any and all losses, damages, expenses or other liabilities, including but not limited to connected with any claim for personal injury, death, property damage or other liability that may be asserted against BREC by any party which arises or allegedly agents in performing its obligations under this Agreement.

Service Provider, its agents, employees and insurer (s) hereby release BREC its agents and assigns from any and all liability or responsibility including anyone claiming through or under them by way or subrogation or otherwise for any loss or damage which Service Provider, its agents or insurers may sustain incidental to or in any way related to Service Provider's operations under this Agreement.

1.35 Fidelity Bond Requirements (not required)

1.36 Payment for Services

The Planning and Engineering Department shall pay Consultant in accordance with the Pricing Schedule set forth in the contract. The Consultant may invoice the department monthly or at other approved intervals at the billing address designated by the department. Payments will be made by BREC within approximately thirty (30) days after receipt of a properly executed invoice, and approval by the department. Invoices shall include the contract or purchase order number, using department and product/service provided. Invoices submitted without the referenced documentation will not be approved for payment until the required information is provided.

1.37 Termination

1.37.1 Termination of this Agreement for Cause-

BREC may terminate this contract for cause based upon the failure of the Consultant to comply with the terms and/or conditions of the Agreement, or failure to fulfill its performance obligations pursuant to this Agreement, provided that BREC shall give the Consultant written notice specifying the Consultant's failure. If within thirty (30) days after receipt of such notice, the Consultant shall not have either 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 BREC may, at its option, place the Consultant in default and the Agreement shall terminate on the date specified in such notice.

The Consultant may exercise any rights available to it under Louisiana Law to terminate for cause upon the failure of BREC to comply with the terms and conditions of this contract; provided that the Consultant shall give BREC written notice specifying BREC failure and a reasonable opportunity for BREC to cure the defect.

1.37.2 Termination of this Agreement for Convenience –

BREC may terminate this Agreement at any time by giving thirty (30) days written notice to the Consultant of such termination or negotiating with the Consultant an effective date.

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

1.37.3 Termination for Lack of Appropriated Funds –

Should the RFP result in a multi-year contract, a non-appropriation clause shall be made a part of the contract terms as required by state statutes, allowing BREC to terminate the contract for lack of appropriated funds on the date of the beginning of the first fiscal year for which funds are not appropriated.

If the RFP contract services are funded by grant funds, BREC shall have the right to terminate the contract or any issued Task Order for which funding is terminated.

1.38 Assignment

Assignment of contract, or any payment under the contract, requires the advanced written approval of BREC.

1.39 No Guarantee of Quantities

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

Neither BREC nor Department obligates itself to contract for or accept more than their actual requirements during the period of this agreement, as determined by actual needs and availability of appropriated funds.

1.40 Audit of Records

BREC or others so designated by BREC, or other lawful entity 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 Local, State and Federal law. Records shall be made available during normal working hours for this purpose.

1.41 Civil Rights Compliance

The Consultant 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, the Consultant agrees to abide by the requirements of the Americans with Disabilities Act of 1990. Consultant agrees not to discriminate in its employment practices and will render services under this Agreement and any contract entered into as a result of this Agreement, without regard to race, color, religion, sex, sexual orientation, national origin, veteran status, political affiliation, or disabilities. Any act of discrimination committed by Consultant, or failure to comply with these statutory obligations when applicable shall be grounds for termination of this Agreement and any contract entered into as a result of this agreement.

1.42 Record Retention

The Consultant shall maintain all records in relation to this contract for a period of at least five (5) years.

1.43 Record Ownership

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

1.44 Content of Contract/Order of Precedence

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

1.45 Contract Changes

No additional changes, enhancements, or modifications to any contract resulting from this RFP shall be made without the prior approval of Purchasing, Superintendent's Office and/or Commission.

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

1.46 Substitution of Personnel

BREC intends to include in any contract resulting from this RFP the following condition:

Substitution of Personnel: If, during the term of the contract, the Consultant or subconsultant 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 BREC

for approval prior to any personnel substitution. It shall be acknowledged by the Consultant that every reasonable attempt shall be made to assign the personnel listed in the Consultant's proposal.

1.47 Governing Law

All activities associated with this RFP process shall be interpreted under applicable Louisiana Law. All proposals and contracts submitted are subject to provisions of the laws of the State of Louisiana including but not limited to L.R.S.38-2211-2296; section 1:701-710 of BREC Code of Ordinances, purchasing regulations; standard terms and conditions; special terms and conditions; and specifications listed in this RFP.

In accordance with the provisions of Louisiana R.S. 38:2212.9 in awarding contracts after August 15, 2010, any public entity is authorized to reject the lowest bid from, or not award the contract to, a business in which any individual with an ownership interest of five percent or more has been convicted of, or has entered a plea of guilty or nolo contendere to any state felony crime or equivalent federal felony crime committed in the solicitation or execution of a contract or bid awarded under the laws governing public contracts under the provisions of Chapter 10 of this Title, professional, personal, consulting, and social services procurement under the provisions of Chapter 16 of Title 39 of the Louisiana Revised Statutes of 1950, or the Louisiana Procurement Code under the provisions of Chapter 17 of Title 39 of the Louisiana Revised Statutes of 1950.

1.48 Claims or Controversies

Any proposer who believes they were adversely affected by BREC's procurement process or award, may file a protest. It must be submitted in writing to the Director of Finance and specifically state the particular facts which form the basis of the protest and the relief requested. The written protest must be received within seven (7) days from the date the basis of the protest was or should have been known.

BREC will take action on protests within fifteen (15) days of the receipt thereof. BREC may suspend, postpone or defer the proposal process and/or award in whole or in part upon receipt of a protest.

A protest shall be limited to issues arising from the procurement provisions of the contact and state or local law. Protests with regard to basic project design will not be considered.

Protests will be reviewed by a committee appointed by the Superintendent's Office. The decision of the committee regarding the protest will be given to the proposer in writing within ten (10) days after all pertinent information has been considered. The decision of the committee shall be a condition precedent to any other proceedings in connection with a protest and shall be considered the administrative remedy available to the protesting bidder.

1.49 Proposer's Certification of OMB A-133 Compliance

Certification of no suspension or debarment. By signing and submitting any proposal for $100,000 or more, the proposer certifies that their company, any subconsultants, or principals are not suspended or debarred by the General Services Administration (GSA) in accordance with the requirements in OMB Circular A-133.

A list of parties who have been suspended or debarred can be viewed via the internet at http://www.sam.gov

PART II. SCOPE OF WORK / SERVICES

2.1 Scope of Services to be Provided by Consultant

The selected team will be expected to demonstrate excellence in designing visually inspiring landscapes that will include new drives, pedestrian and bikeways, natural surface nature trails, architecture, and park program elements that weave carefully throughout the site. The design of these landscape elements will be done through careful analysis of the site's natural systems and be informed by good environmental science and engineering. Understanding and preserving the site's history and creating interpretive opportunities will be important as well. Some additional park program elements that respondents should consider will include but not be limited to the following:

- A large, adventure playground that is multi-generational, contains multiple paths, moveable parts, climbing, sliding, exploring, , have multiple levels for interest, , have a variety of spaces that enhance learning and inspire the imagination for kids of all abilities and artfully integrate the natural landscape around and between play spaces.
- A 47,000-sf recreation center that will serve as an emergency personnel shelter during times of hurricanes, flooding, and other natural disasters. As a recreation center, it will include program and after school space, a three-court basketball and multi-purpose gymnasium, and an additional 8,400-sf indoor multi-purpose space for soccer, archery, and other indoor sports. *The design of this facility will be done under separate contract.*
- An 8,000-sf maintenance building within a (300' x 175') secured yard and adjacent parking for (30) cars– this facility will be similar to other district maintenance shops in BREC's system
- A tournament baseball complex w/ (5) fields – fields to be sized to accommodate high school baseball & softball
- Foot bridges
- A Kayak / Canoe Launch
- Well-designed and unique Large and small pavilions
- A well-designed public engagement plan will be developed to generate a common public vision for the park. This plan will include strategies for outreach to stakeholders, partners, user groups, public officials, and the general public. This project is not only about developing a great visionary master plan for Airline Highway Park but also creating energy and excitement of all participants who will shape the master plan.

Additionally, respondents will need to address the following areas of study that will inform the creation of a transformational public park at Airline:

1. Developed and Natural Lands: assessments of current levels of park maintenance and natural land management care should provide recommendations that result in beautiful views and spaces, ecologically functional wooded areas, wetlands, open space habitats, and environmental stewardship that fosters biodiversity.

2. Hydrology: The Master Plan shall exhibit and emphasize the latest strategies of green infrastructure. Lands that currently flood shall be retained, and the site sculpted to allow planned and engineered inundation in a strategic way so that infrastructure and improvements remain resilient. The park shall be designed to help mitigate future storm damage as much as

possible to adjacent properties within its watershed.

The consultants should be aware that Airline park is located within a surrounding area that experiences frequent flooding. Respondents should seek to understand and meet with officials (the EBRP Dept. of Public Works) involved with other comprehensive drainage master plans for the surrounding community and incorporate best practices and nature-based approaches to storm water management that augment existing on-site infrastructural drainage and work in concert with Parish and regional comprehensive drainage plans that will be underway soon.

3. Architecture & Park Structures: The new Recreation Building, park pavilions and other proposed site structures should be coordinated to have a common architectural vocabulary.

4. Vehicular Access and Circulation: Parking and entry drives that work with the existing and proposed natural landscape, create pleasant driving experiences, broad radii with smooth straight tangents, traffic calming elements and park-like views while utilizing best practices for storm water management.

5. Visioning and Public Engagement: BREC envisions a well-designed and executed public engagement process that strengthens its ability to create positive change and a higher level of awareness of Airline Community Park. A minimum of four (4) stakeholder meetings and two (2) public meetings will be required. Engagement strategies that solicit feedback in non-traditional participatory ways such as social media are encouraged.

2.2 Deliverables

The following is a list of deliverables and a timeline which may be subject to change during Contract negotiations with the selected team. The deliverables listed below are broad, and more detail will be outlined in the Contract with the selected team. The overall anticipated length of the master plan scope after team selection is 5 months.

The scope of services and deliverables requested include the following three phases of work:

Phase 1 – Site and Urban Context Analysis, Data Gathering, and Base Mapping (1 Month)

- (1) one Kickoff meeting with BREC and a minimum of two (2) meetings with key stakeholders and partners including elected officials; meetings with BREC Commissioners, business leaders, community leaders, tourism agency leaders, the Baton Rouge Area Chamber of Commerce, planning officials; environmental groups, the BREC Foundation, other area foundations and non-profits. BREC will facilitate scheduling stakeholder meetings.
- Gathering of existing site data, inventory and base mapping. BREC's Planning & Engineering and Natural Resource Management Departments will provide existing CAD files, reports, previous park project plans, and other pertinent information related to prior planning, design, and development efforts.
- Interviews with BREC Department leaders including Recreation, Special Facilities, Natural Resource Management, Planning and Engineering, Park Operations and Maintenance, and Risk Management.
- Select analysis of the site's natural lands, plant and animal habitats, wetlands, waterways, and watershed context. Select soil and vegetation mapping of native and invasive plant and tree species and important plant communities to protect.
- Analysis of existing park land uses and management

Deliverables shall include an analysis memorandum of existing site amenities, facilities, natural environment, and other site characteristics and their opportunities and constraints.

Phase 2 – Recommendation Development Phase (2 Months)

- Development of concepts for the park site that is responsive to data gathering, recreational trends, existing and proposed facility utilization, and natural resource management and stakeholder meetings.
- Stakeholder Meetings: two (2) meetings presenting preliminary recommendations.
- Refinement of recommendations based on Stakeholder feedback;
- 1st Public Meeting: Preliminary Concept Master Plan Alternatives presented.

Deliverables shall include a conceptual design master plan(s) and an analysis report summarizing the common themes, ideas, and values from stakeholder and public engagement through meetings, surveys, and all other methods of public feedback gathering.

Phase 3 – Project Prioritization, Cost Estimating and Final Master Plan (2 months)

- Develop a master plan framework based on common themes and values received from the BREC project team and the public, economic development strategies for the area, revenue generation, recreational trends and needs, program and event opportunities, public/private partnership opportunities, development of new facilities and enhancements to existing facilities.
- Begin finalizing Master Plan, and Master Plan Report that includes an executive summary, explanations of mutual values that inform recommendations for the care of the park, an explanation of analyses and community engagements and their outcomes, a list of short-range, middle-range and longer-range project priorities including an implementation plan that identifies parties and their responsibilities; and cost estimates for design and construction of these priority phases of the project.
- 2nd and Final Public Meeting. A final public presentation outlining an extraordinary, realistic and inspiring final plan. The meeting will include a description of the process leading to the final master plan design and the resulting strategies for potential economic impacts, resource commitment, funding, and implementation.
- Presentation to BREC Commission for final approval.

Phase 4 – Design Services

- Upon successful completion of part one of Phases 1 through 3 of this RFP, BREC intends to retain the successful consultant under separate contract to provide additional Design Services to begin implementation of phase 1 of the master plan. This scope of work will be limited to available funding at the time. This work may include design, bid documents and construction administration.

Deliverables shall include a final master plan memorandum including an illustrative master plan, other supporting plans including, but not limited to, site analysis, natural resource protection, land management, site circulation, phasing, and other supporting graphic imagery capturing the spirit of the proposed features and their characteristics. The final master plan memorandum shall also include cost estimates, and a prioritized phasing plan that will chart Airline Community Park's future development for the next 10 years. The final memorandum will be in such media and format to be easily used for fundraising and marketing presentations.

2.3 Period of Agreement

The term of any contract resulting from this solicitation shall begin on or about April 2020 and is anticipated to conclude within 5 months.

2.4 Location

Location of the work: Airline Community Park - 16072 Airline Highway, Baton Rouge, LA 70817.

Meetings/Delivery may be performed, completed or managed at BREC's Administrative Offices – 6201 Florida Boulevard, Baton Rouge, Louisiana, 70806

2.5 Consultant's General Qualifications

BREC seeks a consultant team that has demonstrated the following general requirements:

- Design consultants are expected to form multidisciplinary teams, but the lead consultant should demonstrate advanced planning and design experience of parks and landscapes of comparable size and scope.
- Excellence in public park design, sustainability, maintainability, and innovative thinking in their work experience.
- Show responsiveness to changing recreational patterns, demographics, green infrastructure, conservation,
- Experience in identifying possible public-private partnerships for financial sustainability.
- Relevant experience and technical competence of the Consultant, the personnel assigned to this project, and the degree of participation in the project by the key personnel.
- Recent experience with similar-type projects demonstrating a clear understanding of the project.
- Promptness and commitment in which the Consultant can commence and complete the work to meet time schedules.
- Excellent corporate and governmental project and individual references for which the Consultant has provided comparable work.
- Selected firm to carry $1,000,000 in Errors and Omissions Insurance.

PART III. EVALUATION CRITERIA and SCORING CHART

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.

The Committee will evaluate all Proposals based on a 100-point criterion as noted below. Each submittal will be judged as to the Consultant's capabilities and experience to perform the Scope of Services.

If required, oral discussions or interviews may be conducted with any or all of the Proposers.

It is the intent of the selection process to examine the demonstrated competence and professional qualifications of the professional. Requested information is intended to assist the Committee in gauging a fair and equitable fee for the services requested. BREC may, at its option, negotiate and modify the Scope of Work/Services with the selected firm and negotiate fee and schedule adjustments, as BREC deems appropriate.

Written recommendation for award shall be made to BREC's Selection of Professionals Committee and then the BREC Commission for the Proposer whose proposal, conforming to the RFP, will be the most advantageous to BREC.

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

Formatting your proposal into these categories will greatly improve the reviewing Committee's chances of finding the key material and scoring accordingly.

The following criteria cited herein will be evaluated when reviewing the proposals: The proposal will be evaluated considering the material and the substantiating evidence presented to BREC, not on the basis of what may be inferred.

3.1 Technical Proposal Scoring – Approach and Scope (100 points/100%)

The following criteria are of importance and relevance to the evaluation of this RFP. Such factors may include but are not limited to:

- Ability to meet project scope and technical requirements – 20 points
- Proposed staff qualifications and experience – 30 points
    - DBE as Prime or Subconsultant (10 pts)
- Approach and methodology – 30 points
- Schedule – 20 points

Evaluation criteria scoring example (subject to change):

Project Team's ability to meet project scope and technical requirements	**20 pts total**
• Demonstrate capability to provide the Scope of Services by showing a clear understanding of the requirements and the work to be performed.	5
• An interactive approach with BREC staff, the public, and sufficient involvement on behalf of the principal/project manager.	5
• The proposed project team leader and members will be a prime consideration. Consultants will be required to indicate a percentage of time commitment for each team member, including the team leader throughout the project. The Consultant will be required by contract to commit these personnel through the life of the project.	5
• Describe the project team leader's personal qualifications and other project work they will be involved with during the period of this contract.	5
Project Team's Qualifications & Experience	**30 pts total**
• Technical competence, experience and education of key personnel including number of qualified staff and support staff	5
• Recent, relevant experience with similar projects	5
• Quality of comparable experience including work samples and references	10
• DBE as Prime Consultant or the participation of at least two DBE Subconsultants	10
Project Approach & Methodology	**30 pts total**
• Proposed approach to the project and methodology for completing work	10
• Understanding of BREC's mission and organization	5
• Design aesthetic through representative samples of similar projects	10
• Overall quality and responsiveness of the proposal	5
Schedule	**20 pts total**
• Work program schedule proposed for the tasks included in the Scope of Services	10
• Ability to provide the Scope of Services in a timely manner	10
TOTAL POINTS POSSIBLE	**100 pts**

Formatting your proposal into these categories will greatly improve the reviewing Committee's chances of finding the key material and score accordingly.

Selection and scoring will not be made on the basis of fee but the competence and qualifications of the proposer. The Pricing Schedule, **Attachment B**, page 29, shall be completed and submitted by the Proposer in a separate sealed envelope. This envelope and the completed cost information will not be provided to the Selection Committee but will be opened after the Selection Committee makes their selection and a Notice of Intent to Award letter to the apparent successful Proposer is issued. This will expedite the fee proposal and fee negotiation process, and in the event that Contract terms are not agreed upon, allow BREC to cancel the award and award the Contract to the next-highest-rated Proposer before the recommendation of Contract Award to the Selection of Professionals Committee and the BREC Commission.

PART IV. PERFORMANCE STANDARDS

4.1 Performance Requirements

Proposal responses will be incorporated into any resulting contracts between BREC and Consultant. The Consultant will be held accountable to their proposed plans, schedule, and/or milestones as approved and otherwise agreed upon. BREC reserves the right to modify the proposed plans within resulting contracts to suit the needs of BREC.

A standard application for payment will be agreed upon by all parties to track progress and approve payment.

PART V. FEDERAL CLAUSES

5.1 Civil Rights

Both parties shall abide by the requirements of Title VII of the Civil Rights Act of 1964 and shall not discriminate against employees or applicants due to color, race, religion, sex, handicap or national origin. Furthermore, both parties shall take Affirmative Action pursuant to Executive Order #11246 and the National Vocational Rehabilitation Act of 1973 to provide for positive posture in employing and upgrading persons without regard to race, color, religion, sex, handicap or national origin, and shall take Affirmative Action as provided in the Vietnam Era Veteran's Readjustment Act of 1974. Both parties shall also abide by the requirements of Title VI of the Civil Rights Act of 1964 and the Vocational Rehabilitation Act of 1973 to ensure that all services are delivered without discrimination due to race, color, national origin or handicap.

5.2 Anti-Kickback Clause

The Service Provider hereby agrees to adhere to the mandate dictated by the Copeland "Anti-Kickback" Act which provides that each Service Provider or sub grantee 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.

5.3 Clean Air Act

The Service Provider 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.

5.4 Energy Policy and Conservation Act

The Service Provider 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).

5.5 Clean Water Act

The Service Provider 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.

5.6 Anti-Lobbying and Debarment Act

The Service Provider wil1 be expected to comply with Federal statutes required in the Anti-Lobbying Act and the Debarment Act.

ATTACHMENT A

PROPOSAL FORM
BREC

Sealed proposals will be received until **11:00 A.M. CT, Tuesday, February 18, 2020** by the Purchasing Division, 6201 Florida Blvd, Rm 1501, Baton Rouge, La 70806 at which time proposals will be publicly opened.

PROPOSAL OF _____

ADDRESS _____

DATE _____

BREC
Purchasing Manager
6201 Florida Blvd.
Baton Rouge, LA 70806

The undersigned hereby agrees to furnish all materials, tools, equipment, insurance and labor to perform all services required for the following project:

REQUEST FOR PROPOSALS No. 188
PROFESSIONAL CONSULTANT SERVICES FOR
Airline Community Park Master Plan

as set forth in the following Contract Documents:

1. Notice to Proposers
2. The Specifications (Administrative and General Information, Scope of Work/Services, Evaluation, Performance Standards, Attachments and Appendix.)
3. Proposal Forms with Attachments
4. Agreement
5. The following enumerated addenda:_____ receipt of which is hereby acknowledged.

The undersigned declares that the only persons or parties interested in this proposal as principals are those named herein; that this proposal is made without collusion of any kind with any other person, firm, association or corporation; that the undersigned has carefully examined the site of the proposed work, and proposes, and agrees, if this proposal is accepted, to do all the work and furnish all the services specified in accordance with the requirements of the Contract Documents and to accept as full compensation therefore the total amount of the prices mutually agreed upon.

The undersigned agrees to execute the Agreement and Affidavit and furnish to BREC all insurance certificates and performance bond (if applicable) required for the project within fifteen (15) calendar days after receiving notice of award from BREC.

The undersigned further agrees that the work will begin on the date specified in the Notice to Proceed, projected to be on or about December 2019 and shall be diligently prosecuted at such rate and in such manner as, in the opinion of BREC's Representative is necessary for the prosecution of the work within the times specified in the Agreement, it being understood that time is of the essence.

The price for performance of all services in accordance with the Contract Documents will be negotiated and accepted after award. Pursuant to RS 38:2318.1 BREC will select providers of design professional services on the basis of competence and qualification for a fair and reasonable price.

_____

(SIGNATURE)

_____

(Typed Name and Title)

THE ATTACHED BIDDER'S ORGANIZATION SHEET MUST BE COMPLETED TO INDICATE WHETHER BIDDER IS AN INDIVIDUAL, PARTNERSHIP, ETC.

BIDDER'S ORGANIZATION

BIDDER IS:

AN INDIVIDUAL

Individual's Name: _____

Doing business as: _____

Address: _____

Telephone No.: _____ Fax No.: _____

A PARTNERSHIP

Firm Name: _____

Address: _____

Name of person authorized to sign: _____

Title: _____

Telephone No.: _____ Fax No.: _____ Email: _____

A LIMITED LIABILITY COMPANY

Company Name: _____

Address: _____

Name of person authorized to sign: _____

Title: _____

Telephone No.: _____ Fax No.: _____ Email: _____

A CORPORATION

IF BID IS BY A CORPORATION, THE CORPORATE RESOLUTION MUST BE SUBMITTED WITH BID.

Corporation Name: _____

Address: _____

State of Incorporation: _____

Name of person authorized to sign: _____

Title: _____

Telephone No.: _____ Fax No.: _____ Email: _____

IF BID IS BY A JOINT VENTURE, ALL PARTIES TO THE BID MUST COMPLETE THIS FORM.

CORPORATE RESOLUTION

A meeting of the Board of Directors of_____
a corporation organized under the laws of the State of_____
and domiciled in_____was held this_____day_____,20__ and was attended by a quorum of the members of the Board of Directors.

The following resolution was offered, duly seconded and after discussion was unanimously adopted by said quorum:

BE IT RESOLVED, that_____
is hereby authorized to submit proposals and execute agreements on behalf of this corporation with BREC, for the Parish of East Baton Rouge.

BE IT FURTHER RESOLVED, that said authorization and appointment shall remain in full force and effect, unless revoked by resolution of this Board of Directors and that said revocation will not take effect until the Finance Director of BREC, shall have been furnished a copy of said resolution, duly certified.

I,_____, hereby certify that I am the Secretary of_____,
a corporation created under the laws of the State of _____domiciled in_____;
that the foregoing is a true and exact copy of a resolution adopted by a quorum of the Board of Directors of said corporation at a meeting legally called and held on the _____ day of_____20_____, as said resolution appears of record in the Official Minutes of the Board of Directors in my possession.

This _____day of _____, 20_____

_____

SECRETARY

ATTACHMENT B

PRICING SCHEDULE – One (1) original to be completed and submitted in a separate sealed envelope.

Completed cost information will not be provided to the Selection Committee but will be opened after the Selection Committee makes their selection and a Notice of Intent to Award letter to the apparent successful Proposer is issued. This will expedite the fee proposal and fee negotiation process, and in the event that Contract terms are not agreed upon, allow BREC to cancel the award and award the Contract to the next-highest-rated Proposer before the recommendation of Contract Award to the Selection of Professionals Committee and the BREC Commission.

List all pricing details here. Additional sheets may be added if needed.

PROJECT PHASE	**PROPOSED FEE**
PHASE 1: Site and Urban Context Analysis, Data Gathering, and Base Mapping (1 Months)	$
PHASE 2: Recommendation Development Phase (2 Months)	$
PHASE 3: Project Prioritization, Cost Estimating and Final Master Plan (2 months)	$
TOTAL PROPOSED FEE	**$**

Other Costs – add lines or additional sheets as needed.

1. Professional Service Rates:

_____

_____

_____

2. Travel

_____

_____

3. Other Reimbursables

_____

_____

ATTACHMENT C

AFFIDAVIT

SAMPLE DOCUMENT – INFORMATION PURPOSES ONLY

BREC
Parks and Recreation Commission

BEFORE ME, the undersigned authority, personally came and appeared

_____

who, being duly sworn did depose and say:

That he is a duly authorized representative of _____
receiving value for services rendered in connection with:

REQUEST FOR PROPOSALS No. 188
PROFESSIONAL CONSULTANT SERVICES FOR
AIRLINE COMMUNITY PARK MASTER PLAN

a public project of BREC, Parish of East Baton Rouge, Louisiana: that he has 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 him 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 him; and that no part of the contract price received by him 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 him whose services in connection with the construction of the public building or project were in the regular course of their duties for him.

This affidavit is executed in compliance with the provisions of LA R.S. 38:2224.

_____
Affiant's Signature

SWORN TO AND SUBSCRIBED before me, on this_____day of _____, 20__.
Baton Rouge, Louisiana.

_____
NOTARY PUBLIC

SAMPLE DOCUMENT – INFORMATION PURPOSES ONLY

Insurance Requirements for:
REQUEST FOR PROPOSALS No. 188
PROFESSIONAL CONSULTANT SERVICES FOR
AIRLINE COMMUNITY PARK MASTER PLAN

CONSULTANT'S AND SUB-CONSULTANT'S INSURANCE: Consultant and any sub-consultants shall carry and maintain at least the minimum insurance as specified below until completion and acceptance of the work covered by this contract. Consultant shall not commence work under this contract until certificates of insurance have been approved by BREC Purchasing Division. Insurance companies listed on certificates must have industry rating of A-, Class VI or higher, according to Best's Key Rating Guide. Consultant is responsible for assuring that its sub-consultants meet these insurance requirements.

A.	Commercial General Liability on an occurrence basis:	General Aggregate	$2,000,000
		Each Occurrence	$1,000,000
B.	Business Auto Policy Any Auto; or Owned, Non-Owned & Hired:	Combined Single Limit	$1,000,000
C.	Standard Workers Compensation - Full statutory liability for State of Louisiana with Employer's Liability Coverage.		
D.	BREC, must be named as additional insured on all general liability policies described above.		
E.	Professional Liability coverage for errors and omissions:		$1,000,000
F.	Certificates must provide for thirty (30) days written notice to Certificate Holder prior to cancellation or change.		
G.	The Certificate Holder should be shown as: BREC, Attn: Purchasing Division, 6201 Florida Blvd, Baton Rouge, Louisiana 70806		

APPENDIX - 1

Airline HMGP Schematic Plan

A. REC CENTER
B. BALLFIELD COMPLEX
C. MULTI-USE ATHLETIC FIELDS (DRY DETENTION)
D. MEADOW & PICNIC
E. MIDWAY & MULTI-USE SPACE
F. AIRGUN RANGE
G. ACTIVITY HUB (SPLASH PAD & ADV. PLAYGROUND)
H. AMPHITHEATER
I. MAINTENANCE

AIRLINE HIGHWAY PARK
HMGP PROPOSED

APPENDIX - 2

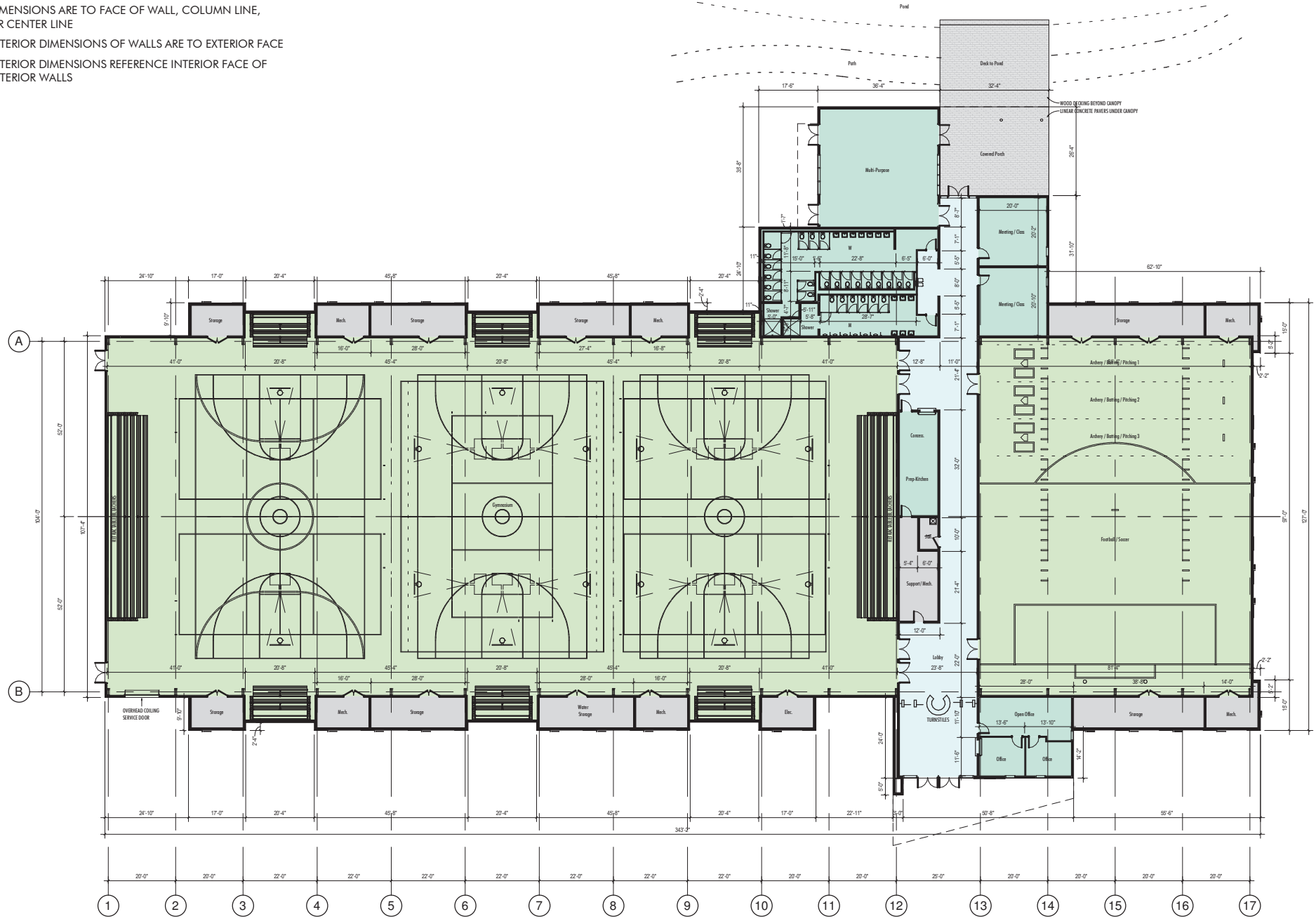
Airline Highway Safe Room and
Recreation Center Schematic Plan

NOTE: FEMA RFI 1

DIMENSIONS ARE TO FACE OF WALL, COLUMN LINE, OR CENTER LINE

EXTERIOR DIMENSIONS OF WALLS ARE TO EXTERIOR FACE

INTERIOR DIMENSIONS REFERENCE INTERIOR FACE OF EXTERIOR WALLS



1 LEVEL 1

SCALE: 1" = 40'-0"

AIRLINE HWY SAFE ROOM / RECREATION CENTER

WHLC Project 18-035 WHLC | ARCHITECTURE

12.13.18 1 of 1.
RFI 1

APPENDIX - 3

Airline Park Preliminary Floodplain
Mitigation Plan (2018)

Elevations Table

Minimum Elevation	Maximum Elevation	Color
2.00	7.00	
7.00	12.00	
12.00	17.00	
17.00	27.00	

NOTES:

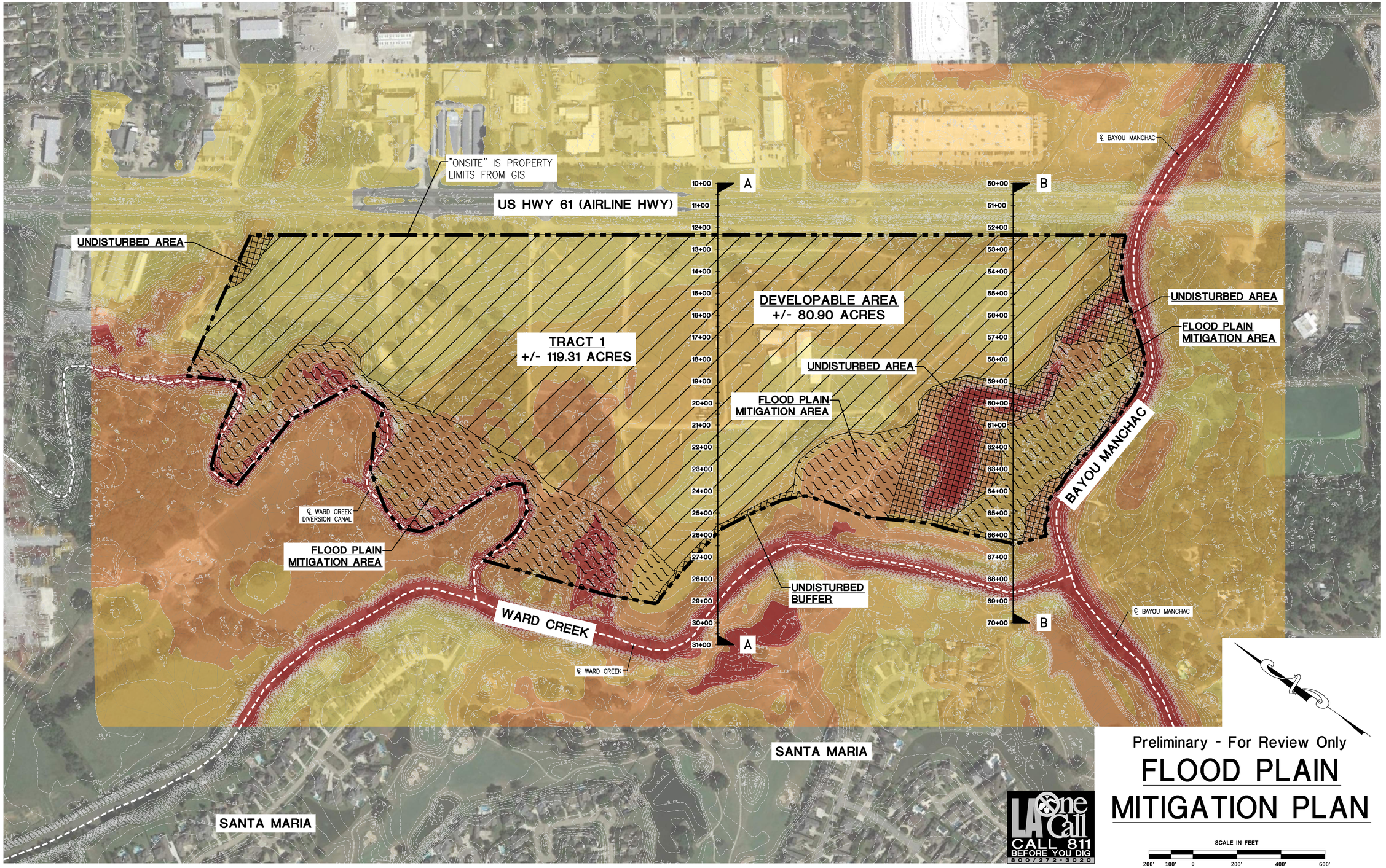
1. LIDAR INFORMATION WAS USED FOR THIS ANALYSIS. TOPO SURVEY INFORMATION COULD CAUSE REQUIRED STORM WATER MANAGEMENT AREAS TO INCREASE OR DECREASE IN SIZE.

FLOOD PLAIN VOLUME ANALYSIS

SITE (BFE 17.0')	EXISTING FLOODPLAIN STORAGE (CU. YDS)	PROPOSED FLOODPLAIN STORAGE (CU. YDS)
TRACT 1	598,972	599,607

LEGEND

- FLOOD PLAIN MITIGATION (CUT) AREA (±27.63 AC.)
- DEVELOPABLE AREA (±80.90 AC.) (ASSUMED TO BE FILLED TO AN AVERAGE ELEVATION 17.0')
- UNDISTURBED AREA (±10.78 AC.)



Preliminary - For Review Only

FLOOD PLAIN MITIGATION PLAN

SCALE IN FEET

200' 100' 0 200' 400' 600'

LA One Call CALL 811 BEFORE YOU DIG 800/272-3020

REVISION	BY

DUPLANTIS DESIGN GROUP, PC
8352 Bluebonnet Blvd. Baton Rouge, La 70810
Phone:225-751-4490 \ Fax: 225-751-4495
THIBODAUX \ COVINGTON
HOUSTON \ BATON ROUGE \ HOUMA
DDG
WWW.DDGPC.COM

SIGNATURE:

DATE:

STAMP

AIRLINE HWY SITE
BATON ROUGE, LOUISIANA
EAST BATON ROUGE PARISH

FOR BREC
BATON ROUGE, LOUISIANA

DRAWN	CDS
CHECKED	BAB
ISSUED DATE	12/14/17
ISSUED FOR	REVIEW
PROJECT NO.	17-454
FILE	17-454 EX-2 Flood Plain Mitigation Plan
SHEET	EX-2

R:\DWGS\17-000\17-454\17-454 EX-2 Flood Plain Mitigation Plan.dwg

APPENDIX - 4

Airline Park Traffic Impact Study
(2018)

MARCH 23, 2018

VECTURA

PROPOSED BATON ROUGE ZOO TRAFFIC IMPACT STUDY

BATON ROUGE, LA

FOR RECREATION AND PARK COMMISSION FOR THE PARISH OF EAST BATON ROUGE

BY VECTURA CONSULTING SERVICES, LLC

PO BOX 14269 BATON ROUGE, LA 70898

TABLE OF CONTENTS

LIST OF FIGURES

1 INTRODUCTION

This report summarizes the findings of a traffic impact study performed for the proposed Baton Rouge Zoo located on US 61 (Airline Highway) in East Baton Rouge Parish, Louisiana. The proposed project consists of a 125-acre new zoo. The limits of study were developed by DOTD in an email dated 02/21/2018 and are as follows:

1. Trip generation and distribution,
2. Sight distance evaluation,
3. Analysis of the access / egress of the development in relation to Level-of-Service (LOS) of the adjacent roadway, and
4. Analysis of U-Turn south of the proposed zoo in relation to LOS and swept path analysis.

Figure 1 shows the proposed location of this project, while **Figure 2** shows the proposed site plan of the project.

Figure 1: Vicinity Map

CONCEPTUAL SITE DIAGRAM: BREC AIRLINE HIGHWAY PARK

LEGEND

- Property Boundary
- Zoo Zones
- Potential Expansion
- Visitor Circulation
- Visitor Hubs
- Train Loop
- Stormwater Management Zone

Total Project Area: **71 ac**
Total Property: **119 ac**

- Major development is focused on the site areas above the civil elevation line of 15ft and out of any stormwater management zones.
- Developed areas are concentrated near Airline Highway and away from Ward Creek providing a buffer between the adjacent Santa Maria neighborhood development.
- 35 acres are dedicated to stormwater management

FIGURE 2: SITE PLAN

2 EXISTING CONDITIONS

2.1 DESCRIPTION OF ROADWAY – US 61 (AIRLINE HIGHWAY)

Adjacent to the proposed project site, US 61 (Airline Highway) is a divided four-lane highway that for the purposes of study runs in a north-south direction with a posted speed limit of 65 miles per hour. The physical characteristics of US 61 (Airline Highway) consist of an asphaltic concrete surface course, with shoulders and open-ditch drainage. The land-use along US 61 (Airline Highway) in vicinity of the proposed site is primarily commercial, light industrial and office.

2.2 EXISTING TRAFFIC DATA

Turning movement counts were collected at the existing park entrance on US 61 (Airline Highway) and a median opening on US 61 (Airline Highway) to the south of the existing park on the following days:

- Thursday, March 1, 2018
- Saturday, March 3, 2018
- Sunday, March 4, 2018

The locations of the median openings that were counted are shown in **Figure 3**.

Figure 3: Turning Movement Count Locations adjacent to Proposed Site

At the direction of DOTD, 24-hour traffic data was collected for three weekends from February 24 through March 11, 2018 at Gibbens Road, which is the visitor entrance of the existing zoo. Morning and evening peak hour, bi-directional traffic data was also collected at the service entrance at the existing zoo on Wednesday, March 14, 2018. **Figures 4 & 5** show the AM and PM peak hour traffic volumes for the weekday and weekend. The raw data as well as the peak hour factor and percent of heavy vehicles can be found in the **Appendix**.

Figure 4: 2018 AM and PM Peak Existing Weekday Traffic Volumes

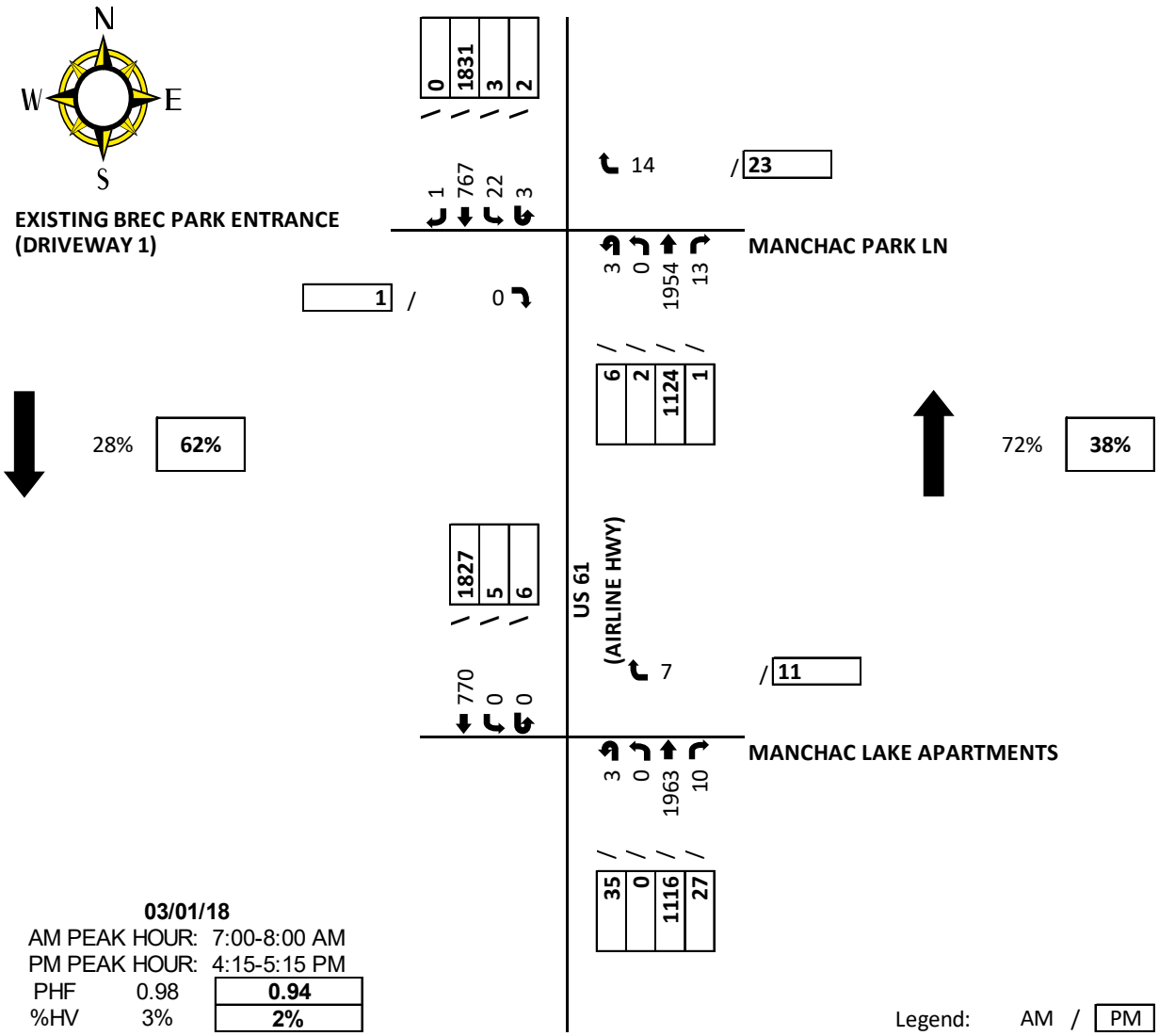
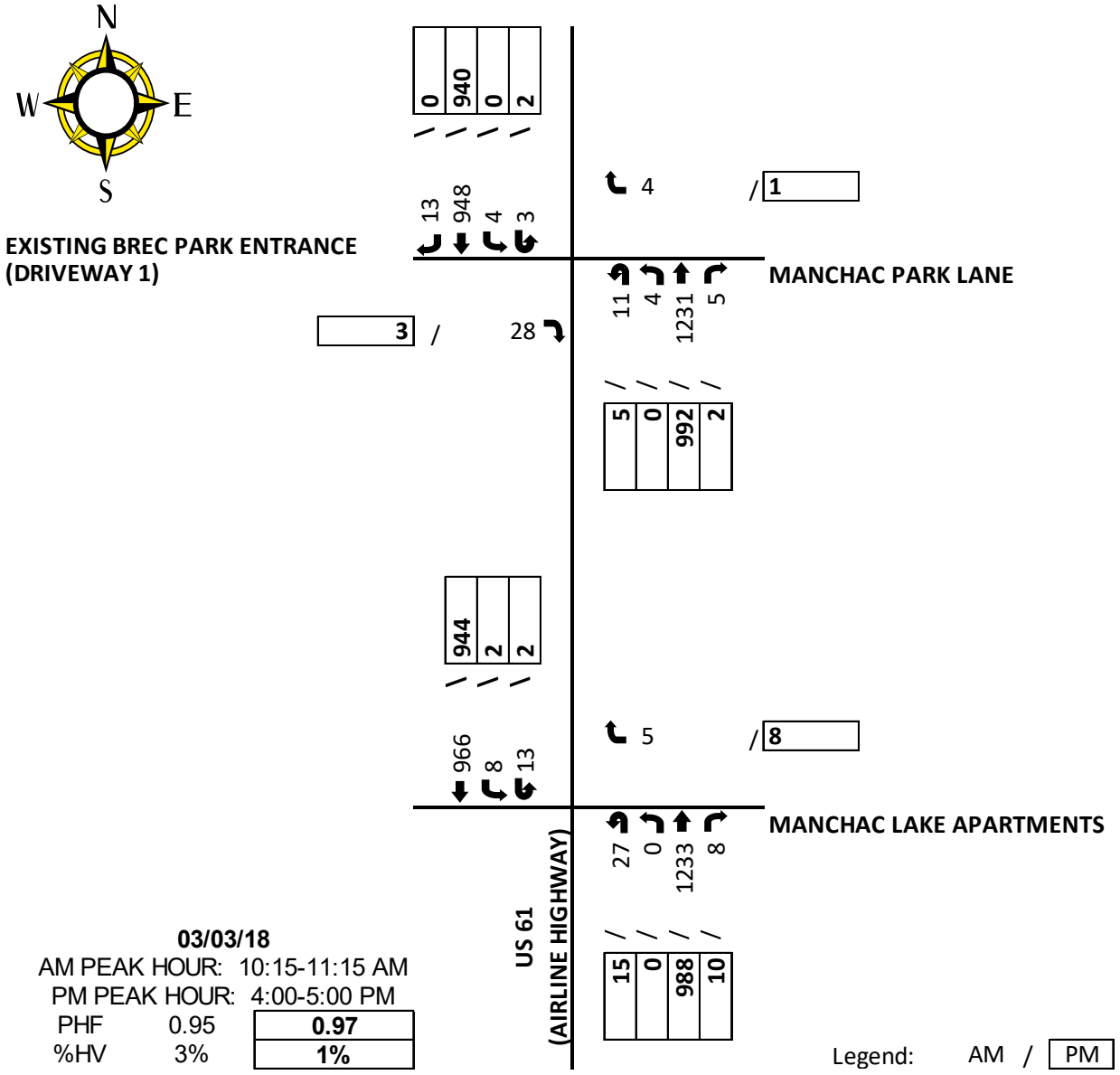


Figure 5: 2018 AM and PM Peak Existing Weekend Traffic Volumes



3 FUTURE CONDITIONS

3.1 TRIP GENERATION

3.1.1 Visitors

The current visiting hours for the zoo are from 9:30 AM – 4:00 PM every day of the week; therefore, all days of the week were evaluated to identify peak hour traffic. Based on the data collected on US 61 (Airline Highway) and the existing zoo location, Saturday was identified as the weekend peak day with the peak hours occurring at 10:15 – 11:15 AM and 4:00 – 5:00 PM. Upon review of the data collected at the existing zoo entrance, the driveway volumes were lower for the weekends of February 24-25 and March 10-11. Since rain was reported on Saturday for both weekends, the data from those two weekends were not used to develop the trip generation. Traffic data collected on Saturday, March 4, 2018 was used to estimate the weekend visitor trips. **Table 1** shows the data collected during the hours of operation at Gibbens Road. The raw data can be found in the **Appendix**.

Table 1: Weekend Volume Data Collected at the Existing Zoo Visitors Driveway

Start Time	03/03, Saturday	
	Entering	Exiting
09:00	123	5
10:00	210	16
11:00	184	28
12:00	169	100
13:00	164	153
14:00	112	209
15:00	42	183
16:00	11	205
17:00	3	112

For the visitors, the typical weekday estimated trips were developed from volume data collected on Wednesday, March 6 and Thursday March 7, 2018. Data collected on Tuesday, March 5, 2018, was not used to estimate future trips since rain was reported that day. The raw data can be found in the **Appendix**.

Table 2: Weekday Volume Data Collected at the Existing Zoo Visitors Driveway

Start Time	Average Weekday	
	Entering	Exiting
09:00	30	2
10:00	18	3
11:00	11	16
12:00	17	14
13:00	13	18
14:00	18	13
15:00	10	16
16:00	3	32
17:00	2	11

3.1.2 Employees

Traffic data collection equipment was also placed at the service entrance at the rear of the existing zoo to capture travel patterns of employees. It was assumed that the employee trip generation characteristics were the same for every day of the week since the operating hours of the zoo are the same every day. Based on information provided by BREC, 100 employees were estimated to work at the proposed zoo. The raw data can be found in the **Appendix**.

3.1.3 Summary

Since the AM peak commuter period on US 61 (Airline Highway) was identified from 7:00 – 8:00 AM and the zoo does not open to the public until 9:30 AM, the estimated trips for visitors during the weekday, AM peak hour was estimated to be zero. It should also be noted that since the peak hour identified for the weekend, AM peak hour was from 10:15 – 11:15 AM, all employees were assumed to be on the property by 10:30 AM and the employee estimated trips for the weekend, AM peak was zero. The estimated trips for the AM / PM peak hours for weekends is shown in **Table 3** while AM / PM peak hours for weekdays in **Table 4.** At the direction of BREC officials, the proposed zoo is estimated generate 50% more trips than the existing zoo.

Table 3: Estimated Weekend Trip Generation

A.M. Peak Period

Type of Trip	Peak Hour Generated Trips	Entering	Exiting
Visitor	339	93% 315	7% 24
Employee	0	0% 0	0% 0
Total	**339**	**315**	**24**

P.M. Peak Period

Type of Trip	Peak Hour Generated Trips	Entering	Exiting
Visitor	325	5% 17	95% 308
Employee	73	1% 1	99% 72
Total	**398**	**18**	**380**

Table 4: Estimated Weekday Trip Generation

A.M. Peak Period

Type of Trip	Peak Hour Generated Trips	Entering	Exiting
Visitor	0	0% 0	0% 0
Employee	53	93% 49	7% 4
Total	**53**	**49**	**4**

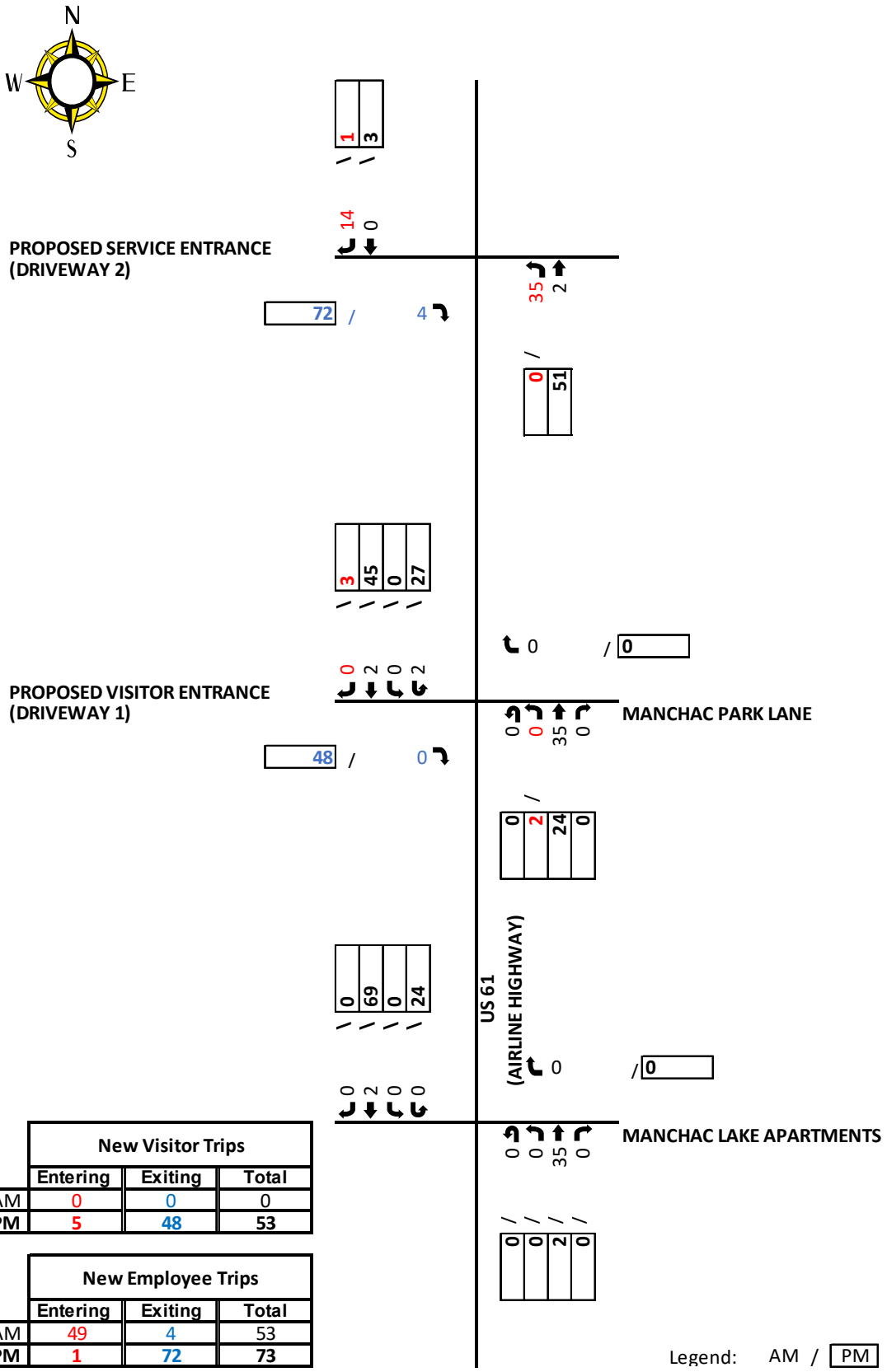
P.M. Peak Period

Type of Trip	Peak Hour Generated Trips	Entering	Exiting
Visitor	53	9% 5	91% 48
Employee	73	1% 1	99% 72
Total	**126**	**6**	**120**

3.2 TRIP DISTRIBUTION

The distribution of the employee traffic to and from the proposed development was assumed to follow the current commuter travel patterns on US 61 (Airline Highway). At the direction of DOTD, the distribution of the visitor traffic was assumed to be evenly split from the north and south. The proposed zoo will be accessed by two site drives on US 61 (Airline Highway). Site Drive 1 is proposed to service visitors, while Site Drive 2 is proposed to service employees and deliveries. The AM and PM peak hour trip distributions for a typical weekday and weekend are shown in **Figures 6 & 7** on the following pages.

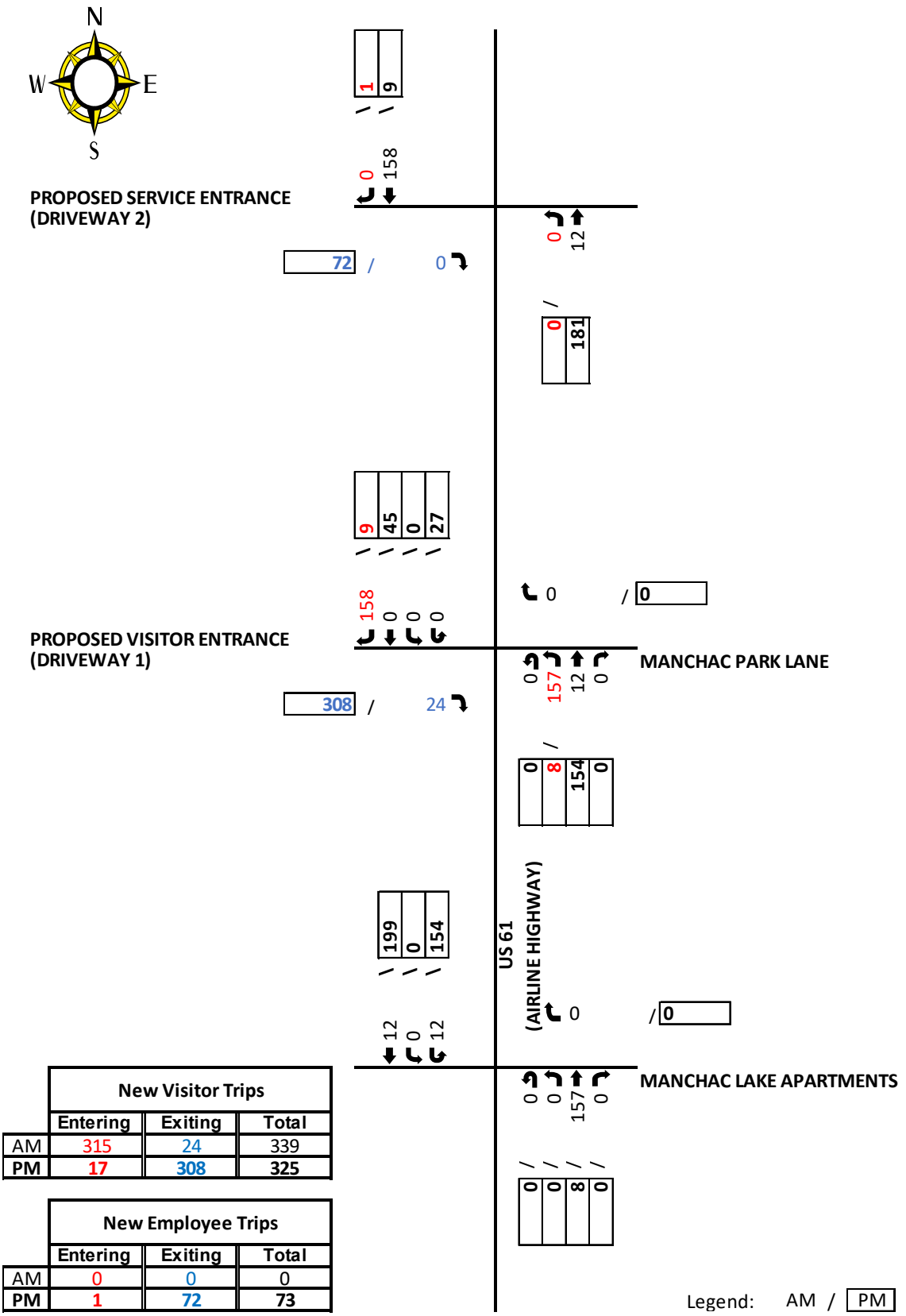
Figure 6: Weekday Trip Distribution



	New Visitor Trips		
	Entering	Exiting	Total
AM	0	0	0
PM	**5**	**48**	**53**

	New Employee Trips		
	Entering	Exiting	Total
AM	49	4	53
PM	**1**	**72**	**73**

Figure 7: Weekend Trip Distribution



New Visitor Trips			
	Entering	Exiting	Total
AM	315	24	339
PM	**17**	**308**	**325**

New Employee Trips			
	Entering	Exiting	Total
AM	0	0	0
PM	**1**	**72**	**73**

3.3 NO BUILD AND BUILD TRAFFIC VOLUMES

The construction period for the proposed zoo is scheduled to take five years; therefore, the opening year of the proposed zoo was assumed to be 2023. Based on traffic data obtained from at DOTD vehicle counting station on US 61 (Airline Highway) near the site, the 2018 existing traffic volumes were grown by 1.43% per annum to form the 2023 No Build traffic volumes. In addition to the background growth on US 61 (Airline Highway), the Full Build volumes from a previous traffic impact study into and out of the Manchac Lake Apartments site drive were included in the 2023 No Build / Build volumes of this report as shown in **Figure 8 & 9**. Once the 2023 No Build traffic volumes were calculated, the estimated trips were assigned to the network according to the trip distribution. The AM and PM peak hour Build traffic volumes are shown in **Figures 10 & 11**.

Figure 8: 2023 AM and PM Peak No Build Weekday Traffic Volumes

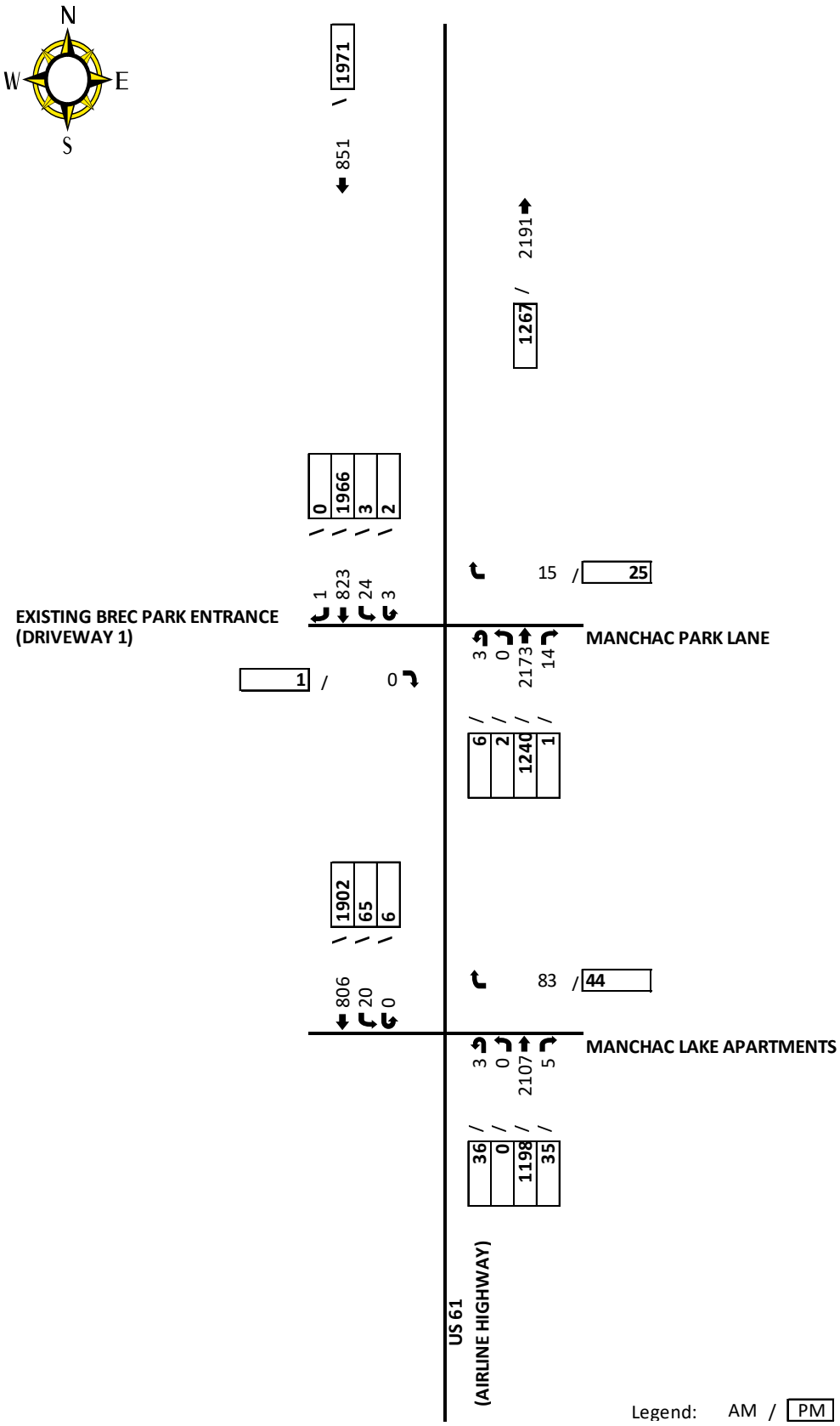


Figure 9: 2023 AM and PM Peak No Build Weekend Traffic Volumes

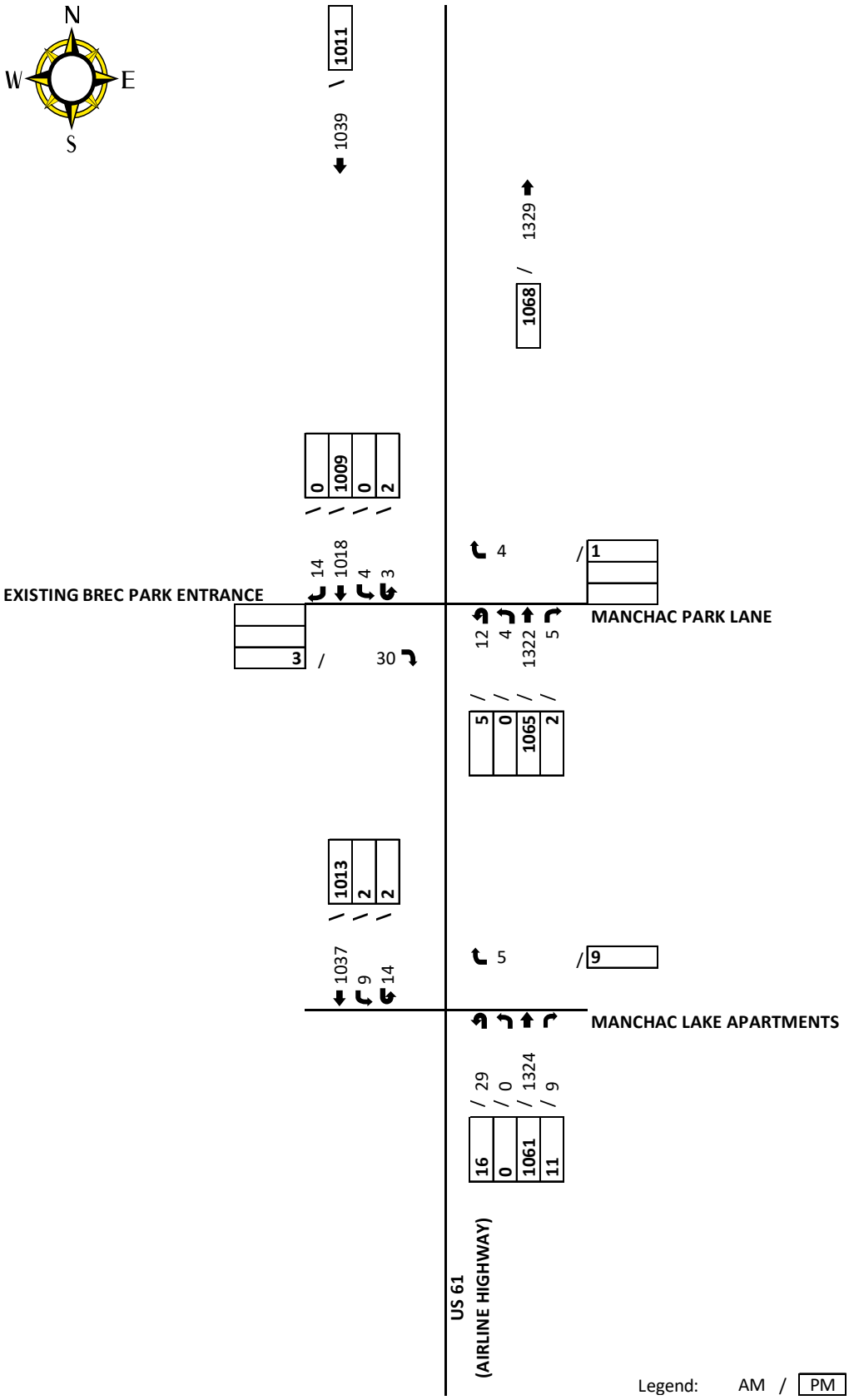


Figure 10: 2023 AM and PM Peak Build Weekday Traffic Volumes

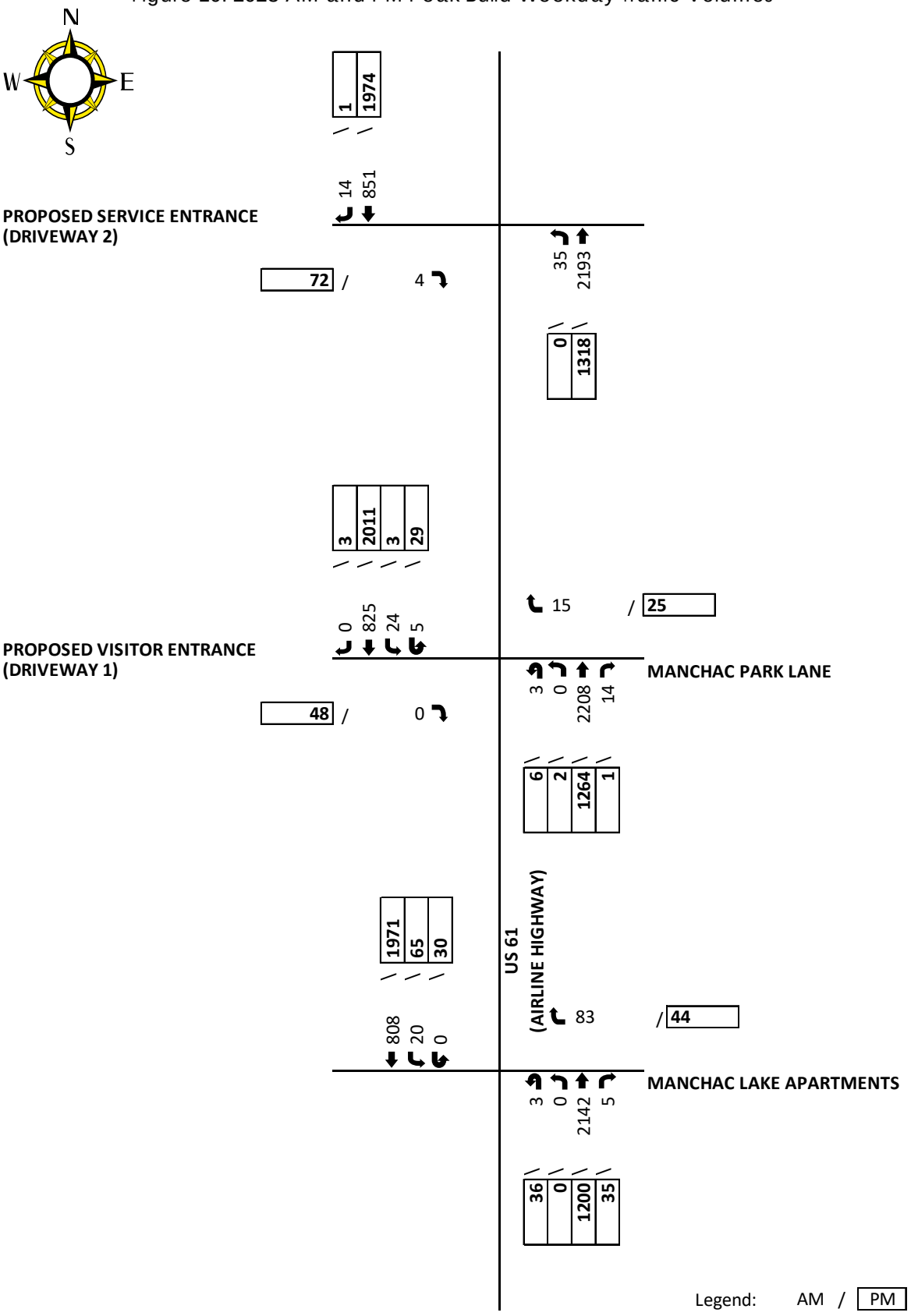
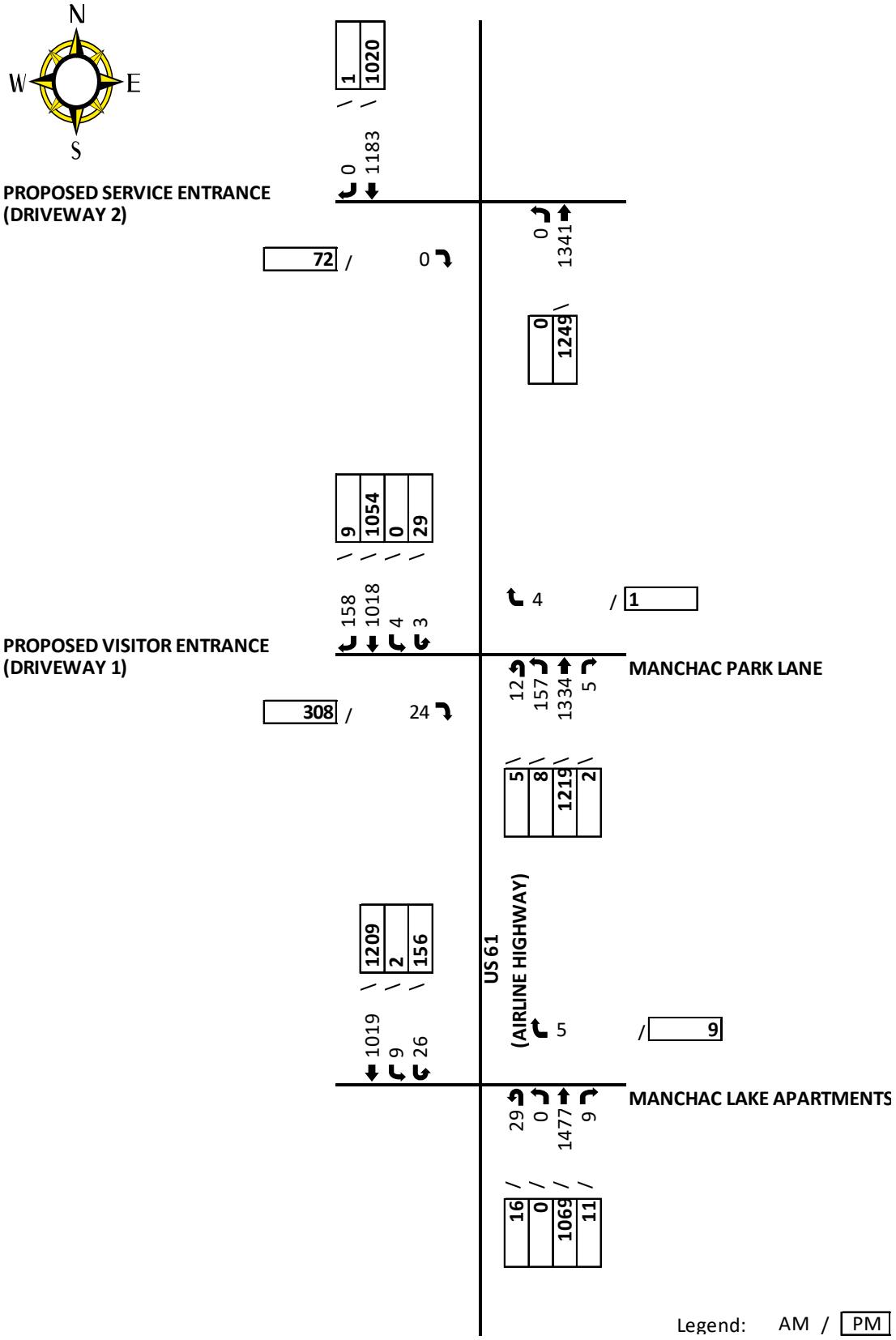


Figure 11: 2023 AM and PM Peak Build Weekend Traffic Volumes



4 ANALYSES

4.1 TURN LANE WARRANTS

Based on information provided in the National Cooperative Highway Research Program (NCHRP) Report Number 457, "*Evaluating Intersection Improvements*" was utilized to determine the left and right turn lane warrants for the intersection of US 61 (Airline Highway) at the proposed Site Drive 2. The existing entrance (Site Drive 1) currently has dedicated left and right-turn lanes; therefore, a turn lane warrant analysis was not needed.

4.1.1 Left Turn Lane Warrant

Based on the analyses below, the AM peak hour, weekday traffic volumes met the left turn lane warrant for the Full Build conditions. See **Table 5** for left turn lane calculation.

Table 5: Left Turn Lane Warrant Analysis for AM Peak Full Build Conditions

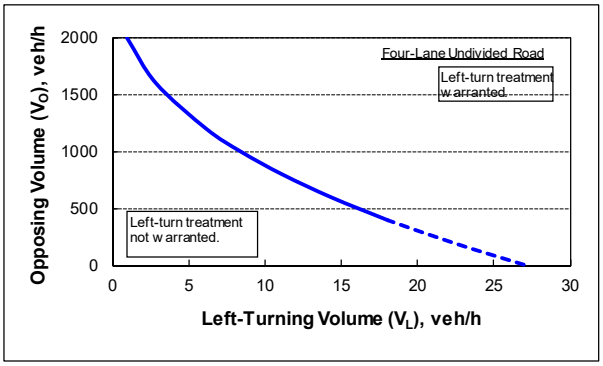
4-lane roadway

INPUT

Variable	Value
Left-turning volume (V_L), veh/h:	35
Advancing volume (V_A), veh/h:	2153
Opposing volume (V_O), veh/h:	865

OUTPUT

Variable	Message
Opposing volume (Vo) check:	O.K.
Combined volume (V_A and V_O) check:	O.K.
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



Note: When V_O < 400 veh/h (dashed line), a left-turn lane is not normally warranted unless the advancing volume (V_A) in the same direction as the left-turning traffic exceeds 400 veh/h (V_A > 400 veh/h).

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	4.0
Critical headway, s:	6.0

4.1.2 Right Turn Lane Warrant

Based on information provided in the NCHRP Report, the estimated trips from the proposed development met the right turn lane warrant in the AM peak hour Full Build, weekday conditions. See **Table 6** for right turn lane calculation.

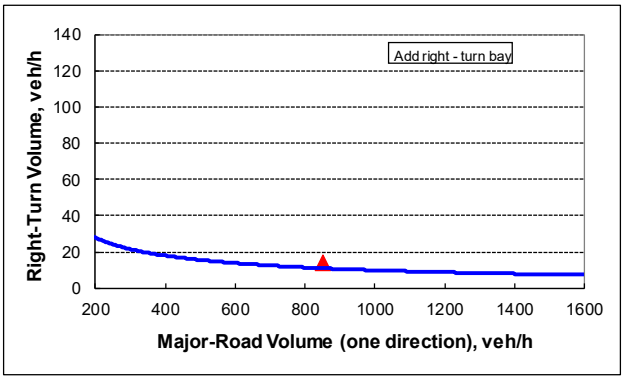
Table 6: Right Turn Lane Warrant Analysis for AM Peak Hour Full Build Conditions

INPUT

Roadway geometry:	4-lane roadway
Variable	Value
Major-road speed, mph:	65
Major-road volume (one direction), veh/h:	851
Right-turn volume, veh/h:	14

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	11
Guidance for determining the need for a major-road right-turn bay for a 4-lane roadway:	
Add right-turn bay.	



4.2 CAPACITY ANALYSES

4.2.1 Intersection Analyses

To satisfy the requirements set by DOTD, the intersections at US 61 (Airline Highway) at Site Drive 1, Site Drive 2 and the U-Turn at Manchac Lake Apartments were analyzed as a two-way STOP controlled intersection. The capacity was analyzed using HCS 2010, a Highway Capacity Manual based software package. LOS criteria for STOP controlled intersections (based on the Highway Capacity Manual 2010) are presented in **Table 7** below. **Tables 8 - 11** show a summary of the unsignalized results of the HCS analysis.

The geometric configuration for both Site Drive 1 & 2 consisted of a right-in, right-out and left-turn in driveways. Both driveways were analyzed with left and right-turn lanes.

Table 7: Level of Service Criteria for STOP Controlled Intersections

Level of Service	Delay Range (seconds)
A	< 10
B	≥ 10 and < 15
C	≥ 15 and < 25
D	≥ 25 and < 35
E	≥ 35 and < 50
F	≥ 50

Table 8: AM Peak Hour, Weekday HCM Intersection Results

		2018 Existing		2023 No Build		2023 Build	
		Delay	LOS	Delay	LOS	Delay	LOS
US 61 (Airline Highway) at Driveway 1	NB	0.0	A	0.0	A	0.0	A
	WB	20.9	C	24.1	C	23.5	C
	SB	0.8	A	1.0	A	1.2	A
	EB	0.0	A	0.0	A	0.0	A
US 61 (Airline Highway) at Driveway 2	NB	-	-	-	-	0.2	A
	SB	-	-	-	-	0.0	A
	EB	-	-	-	-	11.6	B
US 61 U-Turn at Manchac Lake Apts.	NB	0.0	A	0.0	A	0.0	A
	WB	20.5	C	29.7	D	33.8	D
	SB	0.0	A	0.5	A	0.5	A

Table 9: PM Peak Hour, Weekday HCM Intersection Results

		2018 Existing		2023 No Build		2023 Build	
		Delay	LOS	Delay	LOS	Delay	LOS
US 61 (Airline Highway) at Driveway 1	NB	0.3	A	0.3	A	0.5	A
	WB	13.6	B	14.3	B	14.5	B
	SB	0.0	A	0.0	A	0.4	A
	EB	19.5	C	21.2	C	26.8	D
US 61 (Airline Highway) at Driveway 2	NB	-	-	-	-	0.0	A
	SB	-	-	-	-	0.0	A
	EB	-	-	-	-	29.6	D
US 61 U-Turn at Manchac Lake Apts.	NB	2.5	A	2.9	A	3.5	A
	WB	13.3	B	14.7	B	14.7	B
	SB	0.1	A	0.5	A	0.9	A

Table 10: AM Peak Hour, Weekend HCM Intersection Results

		2018 Existing		2023 No Build		2023 Build	
		Delay	LOS	Delay	LOS	Delay	LOS
US 61 (Airline Highway) at Driveway 1	NB	0.2	A	0.2	A	1.7	A
	WB	13.9	C	14.5	C	14.6	C
	SB	0.1	A	0.1	A	0.1	A
	EB	12.4	B	12.9	B	12.8	B
US 61 (Airline Highway) at Driveway 2	NB	-	-	-	-	0.0	A
	SB	-	-	-	-	0.0	A
	EB	-	-	-	-	0.0	A
US 61 U-Turn at Manchac Lake Apts.	NB	0.4	A	0.4	A	0.4	A
	WB	13.9	B	14.6	B	15.8	C
	SB	0.4	A	0.5	A	1.0	A

Table 11: PM Peak Hour, Weekend HCM Intersection Results

		2018 Existing		2023 No Build		2023 Build	
		Delay	LOS	Delay	LOS	Delay	LOS
US 61 (Airline Highway) at Driveway 1	NB	0.1	A	0.1	A	0.3	A
	WB	12.2	B	12.6	B	13.7	B
	SB	0.0	A	0.0	A	0.7	A
	EB	11.9	B	12.3	B	27.5	D
US 61 (Airline Highway) at Driveway 2	NB	-	-	-	-	0.0	A
	SB	-	-	-	-	0.0	A
	EB	-	-	-	-	13.6	B
US 61 U-Turn at Manchac Lake Apts.	NB	0.2	A	0.2	A	0.3	A
	WB	12.2	B	12.7	B	12.6	B
	SB	0.1	A	0.1	A	3.9	A

4.2.2 Roadway Segment Analyses

A four-lane highway segment roadway analysis was evaluated for US 61 (Airline Highway) in vicinity of the development for the weekday / weekend and AM / PM peak hour. The roadway analyses were performed using Highway Capacity Software 2010, Version 6.8. T**ables 12 - 15** shows a summary of the results of HCS analyses. The analyses performed indicated that the proposed development will have minimal impact to the segment of US 61 (Airline Highway) adjacent to the site. In both the 2023 AM and PM peak periods the remains the same from the No Build to the Build condition.

Table 12: Four-Lane Highway Segment Analysis Results for a Weekday Southbound Direction

	AM			PM		
	2018 Existing	2023 No Build	2023 Build	2018 Existing	2023 No Build	2023 Build
LOS	A	A	A	B	B	B
pc/mi/ln	6.8	7.3	7.4	16.4	17.7	17.8

Table 13: Four-Lane Highway Segment Analysis Results for a Weekday Northbound Direction

	AM			PM		
	2018 Existing	2023 No Build	2023 Build	2018 Existing	2023 No Build	2023 Build
LOS	B	C	C	A	B	B
pc/mi/ln	17.0	18.9	18.9	10.3	11.4	11.9

Table 14: Four-Lane Highway Segment Analysis Results for a Weekend Southbound Direction

	AM			PM		
	2018 Existing	2023 No Build	2023 Build	2018 Existing	2023 No Build	2023 Build
LOS	A	A	A	A	A	A
pc/mi/ln	8.6	9.3	10.5	8.1	8.7	8.8

Table 15: Four-Lane Highway Segment Analysis Results for a Weekend Northbound Direction

	AM			PM		
	2018 Existing	2023 No Build	2023 Build	2018 Existing	2023 No Build	2023 Build
LOS	B	B	B	A	A	A
pc/mi/ln	11.0	11.8	11.9	8.6	9.2	10.8

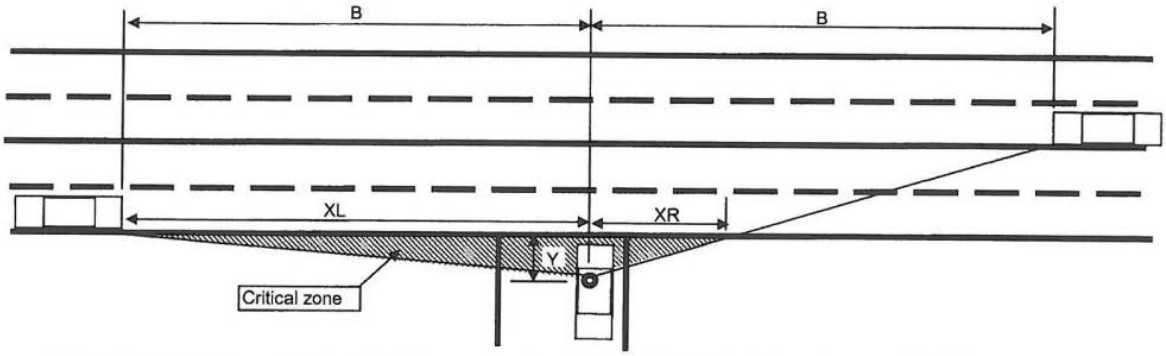
4.3 SIGHT DISTANCE

According to the *DOTD Access Connections Policy*, adequate sight distance for driveway construction is considered desirable in the design of residential access connections. Based the figure on page 34 of the December 2013 *DOTD Access Connections Policy*, the recommended minimum sight distance for a vehicle performing a left turn or right turn maneuver onto a four-lane road with a speed of 65 mph is 715 feet as shown in **Figure 12** below. On March 14, 2018, staff from Vectura visited the proposed project location and photographed the sight distances, which can be seen in **Figure 13**. An adequate sight distance of over 715 feet was verified when observed from the approximate site drive location. However, the sight distances and clear zones will need to be substantiated when the site drive has been marked in the field prior to construction.

Figure 12: Sight Distance Criteria on State Routes

CRITICAL SIGHT DISTANCE FOR TRAFFIC ENTERING THE HIGHWAY FROM PRIVATE ACCESS CONNECTIONS

To be used for access connection permits.



Speed, mph	Speed, fps	Offset Y, ft	2-Lane (7.1 sec gap)			4-Lane (7.5 sec gap)			5-Lane (8.0 sec gap)		
			Distance "B"	Length XL	Length XR	Distance "B"	Length XL	Length XR	Distance "B"	Length XL	Length XR
20	29	9	208	208	89	220	220	60	235	235	47
25	37	9	260	260	112	275	275	75	293	293	59
30	44	9	312	312	134	330	330	90	352	352	70
35	51	9	364	364	156	385	385	105	411	411	82
40	59	9	417	417	179	440	440	120	469	469	94
45	66	9	469	469	201	495	495	135	528	528	106
50	73	9	521	521	223	550	550	150	587	587	117
55	81	9	573	573	245	605	605	165	645	645	129
60	88	9	625	625	268	660	660	180	704	704	141
65	95	9	677	677	290	715	715	195	763	763	153

Notes:
The critical zone should be free of obstructions which restrict sight (typically between 1 and 7 feet in height).
Sight distance is based on the Highway Capacity Manual, Chapter 17, stop control on the minor roadways.
The 7.1 second acceptance gap is for passanger vehicles turning left onto a two lane roadway.
The 7.5 second acceptance gap is for passanger vehicles turning left onto a four lane roadway.
An additional one-half second is used for each additional 12 foot lane that is crossed.
The values presented are for tangent passanger vehicles and roadways with little or no horizontal or veritcle curvature.

Figure 13: Sight Distance Looking North

4.4 EXISTING CRASH ANALYSIS

The historic crash data summary was obtained from DOTD Crash1 database between January 1, 2014 and December 31, 2016 within 150 feet of the intersection of US 61 (Airline Highway) at Manchac Park Lane. A total of 4 crashes were reported in the three-year period. Three of the four crashes were rear-end. The fourth crash involved a single vehicle running off the road.

4.5 SWEPT PATH ANALYSIS FOR DESIGN VEHICLES

To perform the swept path analysis for the design vehicles, AutoTURN Software was used. Based on observations of the service entrance at the zoo, two design vehicles were analyzed for supply deliveries – Single Unit Truck (SU 30) and passenger car with a trailer (PC with Trailer). As previously discussed, northbound vehicles exiting Site Drive 2 will first proceed south to Site Drive 1 and then make a U-Turn. Based on field observations, the design vehicle selected for visitors was a school bus. The AutoTURN analysis is graphically shown in **Figures 14 & 15**.

Figure 14: Swept Path Analysis for Site Drive 1

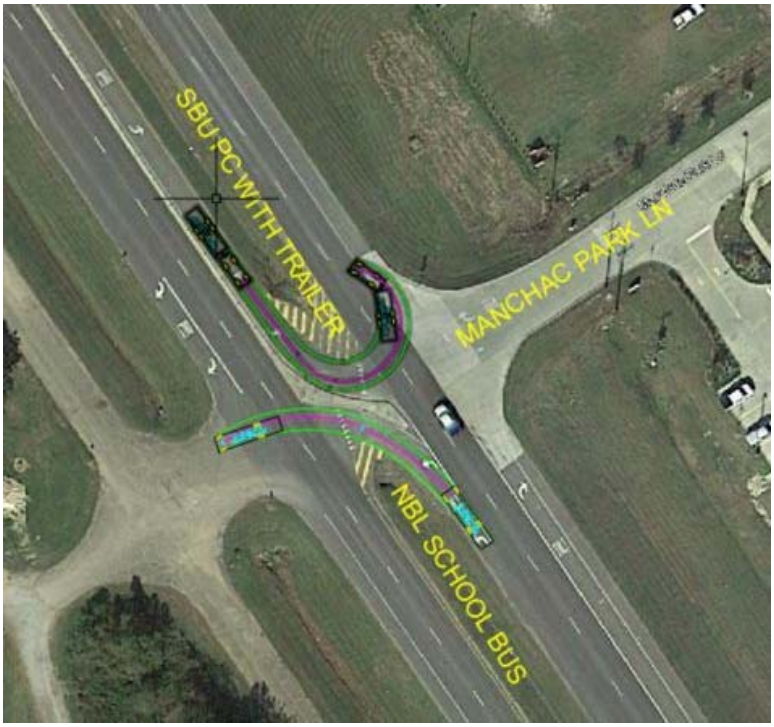
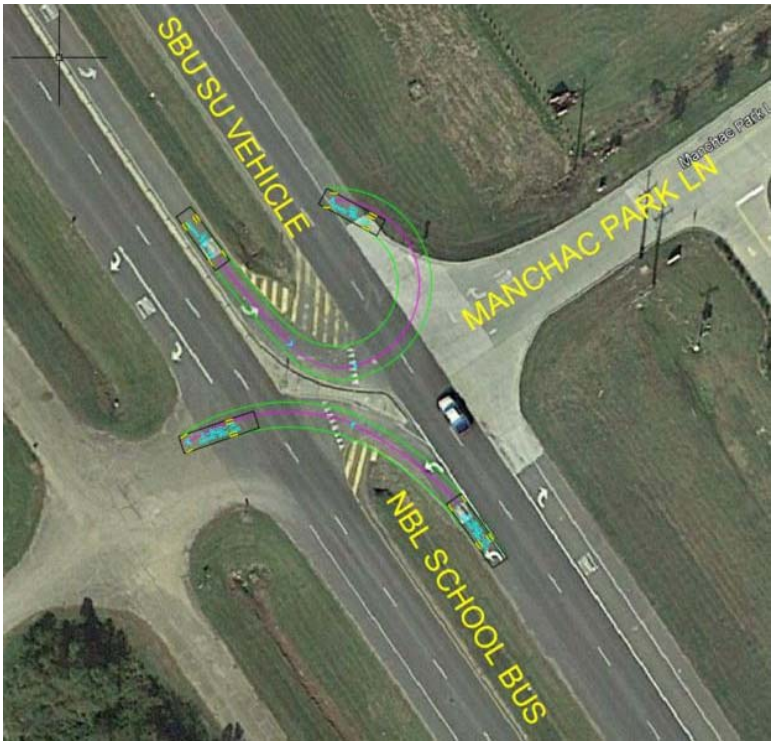


Figure 15: Swept Path Analysis for Site Drive 1



Northbound vehicles exiting Site Drive 1 will first proceed south to the U-Turn located at the site entrance to Manchac Lake Apartments. Based on field observations, the design vehicle selected for visitors was a school bus. The AutoTURN analysis is graphically shown in **Figure 16**.

Figure 16: Swept Path Analysis for U-Turn at Manchac Lake Apartments

5 FINDINGS

5.1 SITE DRIVE 1

As previously discussed, Site Drive 1 will service visitors to the zoo and will utilize the existing intersection that aligns with Manchac Park Lane. No alterations to how the intersections currently functions are requested. Therefore, the driveway will function as a right-in, right-out and left-in access connection. Visitors seeking to head north on US 61 (Airline Highway) will be required to make a right turn out of the site and head south to the U-Turn located at the Manchac Lake Apartments entrance. Based on a LOS analysis for the intersection of US 61 (Airline Highway) at Site Drive 1, the intersection will operate at a LOS D or better for all approaches.

For the northbound turn-lane into the visitor section of the zoo, the HCS analysis revealed the that the controlling storage requirement occurred during the weekend, AM peak hour. The 95% Queue Length was determined to be 1.5 vehicles. Assuming a vehicle length of 25 feet, 50 feet of storage in the left-turn lane is needed. Utilizing Google Earth, the existing northbound left-turn lane measures approximately 470 feet in length. A total left-turn lane length of 580 feet is needed to provide 50 feet of queue storage, 365 feet of deceleration and 165 feet of taper. Therefore, northbound left-turn lane will need to be extended approximately 110 feet.

The controlling storage requirement for the southbound left-turn movement at Site Drive 1 was determined to be the weekday, PM peak hour. The 95% Queue Length was determined to be 0.6 vehicles. Assuming a vehicle length of 25 feet, 25 feet of storage in the left-turn lane is needed. Utilizing Google Earth, the existing northbound left-turn lane measures approximately 470 feet in length. A total left-turn lane length of 555 feet is needed to provide 25 feet of queue storage, 365 feet of deceleration and 165 feet of taper. Therefore, northbound left-turn lane will need to be extended approximately 85 feet. Based on the swept path analysis is AutoTURN, the driveway apron located at Manchac Park Lane will need to be modified so that a SU 30 vehicle can make the U-Turn.

The southbound right-turn lane storage length measured 150 feet in length, which meets the minimum requirements for DOTD. No improvements to this movement are recommended.

5.2 SITE DRIVE 2

Site Drive 2 is a new driveway that will service employees and deliveries. The driveway will function as a right-in, right-out and left-in access connection. Employees seeking to head north on US 61 (Airline Highway) will be required to make a right turn out of the site to head south and make a U-turn at Site Drive 1 that is located at Manchac Park Lane. Based on a LOS analysis for the intersection of US 61 (Airline Highway) at Site Drive 2, the intersection will operate at a LOS D or better for all approaches.

The HCS analysis revealed the that the controlling storage requirement occurred during the weekend, AM peak hour. The 95% Queue Length was determined to be 0.2 vehicles. Assuming a vehicle length of 25 feet, a total length of 555 feet is needed to provide 25 feet of queue storage, 365 feet of deceleration and 165 feet of taper. A southbound right-turn lane storage length measured 150 feet in length is recommended for Site Drive 2.

5.3 U-TURN AT MANCHAC LAKE APARTMENTS

The U-Turn located at Manchac Lake Apartments will be utilized by visitors exiting Site Drive 1 who intend to travel north on US 61 (Airline Highway). Based on a LOS analysis this intersection will operate at a LOS D or better for all approaches.

The HCS analysis revealed the that the controlling storage requirement occurred during the weekday, PM peak hour. The 95% Queue Length was determined to be 1.2 vehicles. Assuming a vehicle length of 25 feet, 50 feet of storage in the left-turn lane is needed. Utilizing Google Earth, the existing southbound left-turn lane measures approximately 580 feet in length, which includes 50 feet of storage, 365 feet of deceleration and 165 feet of taper. Therefore, no improvements are needed for the southbound left movement.

5.4 GENERAL RECOMMENDATION

BREC seeks two access points (Site Drives 1 & 2) on US 61 (Airline Highway). All other existing driveways and median opening accessing the BREC property should be removed.

Appendix

Appendix A: Existing Traffic Data

Weekly Volumes

Unit ID: 16040566

Location: Airline Hwy (NB)

Week of 03/02/2018

Start Time	03/02 Fri	03/03 Sat	03/04 Sun	03/05 Mon	03/06 Tue	03/07 Wed	03/08 Thu	Average
	NB	NB	NB	NB	NB	NB	NB	NB
00:00	74	117	141	71	84	66	58	87
01:00	35	82	106	49	53	42	44	59
02:00	48	75	79	67	46	63	46	61
03:00	74	60	54	116	97	90	88	83
04:00	190	111	62	331	314	319	265	227
05:00	660	213	149	1020	951	965	786	678
06:00	1678	439	248	2116	2061	2178	1942	1523
07:00	1988	697	466	2507	2275	2626	2412	1853
08:00	1521	1045	905	2298	2272	2295	2216	1793
09:00	1327	1172	856	1685	1648	1570	1674	1419
10:00	1268	1228	1070	1724	1470	1407	1444	1373
11:00	1203	1366	1041	1565	1391	1432	1446	1349
12:00	1269	1499	1224	1677	1454	1611	1534	1467
13:00	1198	1245	1535	1773	1362	1421	1391	1418
14:00	1143	1256	1259	1448	1199	1300	1194	1257
15:00	1162	1213	1195	1422	1254	1233	1263	1249
16:00	1156	1153	1181	1490	1365	1332	1354	1290
17:00	1112	1143	1023	1434	1313	1270	1402	1242
18:00	1088	1109	1000	1195	1169	1190	1140	1127
19:00	767	1140	775	821	805	721	847	839
20:00	593	1115	649	519	540	498	561	639
21:00	452	763	385	347	425	354	347	439
22:00	351	527	199	217	206	189	230	274
23:00	213	291	147	125	100	109	127	159
Lane Total	20570	19059	15749	26017	23854	24281	23811	21905
Day Total	20570	19059	15749	26017	23854	24281	23811	21905
AM Peak	06:33	11:00	10:26	07:02	07:32	06:49	07:00	07:00
AM Count	2042	1364	1105	2546	2325	2675	2412	1853
PM Peak	12:06	12:04	13:12	12:51	12:15	12:25	12:09	12:00
PM Count	1279	1517	1579	1812	1483	1634	1554	1467

ADT: 21906

Weekly Volumes

Unit ID: 15121185

Location: Airline Hwy (SB)

Week of 03/02/2018

Start Time	03/02 Fri	03/03 Sat	03/04 Sun	03/05 Mon	03/06 Tue	03/07 Wed	03/08 Thu	Average
	SB	SB	SB	SB	SB	SB	SB	SB
00:00	85	169	174	74	62	60	81	101
01:00	65	88	120	52	38	35	33	62
02:00	62	83	112	31	28	40	41	57
03:00	65	70	51	47	45	67	60	58
04:00	114	102	63	104	141	109	101	105
05:00	253	118	79	284	273	291	289	227
06:00	540	254	110	556	499	576	604	448
07:00	833	409	213	788	722	829	805	657
08:00	850	663	302	821	745	742	829	707
09:00	914	741	444	880	834	840	855	787
10:00	1012	953	805	880	815	881	912	894
11:00	1303	1096	854	1072	1103	1142	1147	1102
12:00	1230	1111	1122	1116	1055	1173	1134	1134
13:00	1265	1078	1100	1064	1070	1183	1110	1124
14:00	1348	1049	872	1171	1123	1174	1160	1128
15:00	1610	966	920	1518	1498	1415	1476	1343
16:00	1674	965	820	1779	1769	1772	1751	1504
17:00	1585	933	848	1644	1706	1612	1650	1425
18:00	1121	847	841	1063	1299	1170	1203	1078
19:00	898	759	745	790	727	844	896	808
20:00	719	689	584	615	768	759	724	694
21:00	644	610	281	395	441	471	472	473
22:00	389	396	199	165	245	198	295	270
23:00	271	292	96	125	131	138	153	172
Lane Total	18850	14441	11755	17034	17137	17521	17781	16358
Day Total	18850	14441	11755	17034	17137	17521	17781	16358
AM Peak	10:57	11:00	10:21	10:58	11:00	10:59	10:59	11:00
AM Count	1305	1092	910	1089	1102	1145	1153	1102
PM Peak	15:19	12:25	12:26	16:08	16:07	16:17	15:55	16:00
PM Count	1725	1133	1234	1821	1810	1818	1800	1504

ADT: 16360

Weekly Volumes

Unit ID: 15121534

Location: Gibbens Road

Week of 02/24/2018

Start Time	02/24 Saturday		02/25 Sunday		02/26 Monday		02/27 Tuesday		02/28 Wednesday		03/01 Thursday		03/02 Friday		Daily Average	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0
02:00	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0
07:00	0	0	0	0	0	0	0	0	2	3	0	0	0	0	0	0
08:00	3	7	0	0	0	1	2	5	2	5	3	4	1	5	2	4
09:00	3	67	1	4	1	9	1	8	5	12	2	9	0	30	2	20
10:00	3	93	0	10	1	17	0	10	2	14	4	16	1	37	2	28
11:00	33	79	3	24	5	16	4	5	8	18	7	7	9	27	10	25
12:00	67	95	5	25	13	8	9	13	17	9	10	4	26	11	21	24
13:00	77	83	15	32	10	10	10	7	7	16	9	11	38	26	24	26
14:00	72	79	34	40	17	10	12	6	12	36	8	14	26	13	26	28
15:00	100	38	18	7	10	5	11	3	14	11	6	7	20	5	26	11
16:00	127	5	59	4	18	3	8	0	41	5	25	3	35	6	45	4
17:00	68	4	15	2	6	2	2	2	17	1	5	1	3	0	17	2
18:00	3	3	0	0	1	1	0	0	0	0	1	1	0	0	1	1
19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:00	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
21:00	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lane Total	557	554	150	148	82	83	62	61	128	130	81	78	160	160	176	173
Day Total		1111		298		165		123		258		159		320		349
AM Peak	10:58	10:13	10:59	10:57	10:31	10:23	11:00	09:39	10:59	09:44	10:51	09:26	10:58	09:27	11:00	10:00
AM Count	33	102	3	25	5	22	4	13	8	19	7	18	9	46	10	28
PM Peak	16:19	12:13	16:05	13:36	15:50	13:32	14:37	12:39	16:19	13:57	16:05	13:36	13:09	12:54	16:00	14:00
PM Count	164	98	64	43	20	14	16	14	51	38	27	17	41	26	45	28

Weekly Volumes

Unit ID: 15121534

Location: Gibbens Road

Week of 03/03/2018

Start Time	03/03 Saturday		03/04 Sunday		03/05 Monday		03/06 Tuesday		03/07 Wednesday		03/08 Thursday		03/09 Friday		Daily Average	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	1	0	0	0	1	0	1	0	1	0	1	0
02:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
07:00	0	0	0	0	0	0	1	1	2	2	0	0	0	0	0	0
08:00	1	8	0	9	0	6	1	5	1	5	1	3	1	3	1	6
09:00	5	123	3	46	3	42	0	6	3	38	1	21	1	37	2	45
10:00	16	210	2	83	1	8	2	6	4	16	2	20	6	34	5	54
11:00	28	184	18	111	12	18	3	8	29	10	2	11	7	33	14	54
12:00	100	169	56	112	30	14	6	11	8	19	19	14	36	21	36	51
13:00	153	164	79	119	26	14	11	11	14	6	21	19	22	19	47	50
14:00	209	112	129	76	12	19	13	10	11	23	15	12	32	29	60	40
15:00	183	42	118	33	17	7	11	3	18	15	14	4	29	15	56	17
16:00	205	11	137	4	20	2	19	4	40	3	24	3	40	4	69	4
17:00	112	3	52	1	11	0	1	1	9	1	12	2	22	3	31	2
18:00	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0
19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lane Total	1012	1026	595	594	133	130	70	68	142	140	112	109	197	198	322	323
Day Total		2038		1189		263		138		282		221		395		645
AM Peak	10:59	10:17	10:57	11:00	11:00	09:00	10:03	10:46	10:59	09:10	10:13	08:52	10:27	09:22	11:00	10:00
AM Count	28	227	18	111	12	42	3	11	29	41	3	23	8	47	14	54
PM Peak	14:24	12:29	16:10	12:45	12:16	13:59	15:58	13:18	16:02	14:04	16:12	13:26	16:04	12:34	16:00	12:00
PM Count	245	175	146	131	38	20	19	14	41	26	30	24	46	30	69	51

Weekly Volumes

Unit ID: 15121534

Location: Gibbens Road

Week of 03/10/2018

Start Time	03/10 Saturday		03/11 Sunday		03/12 Monday		03/13 Tuesday		03/14 Wednesday		03/15 Thursday		03/16 Friday		Daily Average	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
00:00	0	0	0	0	-	-	-	-	-	-	-	-	-	-	0	0
01:00	0	0	0	0	-	-	-	-	-	-	-	-	-	-	0	0
02:00	0	0	0	0	-	-	-	-	-	-	-	-	-	-	0	0
03:00	0	0	0	0	-	-	-	-	-	-	-	-	-	-	0	0
04:00	0	0	0	0	-	-	-	-	-	-	-	-	-	-	0	0
05:00	0	0	0	0	-	-	-	-	-	-	-	-	-	-	0	0
06:00	0	0	3	2	-	-	-	-	-	-	-	-	-	-	2	1
07:00	3	2	1	4	-	-	-	-	-	-	-	-	-	-	2	3
08:00	0	3	5	7	-	-	-	-	-	-	-	-	-	-	3	5
09:00	0	33	3	3	-	-	-	-	-	-	-	-	-	-	2	18
10:00	2	49	2	12	-	-	-	-	-	-	-	-	-	-	2	31
11:00	13	52	3	18	-	-	-	-	-	-	-	-	-	-	8	35
12:00	54	56	4	16	-	-	-	-	-	-	-	-	-	-	29	36
13:00	28	68	12	21	-	-	-	-	-	-	-	-	-	-	20	45
14:00	54	60	24	21	-	-	-	-	-	-	-	-	-	-	39	41
15:00	67	42	28	3	-	-	-	-	-	-	-	-	-	-	48	23
16:00	115	3	26	0	-	-	-	-	-	-	-	-	-	-	71	2
17:00	33	0	1	1	-	-	-	-	-	-	-	-	-	-	17	1
18:00	2	2	0	2	-	-	-	-	-	-	-	-	-	-	1	2
19:00	0	0	-	-	-	-	-	-	-	-	-	-	-	-	0	0
20:00	0	0	-	-	-	-	-	-	-	-	-	-	-	-	0	0
21:00	0	0	-	-	-	-	-	-	-	-	-	-	-	-	0	0
22:00	0	0	-	-	-	-	-	-	-	-	-	-	-	-	0	0
23:00	0	0	-	-	-	-	-	-	-	-	-	-	-	-	0	0
Lane Total	371	370	112	110	0	0	-	-	-	-	-	-	-	-	244	243
Day Total		741		222		0		-		-		-		-		487
AM Peak	10:53	09:37	08:27	10:43	-	-	-	-	-	-	-	-	-	-	11:00	11:00
AM Count	13	55	7	22	-	-	-	-	-	-	-	-	-	-	8	35
PM Peak	16:05	13:17	15:20	13:18	-	-	-	-	-	-	-	-	-	-	16:00	13:00
PM Count	121	81	51	29	-	-	-	-	-	-	-	-	-	-	71	45

ADT: 466

DATE COUNTED: 3/1/18

AM PEAK PERIOD

Time	Northbound												Westbound									Southbound									Eastbound									15 Min	Peak Hour	HV
	US 61 (Airline Highway)												Manchac Park Lane									US 61 (Airline Highway)									Site Drive											
	U-Turn			Left			Through			Right			Left			Through			Right			U-Turn			Left			Through			Right			Left			Through			Right					
	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem			
7:00 AM	1	0	1	0	0	0	511	0	511	3	0	3	0	0	0	0	0	0	1	0	1	0	0	0	9	0	9	183	0	183	0	0	0	0	0	0	0	0	0	0	0	0	699		12
7:15 AM	2	0	2	0	0	0	498	0	498	5	0	5	1	0	1	0	0	0	3	0	3	0	0	0	3	0	3	182	0	182	0	0	0	0	0	0	0	0	0	0	0	0	691		26
7:30 AM	0	0	0	0	0	0	482	0	482	2	0	2	0	0	0	0	0	0	4	0	4	0	0	0	5	0	5	213	0	213	1	0	1	0	0	0	0	0	0	0	0	0	702		21
7:45 AM	0	0	0	0	0	0	463	0	463	3	0	3	0	0	0	0	0	0	6	0	6	3	0	3	5	0	5	189	0	189	0	0	0	0	0	0	0	0	0	0	0	0	664	2756	25
8:00 AM	0	0	0	0	0	0	440	0	440	0	0	0	0	0	0	0	0	0	1	0	1	2	0	2	1	0	1	185	0	185	0	0	0	0	0	0	0	0	0	0	0	0	628	2685	29
8:15 AM	0	0	0	0	0	0	443	0	443	4	0	4	0	0	0	0	0	0	2	0	2	4	0	4	3	0	3	196	0	196	0	0	0	0	0	0	0	0	0	0	0	0	649	2643	23
8:30 AM	0	0	0	0	0	0	399	0	399	2	0	2	0	0	0	0	0	0	8	0	8	2	0	2	1	0	1	205	0	205	0	0	0	0	0	0	0	0	0	0	0	0	616	2557	20
8:45 AM	2	0	2	0	0	0	309	0	309	2	0	2	1	0	1	0	0	0	1	0	1	1	0	1	1	0	1	177	0	177	0	0	0	0	0	0	0	0	0	0	0	0	493	2386	24
9:00 AM	2	0	2	1	0	1	306	0	306	1	0	1	0	0	0	0	0	0	4	0	4	4	0	4	2	0	2	275	0	275	1	0	1	0	0	0	0	0	0	0	0	0	593	2351	32
9:15 AM	2	0	2	0	0	0	297	0	297	6	0	6	0	0	0	0	0	0	4	0	4	0	0	0	5	0	5	208	0	208	0	0	0	0	0	0	0	0	0	0	0	0	517	2219	27
9:30 AM	2	0	2	0	0	0	290	0	290	2	0	2	0	0	0	0	0	0	6	0	6	1	0	1	2	0	2	218	0	218	0	0	0	0	0	0	0	0	0	0	0	0	519	2122	26
9:45 AM	1	0	1	0	0	0	287	0	287	1	0	1	1	0	1	0	0	0	5	0	5	1	0	1	8	0	8	199	0	199	0	0	0	0	0	0	0	0	0	1	0	1	496	2125	22
AM Peak Hour	3	0	**3**	0	0	**0**	1954	0	**1954**	13	0	**13**	1	0	**1**	0	0	**0**	14	0	**14**	3	0	**3**	22	0	**22**	767	0	**767**	1	0	**1**	0	0	**0**	0	0	**0**	0	0	**0**		0.98	3.05%

PM PEAK PERIOD

Time	Northbound												Westbound									Southbound									Eastbound									15 Min	Peak Hour	HV
	US 61 (Airline Highway)												Manchac Park Lane									US 61 (Airline Highway)									Site Drive											
	U-Turn			Left			Through			Right			Left			Through			Right			U-Turn			Left			Through			Right			Left			Through			Right					
	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem			
4:15 PM	0	0	0	0	0	0	264	0	264	0	0	0	0	0	0	0	0	0	6	0	6	1	0	1	1	0	1	426	0	426	0	0	0	0	0	0	0	0	0	0	0	0	697		8
4:30 PM	2	0	2	1	0	1	257	0	257	1	0	1	1	0	1	0	0	0	6	0	6	0	0	0	2	0	2	501	0	501	0	0	0	0	0	0	0	0	0	0	0	0	768		13
4:45 PM	0	0	0	0	0	0	297	0	297	0	0	0	0	0	0	0	0	0	5	0	5	0	0	0	0	0	0	424	0	424	0	0	0	0	0	0	0	0	0	0	0	0	726		15
5:00 PM	4	0	4	1	0	1	306	0	306	0	0	0	0	0	0	0	0	0	6	0	6	1	0	1	0	0	0	480	0	480	0	0	0	0	0	0	0	0	0	1	0	1	798	2989	11
PM Peak Hour	6	0	**6**	2	0	**2**	1124	0	**1124**	1	0	**1**	1	0	**1**	0	0	**0**	23	0	**23**	2	0	**2**	3	0	**3**	1831	0	**1831**	0	0	**0**	0	0	**0**	0	0	**0**	1	0	**1**		0.94	1.57%

DATE COUNTED: 3/3/18

AM PEAK PERIOD

Time	Northbound												Westbound												Southbound												Eastbound									15 Min	Peak Hour	HV
	US 61 (Airline Highway)												Manchac Park Lane												US 61 (Airline Highway)												Site Drive											
	U-Turn			Left			Through			Right			Left			Through			Right			U-Turn			Left			Through			Right			Left			Through			Right					
	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem			
10:15 AM	1	0	1	1	0	1	326	0	326	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	253	0	253	5	0	5	0	0	0	0	0	0	9	0	9	594		14
10:30 AM	3	0	3	2	0	2	292	0	292	1	0	1	1	0	1	0	0	0	1	0	1	2	0	2	0	0	0	208	0	208	4	0	4	0	0	0	0	0	0	3	0	3	515		11
10:45 AM	5	0	5	1	0	1	310	0	310	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	241	0	241	3	0	3	0	0	0	0	0	0	6	0	6	567		16
11:00 AM	2	0	2	0	0	0	303	0	303	2	0	2	0	0	0	0	0	0	3	0	3	1	0	1	2	0	2	246	0	246	1	0	1	0	0	0	0	0	0	10	0	10	568	2244	19
AM Peak Hour	11	0	**11**	4	0	**4**	1231	0	**1231**	5	0	**5**	1	0	**1**	0	0	**0**	4	0	**4**	3	0	**3**	4	0	**4**	948	0	**948**	13	0	**13**	0	0	**0**	0	0	**0**	28	0	**28**		0.94	2.67%

PM PEAK PERIOD

Time	Northbound												Westbound												Southbound												Eastbound									15 Min	Peak Hour	HV
	US 61 (Airline Highway)												Manchac Park Lane												US 61 (Airline Highway)												Site Drive											
	U-Turn			Left			Through			Right			Left			Through			Right			U-Turn			Left			Through			Right			Left			Through			Right					
	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem			
4:00 PM	1	0	1	0	0	0	253	0	253	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	246	0	246	0	0	0	0	0	0	0	0	0	0	0	0	501		7
4:15 PM	1	0	1	0	0	0	210	0	210	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	238	0	238	0	0	0	0	0	0	0	0	0	2	0	2	452		8
4:30 PM	1	0	1	0	0	0	260	0	260	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	228	0	228	0	0	0	0	0	0	0	0	0	1	0	1	492		4
4:45 PM	2	0	2	0	0	0	269	0	269	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	228	0	228	0	0	0	1	0	1	0	0	0	0	0	0	501	1946	3
PM Peak Hour	5	0	**5**	0	0	**0**	992	0	**992**	2	0	**2**	0	0	**0**	0	0	**0**	1	0	**1**	2	0	**2**	0	0	**0**	940	0	**940**	0	0	**0**	1	0	**1**	0	0	**0**	3	0	**3**		0.97	1.13%

DATE COUNTED: 3/1/18

AM PEAK PERIOD																				
Time	Northbound						Westbound						Southbound						15 Min	Peak Hour
	US 61 (Airline Highway)						Apartments Driveway						US 61 (Airline Highway)							
	U-Turn			Right			Left			Right			U-Turn			Left				
	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem		
7:00 AM	1	0	1	7	0	7	0	0	0	3	0	3	0	0	0	0	0	0	11	
7:15 AM	0	0	0	2	0	2	0	0	0	2	0	2	0	0	0	0	0	0	4	
7:30 AM	1	0	1	1	0	1	0	0	0	1	0	1	0	0	0	1	0	1	4	
7:45 AM	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2	21
8:00 AM	0	0	0	5	0	5	2	0	2	2	0	2	0	0	0	1	0	1	10	20
8:15 AM	4	0	4	3	0	3	4	0	4	2	0	2	1	0	1	1	0	1	15	31
8:30 AM	3	0	3	2	0	2	0	0	0	1	0	1	0	0	0	0	0	0	6	33
8:45 AM	6	0	6	3	0	3	1	0	1	1	0	1	2	0	2	0	0	0	13	44
9:00 AM	1	0	1	2	0	2	2	0	2	3	0	3	0	0	0	1	0	1	9	43
9:15 AM	0	0	0	4	0	4	0	0	0	2	0	2	1	0	1	1	0	1	8	36
9:30 AM	3	0	3	2	0	2	0	0	0	1	0	1	5	0	5	3	0	3	14	44
9:45 AM	1	0	1	3	0	3	1	0	1	3	0	3	2	0	2	0	0	0	10	41
AM Peak Hour	3	0	**3**	10	0	**10**	0	0	**0**	7	0	**7**	0	0	**0**	1	0	**1**		1.31

PM PEAK PERIOD																				
Time	Northbound						Westbound						Southbound						15 Min	Peak Hour
	US 61 (Airline Highway)						Apartments Driveway						US 61 (Airline Highway)							
	U-Turn			Right			Left			Right			U-Turn			Left				
	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem		
4:15 PM	12	0	12	10	0	10	2	0	2	1	0	1	0	0	0	0	0	0	25	
4:30 PM	11	0	11	9	0	9	4	0	4	4	0	4	2	0	2	2	0	2	32	
4:45 PM	8	0	8	4	0	4	1	0	1	3	0	3	3	0	3	0	0	0	19	
5:00 PM	4	0	4	4	0	4	4	0	4	3	0	3	1	0	1	3	0	3	19	95
PM Peak Hour	35	0	**35**	27	0	**27**	11	0	**11**	11	0	**11**	6	0	**6**	5	0	**5**		0.74

DATE COUNTED: 3/3/18

AM PEAK PERIOD																				
Time	Northbound						Westbound						Southbound						15 Min	Peak Hour
	US 61 (Airline Highway)						Apartments Driveway						US 61 (Airline Highway)							
	U-Turn			Right			Left			Right			U-Turn			Left				
	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem		
10:15 AM	13	0	13	3	0	3	3	0	3	0	0	0	5	0	5	3	0	3	27	
10:30 AM	5	0	5	2	0	2	3	0	3	1	0	1	1	0	1	1	0	1	13	
10:45 AM	3	0	3	1	0	1	1	0	1	2	0	2	4	0	4	2	0	2	13	
11:00 AM	6	0	6	2	0	2	2	0	2	2	0	2	3	0	3	2	0	2	17	70
AM Peak Hour	27	0	**27**	8	0	**8**	9	0	**9**	5	0	**5**	13	0	**13**	8	0	**8**		0.65

PM PEAK PERIOD																				
Time	Northbound						Westbound						Southbound						15 Min	Peak Hour
	US 61 (Airline Highway)						Apartments Driveway						US 61 (Airline Highway)							
	U-Turn			Right			Left			Right			U-Turn			Left				
	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem	Dep	Q	Dem		
4:00 PM	4	0	4	4	0	4	3	0	3	1	0	1	0	0	0	0	0	0	12	
4:15 PM	3	0	3	3	0	3	2	0	2	2	0	2	1	0	1	1	0	1	12	
4:30 PM	6	0	6	1	0	1	2	0	2	3	0	3	0	0	0	0	0	0	12	
4:45 PM	2	0	2	2	0	2	0	0	0	2	0	2	1	0	1	1	0	1	8	44
PM Peak Hour	15	0	**15**	10	0	**10**	7	0	**7**	8	0	**8**	2	0	**2**	2	0	**2**		0.92

DATE COUNTED: 3/14/18

AM PEAK PERIOD								
Time	Entering Trips Through			Exiting Trips Through			15 Min	Peak Hour
	Dep	Q	Dem	Dep	Q	Dem		
7:00 AM	3	0	3	1	0	1	4	
7:15 AM	3	0	3	2	0	2	5	
7:30 AM	2	0	2	0	0	0	2	
7:45 AM	14	0	14	1	0	1	15	26
8:00 AM	4	0	4	0	0	0	4	26
8:15 AM	4	0	4	1	0	1	5	26
8:30 AM	3	0	3	2	0	2	5	29
8:45 AM	3	0	3	2	0	2	5	19
9:00 AM	0	0	0	1	0	1	1	16
9:15 AM	3	0	3	3	0	3	6	17
9:30 AM	5	0	5	2	0	2	7	19
9:45 AM	1	0	1	2	0	2	3	17
AM Peak Hour	22	0	**22**	4	0	**4**		

PM PEAK PERIOD								
Time	Entering Trips Through			Exiting Trips Through			15 Min	Peak Hour
	Dep	Q	Dem	Dep	Q	Dem		
4:00 PM	0	0	0	6	0	6	6	
4:15 PM	1	0	1	4	0	4	5	
4:30 PM	0	0	0	3	0	3	3	
4:45 PM	0	0	0	11	0	11	11	25
5:00 PM	0	0	0	13	0	13	13	32
5:15 PM	0	0	0	6	0	6	6	33
PM Peak Hour	1	0	**1**	31	0	**31**		

Appendix B: HCS 2010 Analysis Outputs

HCS 2010 Two-Way Stop Control Summary Report

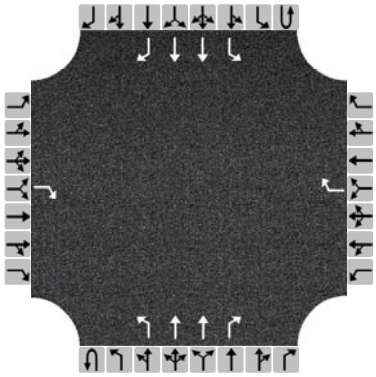
General Information

Analyst	LLL
Agency/Co.	Vectura
Date Performed	3/15/2018
Analysis Year	2018
Time Analyzed	AM Peak Weekday Existing
Intersection Orientation	North-South
Project Description	Proposed Zoo

Site Information

Intersection	BREC Entrance at US 61
Jurisdiction	District 61
East/West Street	BREC Entrance
North/South Street	US 61 (Airline Highway)
Peak Hour Factor	0.98
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	1	0	1	2	1	0	1	2	1
Configuration				R				R		L	T	R		L	T	R
Volume (veh/h)				0				14	3	0	1954	13	3	22	767	1
Percent Heavy Vehicles				3				3	3	3			3	3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)								14		3				25		
Capacity				604				241		454				204		
v/c Ratio								0.06		0.01				0.12		
95% Queue Length								0.2		0.0				0.4		
Control Delay (s/veh)				11.0				20.9		13.0				25.1		
Level of Service (LOS)				B				C		B				D		
Approach Delay (s/veh)					20.9				0.0				0.8			
Approach LOS					C											

HCS 2010 Two-Way Stop Control Summary Report

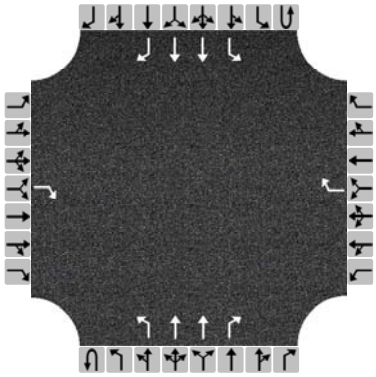
General Information

Analyst	LLL
Agency/Co.	Vectura
Date Performed	3/15/2018
Analysis Year	2023
Time Analyzed	AM Peak Weekday No Build
Intersection Orientation	North-South
Project Description	Proposed Zoo

Site Information

Intersection	BREC Entrance at US 61
Jurisdiction	District 61
East/West Street	BREC Entrance
North/South Street	US 61 (Airline Highway)
Peak Hour Factor	0.98
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	1	0	1	2	1	0	1	2	1
Configuration				R				R		L	T	R		L	T	R
Volume (veh/h)				0				15	3	0	2173	14	3	24	823	1
Percent Heavy Vehicles				3				3	3	3			3	3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)								15		3				27		
Capacity				579				203		417				161		
v/c Ratio								0.07		0.01				0.17		
95% Queue Length								0.2		0.0				0.6		
Control Delay (s/veh)				11.2				24.1		13.7				31.8		
Level of Service (LOS)				B				C		B				D		
Approach Delay (s/veh)					24.1				0.0				1.0			
Approach LOS					C											

HCS 2010 Two-Way Stop Control Summary Report

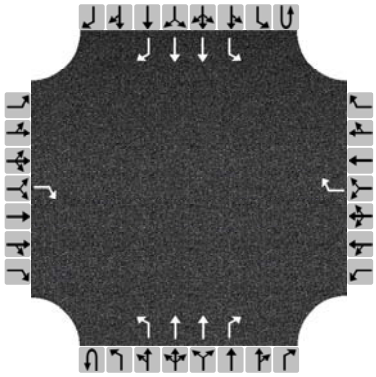
General Information

Analyst	LLL
Agency/Co.	Vectura
Date Performed	3/15/2018
Analysis Year	2023
Time Analyzed	AM Peak Weekday Build
Intersection Orientation	North-South
Project Description	Proposed Zoo

Site Information

Intersection	BREC Entrance at US 61
Jurisdiction	District 61
East/West Street	BREC Entrance
North/South Street	US 61 (Airline Highway)
Peak Hour Factor	0.98
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	1	0	1	2	1	0	1	2	1
Configuration				R				R		L	T	R		L	T	R
Volume (veh/h)				0				15	3	0	2208	14	5	24	825	0
Percent Heavy Vehicles				3				3	3	3			3	3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)								15		3				29		
Capacity				578				197		416				133		
v/c Ratio								0.08		0.01				0.22		
95% Queue Length								0.2		0.0				0.8		
Control Delay (s/veh)				11.2				24.7		13.7				39.5		
Level of Service (LOS)				B				C		B				E		
Approach Delay (s/veh)					24.7				0.0				1.3			
Approach LOS					C											

HCS 2010 Two-Way Stop Control Summary Report

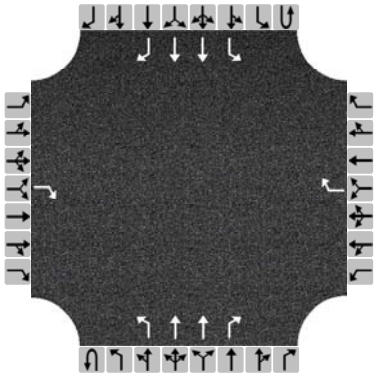
General Information

Analyst	LLL
Agency/Co.	Vectura
Date Performed	3/15/2018
Analysis Year	2018
Time Analyzed	PM Peak Weekday Existing
Intersection Orientation	North-South
Project Description	Proposed Zoo

Site Information

Intersection	BREC Entrance at US 61
Jurisdiction	District 61
East/West Street	BREC Entrance
North/South Street	US 61 (Airline Highway)
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	1	0	1	2	1	0	1	2	1
Configuration				R				R		L	T	R		L	T	R
Volume (veh/h)				1				23	6	2	1124	1	2	3	1831	0
Percent Heavy Vehicles				3				3	3	3			3	3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)				1				24		8				5		
Capacity				250				443		97				362		
v/c Ratio				0.00				0.05		0.08				0.01		
95% Queue Length				0.0				0.2		0.3				0.0		
Control Delay (s/veh)				19.5				13.6		45.6				15.1		
Level of Service (LOS)				C				B		E				C		
Approach Delay (s/veh)	19.5				13.6				0.3				0.0			
Approach LOS	C				B											

HCS 2010 Two-Way Stop Control Summary Report

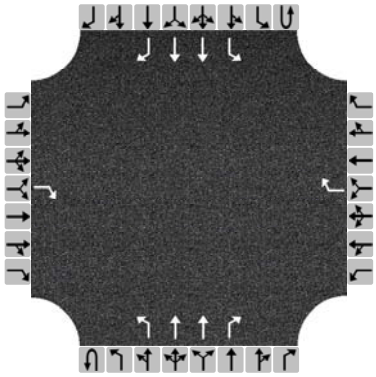
General Information

Analyst	LLL
Agency/Co.	Vectura
Date Performed	3/15/2018
Analysis Year	2023
Time Analyzed	PM Peak Weekday No Build
Intersection Orientation	North-South
Project Description	Proposed Zoo

Site Information

Intersection	BREC Entrance at US 61
Jurisdiction	District 61
East/West Street	BREC Entrance
North/South Street	US 61 (Airline Highway)
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	1	0	1	2	1	0	1	2	1
Configuration				R				R		L	T	R		L	T	R
Volume (veh/h)				1				25	6	2	1240	1	2	3	1966	0
Percent Heavy Vehicles				3				3	3	3			3	3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)				1				27		8				5		
Capacity				223				403		78				307		
v/c Ratio				0.00				0.07		0.10				0.02		
95% Queue Length				0.0				0.2		0.3				0.0		
Control Delay (s/veh)				21.2				14.6		56.2				16.9		
Level of Service (LOS)				C				B		F				C		
Approach Delay (s/veh)	21.2				14.6				0.3				0.0			
Approach LOS	C				B											

HCS 2010 Two-Way Stop Control Summary Report

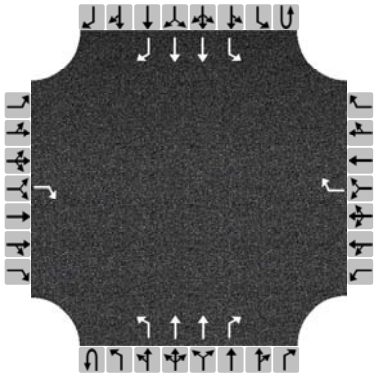
General Information

Analyst	LLL
Agency/Co.	Vectura
Date Performed	3/15/2018
Analysis Year	2023
Time Analyzed	PM Peak Weekday Build
Intersection Orientation	North-South
Project Description	Proposed Zoo

Site Information

Intersection	BREC Entrance at US 61
Jurisdiction	District 61
East/West Street	BREC Entrance
North/South Street	US 61 (Airline Highway)
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	1	0	1	2	1	0	1	2	1
Configuration				R				R		L	T	R		L	T	R
Volume (veh/h)				48				25	6	2	1264	1	29	3	2011	3
Percent Heavy Vehicles				3				3	3	3			3	3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)				51				27		8				34		
Capacity				215				396		57				194		
v/c Ratio				0.24				0.07		0.14				0.17		
95% Queue Length				0.9				0.2		0.5				0.6		
Control Delay (s/veh)				26.8				14.8		78.5				27.4		
Level of Service (LOS)				D				B		F				D		
Approach Delay (s/veh)	26.8				14.8				0.5				0.4			
Approach LOS	D				B											

HCS 2010 Two-Way Stop Control Summary Report

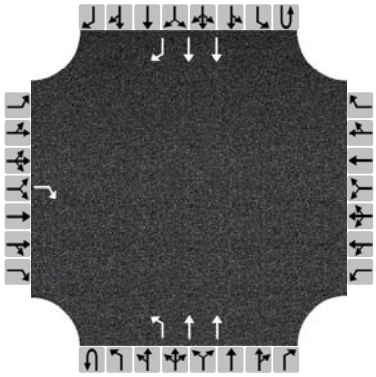
General Information

Analyst	LLL
Agency/Co.	Vectura
Date Performed	3/15/2018
Analysis Year	2023
Time Analyzed	AM Peak Weekday Build
Intersection Orientation	North-South
Project Description	Proposed Zoo

Site Information

Intersection	BREC Entrance at US 61
Jurisdiction	District 61
East/West Street	Site Drive 2
North/South Street	US 61 (Airline Highway)
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	0	0	1	2	0	0	0	2	1
Configuration				R						L	T				T	R
Volume (veh/h)				4						35	2193				851	14
Percent Heavy Vehicles				3						3						
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)				4						37						
Capacity				552						732						
v/c Ratio				0.01						0.05						
95% Queue Length				0.0						0.2						
Control Delay (s/veh)				11.6						10.2						
Level of Service (LOS)				B						B						
Approach Delay (s/veh)	11.6								0.2							
Approach LOS	B															

HCS 2010 Two-Way Stop Control Summary Report

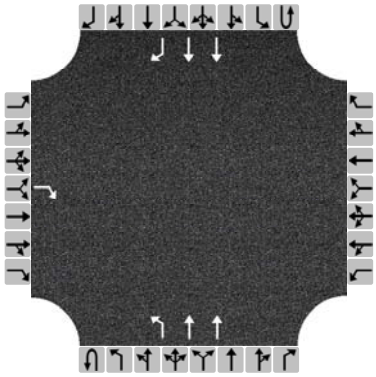
General Information

Analyst	LLL
Agency/Co.	Vectura
Date Performed	3/15/2018
Analysis Year	2023
Time Analyzed	PM Peak Weekday Build
Intersection Orientation	North-South
Project Description	Proposed Zoo

Site Information

Intersection	BREC Entrance at US 61
Jurisdiction	District 61
East/West Street	Site Drive 2
North/South Street	US 61 (Airline Highway)
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	0	0	1	2	0	0	0	2	1
Configuration				R						L	T				T	R
Volume (veh/h)				72						0	1318				1974	1
Percent Heavy Vehicles				3						3						
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)				77												
Capacity				222						255						
v/c Ratio				0.35												
95% Queue Length				1.5												
Control Delay (s/veh)				29.6						19.1						
Level of Service (LOS)				D						C						
Approach Delay (s/veh)	29.6															
Approach LOS	D															

HCS 2010 Two-Way Stop Control Summary Report

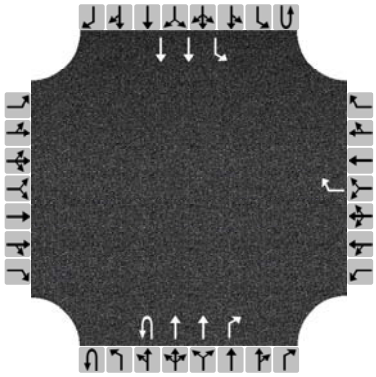
General Information

Analyst	LLL
Agency/Co.	Vectura
Date Performed	3/15/2018
Analysis Year	2018
Time Analyzed	AM Peak Weekday Existing
Intersection Orientation	North-South
Project Description	Proposed Zoo

Site Information

Intersection	U-Turn at US 61
Jurisdiction	District 61
East/West Street	Manchac Lake Apartments
North/South Street	US 61 (Airline Highway)
Peak Hour Factor	0.98
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	1	1	0	2	1	0	1	2	0
Configuration								R	U		T	R		L	T	
Volume (veh/h)								7	3		1963	10		0	770	
Percent Heavy Vehicles								3	3					3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)								7	3							
Capacity								239	452					276		
v/c Ratio								0.03	0.01							
95% Queue Length								0.1	0.0							
Control Delay (s/veh)								20.5	13.0					18.0		
Level of Service (LOS)								C	B					C		
Approach Delay (s/veh)					20.5				0.0							
Approach LOS					C											

HCS 2010 Two-Way Stop Control Summary Report

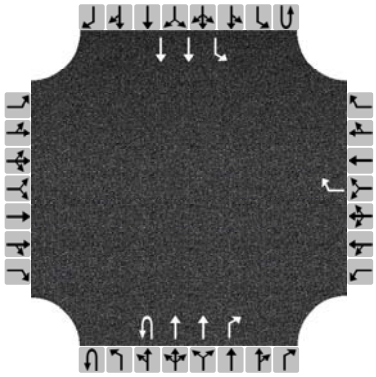
General Information

Analyst	LLL
Agency/Co.	Vectura
Date Performed	3/15/2018
Analysis Year	2023
Time Analyzed	AM Peak Weekend No Build
Intersection Orientation	North-South
Project Description	Proposed Zoo

Site Information

Intersection	U-Turn at US 61
Jurisdiction	District 61
East/West Street	Manchac Lake Apartments
North/South Street	US 61 (Airline Highway)
Peak Hour Factor	0.98
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	1	1	0	2	1	0	1	2	0
Configuration								R	U		T	R		L	T	
Volume (veh/h)								83	3		2017	5		20	806	
Percent Heavy Vehicles								3	3					3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)								85	3					20		
Capacity								229	429					264		
v/c Ratio								0.37	0.01					0.08		
95% Queue Length								1.6	0.0					0.2		
Control Delay (s/veh)								29.7	13.5					19.8		
Level of Service (LOS)								D	B					C		
Approach Delay (s/veh)					29.7				0.0				0.5			
Approach LOS					D											

HCS 2010 Two-Way Stop Control Summary Report

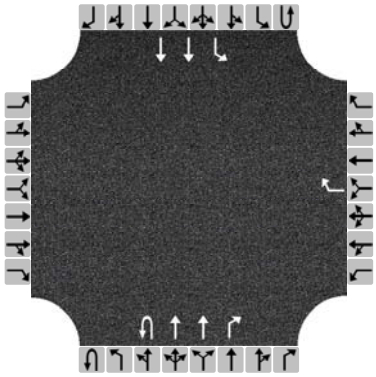
General Information

Analyst	LLL
Agency/Co.	Vectura
Date Performed	3/15/2018
Analysis Year	2023
Time Analyzed	AM Peak Build
Intersection Orientation	North-South
Project Description	Proposed Zoo

Site Information

Intersection	U-Turn at US 61
Jurisdiction	District 61
East/West Street	Manchac Lake Apartments
North/South Street	US 61 (Airline Highway)
Peak Hour Factor	0.98
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	1	1	0	2	1	0	1	2	0
Configuration								R	U		T	R		L	T	
Volume (veh/h)								83	3		2142	5		20	808	
Percent Heavy Vehicles								3	3					3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)								85	3					20		
Capacity								208	427					235		
v/c Ratio								0.41	0.01					0.09		
95% Queue Length								1.9	0.0					0.3		
Control Delay (s/veh)								33.8	13.5					21.8		
Level of Service (LOS)								D	B					C		
Approach Delay (s/veh)					33.8				0.0				0.5			
Approach LOS					D											

HCS 2010 Two-Way Stop Control Summary Report

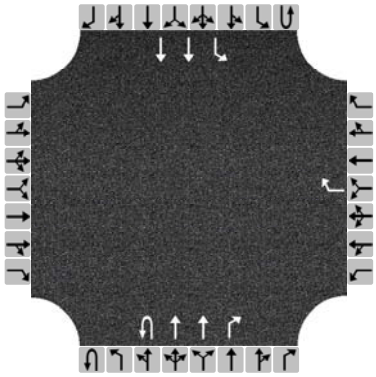
General Information

Analyst	LLL
Agency/Co.	Vectura
Date Performed	3/15/2018
Analysis Year	2018
Time Analyzed	PM Peak Weekday Existing
Intersection Orientation	North-South
Project Description	Proposed Zoo

Site Information

Intersection	U-Turn at US 61
Jurisdiction	District 61
East/West Street	Manchac Lake Apartments
North/South Street	US 61 (Airline Highway)
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	1	1	0	2	1	0	1	2	0
Configuration								R	U		T	R		L	T	
Volume (veh/h)								11	35		1116	27	6	5	1827	
Percent Heavy Vehicles								3	3				3	3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)								12	37					11		
Capacity								446	80					327		
v/c Ratio								0.03	0.46					0.03		
95% Queue Length								0.1	1.9					0.1		
Control Delay (s/veh)								13.3	84.3					16.4		
Level of Service (LOS)								B	F					C		
Approach Delay (s/veh)					13.3				2.5				0.1			
Approach LOS					B											

HCS 2010 Two-Way Stop Control Summary Report

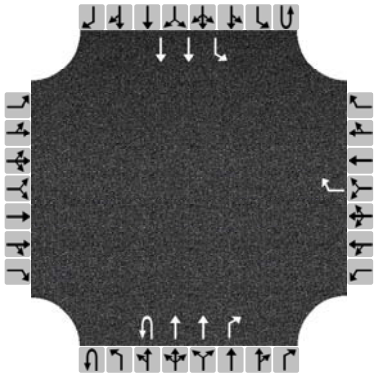
General Information

Analyst	LLL
Agency/Co.	Vectura
Date Performed	3/15/2018
Analysis Year	2023
Time Analyzed	PM Peak No Build Weekday
Intersection Orientation	North-South
Project Description	Proposed Zoo

Site Information

Intersection	U-Turn at US 61
Jurisdiction	District 61
East/West Street	Manchac Lake Apartments
North/South Street	US 61 (Airline Highway)
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	1	1	0	2	1	0	1	2	0
Configuration								R	U		T	R		L	T	
Volume (veh/h)								44	36		1198	35	6	65	1902	
Percent Heavy Vehicles								3	3				3	3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)								47	38					75		
Capacity								418	71					457		
v/c Ratio								0.11	0.54					0.16		
95% Queue Length								0.4	2.2					0.6		
Control Delay (s/veh)								14.7	103.9					14.4		
Level of Service (LOS)								B	F					B		
Approach Delay (s/veh)					14.7				2.9				0.5			
Approach LOS					B											

HCS 2010 Two-Way Stop Control Summary Report

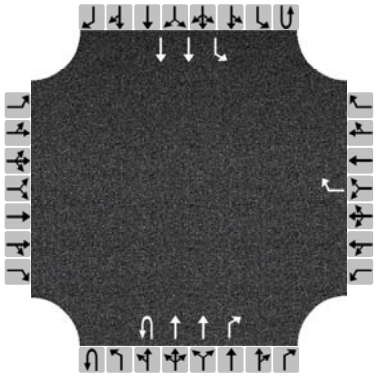
General Information

Analyst	LLL
Agency/Co.	Vectura
Date Performed	3/15/2018
Analysis Year	2023
Time Analyzed	PM Peak Build Weekday
Intersection Orientation	North-South
Project Description	Proposed Zoo

Site Information

Intersection	U-Turn at US 61
Jurisdiction	District 61
East/West Street	Manchac Lake Apartments
North/South Street	US 61 (Airline Highway)
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	1	1	0	2	1	0	1	2	0
Configuration								R	U		T	R		L	T	
Volume (veh/h)								44	36		1200	35	30	65	1971	
Percent Heavy Vehicles								3	3				3	3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)								47	38					101		
Capacity								417	63					338		
v/c Ratio								0.11	0.60					0.30		
95% Queue Length								0.4	2.5					1.2		
Control Delay (s/veh)								14.7	125.5					20.1		
Level of Service (LOS)								B	F					C		
Approach Delay (s/veh)					14.7				3.5				0.9			
Approach LOS					B											

HCS 2010 Two-Way Stop Control Summary Report

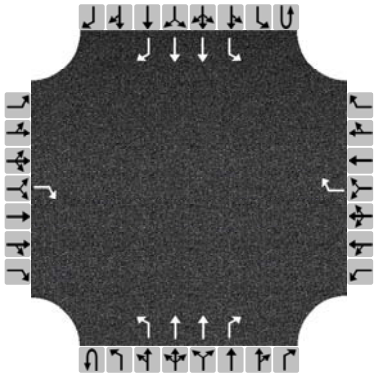
General Information

Analyst	LLL
Agency/Co.	Vectura
Date Performed	3/15/2018
Analysis Year	2018
Time Analyzed	AM Peak Weekend Existing
Intersection Orientation	North-South
Project Description	Proposed Zoo

Site Information

Intersection	BREC Entrance at US 61
Jurisdiction	District 61
East/West Street	BREC Entrance (Drive 1)
North/South Street	US 61 (Airline Highway)
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	1	0	1	2	1	0	1	2	1
Configuration				R				R		L	T	R		L	T	R
Volume (veh/h)				28				4	11	4	1231	5	3	4	948	13
Percent Heavy Vehicles				3				3	3	3			3	3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)				29				4		16				7		
Capacity				514				411		360				319		
v/c Ratio				0.06				0.01		0.04				0.02		
95% Queue Length				0.2				0.0		0.1				0.1		
Control Delay (s/veh)				12.4				13.9		15.5				16.5		
Level of Service (LOS)				B				B		C				C		
Approach Delay (s/veh)	12.4				13.9				0.2				0.1			
Approach LOS	B				B											

HCS 2010 Two-Way Stop Control Summary Report

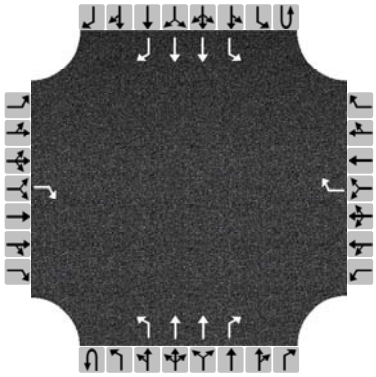
General Information

Analyst	LLL
Agency/Co.	Vectura
Date Performed	3/15/2018
Analysis Year	2023
Time Analyzed	AM Peak Weekend No Build
Intersection Orientation	North-South
Project Description	Proposed Zoo

Site Information

Intersection	BREC Entrance at US 61
Jurisdiction	District 61
East/West Street	BREC Entrance
North/South Street	US 61 (Airline Highway)
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	1	0	1	2	1	0	1	2	1
Configuration				R				R		L	T	R		L	T	R
Volume (veh/h)				30				4	12	4	1322	5	3	4	1018	14
Percent Heavy Vehicles				3				3	3	3			3	3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)				32				4		17				7		
Capacity				487				382		319				282		
v/c Ratio				0.07				0.01		0.05				0.02		
95% Queue Length				0.2				0.0		0.2				0.1		
Control Delay (s/veh)				12.9				14.5		16.9				18.1		
Level of Service (LOS)				B				B		C				C		
Approach Delay (s/veh)	12.9				14.5				0.2				0.1			
Approach LOS	B				B											

HCS 2010 Two-Way Stop Control Summary Report

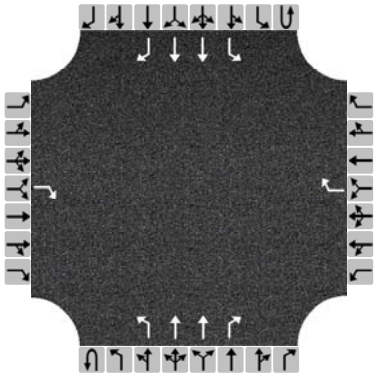
General Information

Analyst	LLL
Agency/Co.	Vectura
Date Performed	3/15/2018
Analysis Year	2023
Time Analyzed	AM Peak Weekend Build
Intersection Orientation	North-South
Project Description	Proposed Zoo

Site Information

Intersection	BREC Entrance at US 61
Jurisdiction	District 61
East/West Street	BREC Entrance (Drive 1)
North/South Street	US 61 (Airline Highway)
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	1	0	1	2	1	0	1	2	1
Configuration				R				R		L	T	R		L	T	R
Volume (veh/h)				24				4	12	157	1334	5	3	4	1018	158
Percent Heavy Vehicles				3				3	3	3			3	3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)				25				4		178				7		
Capacity				487				378		516				277		
v/c Ratio				0.05				0.01		0.34				0.03		
95% Queue Length				0.2				0.0		1.5				0.1		
Control Delay (s/veh)				12.8				14.6		15.6				18.3		
Level of Service (LOS)				B				B		C				C		
Approach Delay (s/veh)	12.8				14.6				1.7				0.1			
Approach LOS	B				B											

HCS 2010 Two-Way Stop Control Summary Report

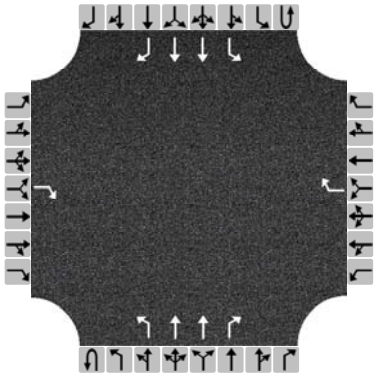
General Information

Analyst	LLL
Agency/Co.	Vectura
Date Performed	3/15/2018
Analysis Year	2018
Time Analyzed	PM Peak Weekend Existing
Intersection Orientation	North-South
Project Description	Proposed Zoo

Site Information

Intersection	BREC Entrance at US 61
Jurisdiction	District 61
East/West Street	BREC Entrance (Drive 1)
North/South Street	US 61 (Airline Highway)
Peak Hour Factor	0.97
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	1	0	1	2	1	0	1	2	1
Configuration				R				R		L	T	R		L	T	R
Volume (veh/h)				3				1	5	0	992	2	2	0	940	0
Percent Heavy Vehicles				3				3	3	3			3	3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)				3				1		5				2		
Capacity				526				504		343				318		
v/c Ratio				0.01				0.00		0.01				0.01		
95% Queue Length				0.0				0.0		0.0				0.0		
Control Delay (s/veh)				11.9				12.2		15.7				16.4		
Level of Service (LOS)				B				B		C				C		
Approach Delay (s/veh)	11.9				12.2				0.1				0.0			
Approach LOS	B				B											

HCS 2010 Two-Way Stop Control Summary Report

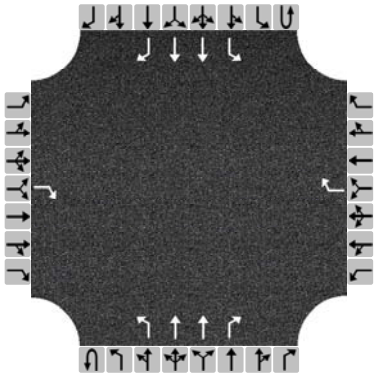
General Information

Analyst	LLL
Agency/Co.	Vectura
Date Performed	3/15/2018
Analysis Year	2023
Time Analyzed	PM Peak Weekend No Build
Intersection Orientation	North-South
Project Description	Proposed Zoo

Site Information

Intersection	BREC Entrance at US 61
Jurisdiction	District 61
East/West Street	BREC Entrance (Drive 1)
North/South Street	US 61 (Airline Highway)
Peak Hour Factor	0.97
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	1	0	1	2	1	0	1	2	1
Configuration				R				R		L	T	R		L	T	R
Volume (veh/h)				3				1	5	0	1065	2	2	0	1009	0
Percent Heavy Vehicles				3				3	3	3			3	3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)				3				1		5				2		
Capacity				498				477		309				284		
v/c Ratio				0.01				0.00		0.02				0.01		
95% Queue Length				0.0				0.0		0.0				0.0		
Control Delay (s/veh)				12.3				12.6		16.9				17.8		
Level of Service (LOS)				B				B		C				C		
Approach Delay (s/veh)	12.3				12.6				0.1				0.0			
Approach LOS	B				B											

HCS 2010 Two-Way Stop Control Summary Report

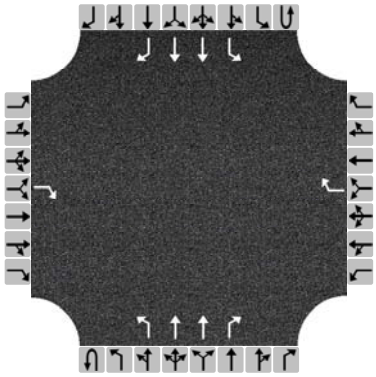
General Information

Analyst	LLL
Agency/Co.	Vectura
Date Performed	3/15/2018
Analysis Year	2023
Time Analyzed	PM Peak Weekend Build
Intersection Orientation	North-South
Project Description	Proposed Zoo

Site Information

Intersection	BREC Entrance at US 61
Jurisdiction	District 61
East/West Street	BREC Entrance (Site Drive
North/South Street	US 61 (Airline Highway)
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	1	0	1	2	1	0	1	2	1
Configuration				R				R		L	T	R		L	T	R
Volume (veh/h)				308				1	5	8	1219	2	29	0	1054	9
Percent Heavy Vehicles				3				3	3	3			3	3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)				324				1		13				31		
Capacity				473				414		187				216		
v/c Ratio				0.68				0.00		0.07				0.14		
95% Queue Length				5.1				0.0		0.2				0.5		
Control Delay (s/veh)				27.5				13.7		25.7				24.5		
Level of Service (LOS)				D				B		D				C		
Approach Delay (s/veh)	27.5				13.7				0.3				0.7			
Approach LOS	D				B											

HCS 2010 Two-Way Stop Control Summary Report

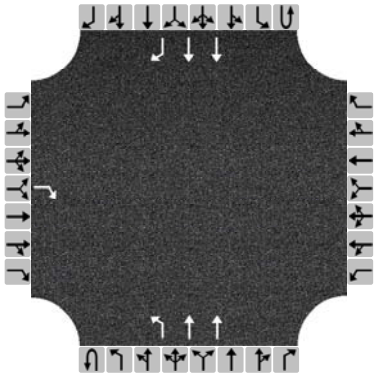
General Information

Analyst	LLL
Agency/Co.	Vectura
Date Performed	3/15/2018
Analysis Year	2023
Time Analyzed	AM Peak Weekend Build
Intersection Orientation	North-South
Project Description	Proposed Zoo

Site Information

Intersection	BREC Entrance at US 61
Jurisdiction	District 61
East/West Street	Site Drive 2
North/South Street	US 61 (Airline Highway)
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	0	0	1	2	0	0	0	2	1
Configuration				R						L	T				T	R
Volume (veh/h)				0						0	1341				1183	0
Percent Heavy Vehicles				3						3						
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)																
Capacity				427						550						
v/c Ratio																
95% Queue Length																
Control Delay (s/veh)				13.4						11.6						
Level of Service (LOS)				B						B						
Approach Delay (s/veh)																
Approach LOS																

HCS 2010 Two-Way Stop Control Summary Report

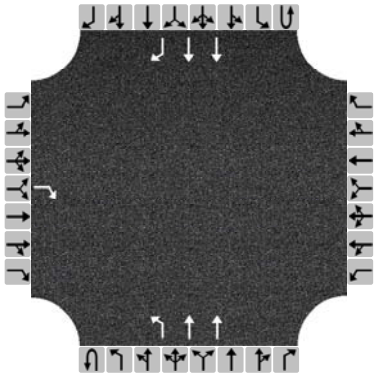
General Information

Analyst	LLL
Agency/Co.	Vectura
Date Performed	3/15/2018
Analysis Year	2023
Time Analyzed	PM Peak Weekend Build
Intersection Orientation	North-South
Project Description	Proposed Zoo

Site Information

Intersection	BREC Entrance at US 61
Jurisdiction	District 61
East/West Street	Site Drive 2
North/South Street	US 61 (Airline Highway)
Peak Hour Factor	0.97
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	0	0	1	2	0	0	0	2	1
Configuration				R						L	T				T	R
Volume (veh/h)				72						0	1341				1020	1
Percent Heavy Vehicles				3						3						
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

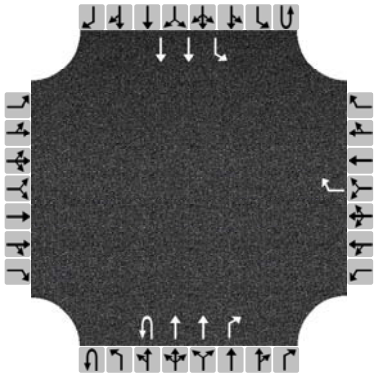
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)				74												
Capacity				494						651						
v/c Ratio				0.15												
95% Queue Length				0.5												
Control Delay (s/veh)				13.6						10.5						
Level of Service (LOS)				B						B						
Approach Delay (s/veh)	13.6															
Approach LOS	B															

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	LLL	Intersection	U-Turn at US 61
Agency/Co.	Vectura	Jurisdiction	District 61
Date Performed	3/15/2018	East/West Street	Manchac Lake Apartments
Analysis Year	2018	North/South Street	US 61 (Airline Highway)
Time Analyzed	AM Peak Weekend Existing	Peak Hour Factor	0.95
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Proposed Zoo		

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	1	1	0	2	1	0	1	2	0
Configuration								R	U		T	R		L	T	
Volume (veh/h)								7	27		1233	8	13	8	966	
Percent Heavy Vehicles								3	3				3	3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)								7	28					22		
Capacity								410	321					266		
v/c Ratio								0.02	0.09					0.08		
95% Queue Length								0.1	0.3					0.3		
Control Delay (s/veh)								13.9	17.3					19.8		
Level of Service (LOS)								B	C					C		
Approach Delay (s/veh)					13.9				0.4				0.4			
Approach LOS					B											

HCS 2010 Two-Way Stop Control Summary Report

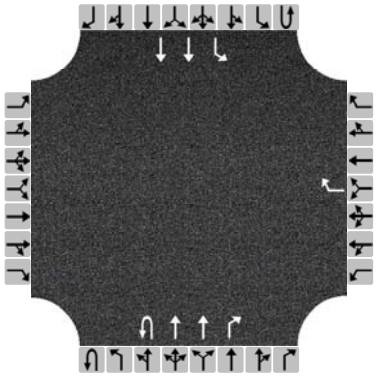
General Information

Analyst	LLL
Agency/Co.	Vectura
Date Performed	3/15/2018
Analysis Year	2023
Time Analyzed	AM Peak Weekend No Build
Intersection Orientation	North-South
Project Description	Proposed Zoo

Site Information

Intersection	U-Turn at US 61
Jurisdiction	District 61
East/West Street	Manchac Lake Apartments
North/South Street	US 61 (Airline Highway)
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	1	1	0	2	1	0	1	2	0
Configuration								R	U		T	R		L	T	
Volume (veh/h)								5	29		1324	9	14	9	1037	
Percent Heavy Vehicles								3	3				3	3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)								5	31					24		
Capacity								381	287					236		
v/c Ratio								0.01	0.11					0.10		
95% Queue Length								0.0	0.4					0.3		
Control Delay (s/veh)								14.6	19.0					22.0		
Level of Service (LOS)								B	C					C		
Approach Delay (s/veh)					14.6				0.4				0.5			
Approach LOS					B											

HCS 2010 Two-Way Stop Control Summary Report

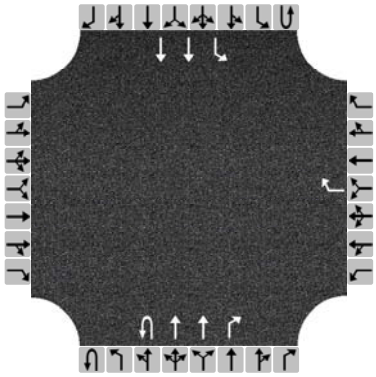
General Information

Analyst	LLL
Agency/Co.	Vectura
Date Performed	3/15/2018
Analysis Year	2023
Time Analyzed	AM Peak Weekend Build
Intersection Orientation	North-South
Project Description	Proposed Zoo

Site Information

Intersection	U-Turn at US 61
Jurisdiction	District 61
East/West Street	Manchac Lake Apartments
North/South Street	US 61 (Airline Highway)
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	1	1	0	2	1	0	1	2	0
Configuration								R	U		T	R		L	T	
Volume (veh/h)								5	29		1477	9	26	9	1019	
Percent Heavy Vehicles								3	3				3	3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)								5	31					36		
Capacity								337	296					169		
v/c Ratio								0.01	0.10					0.21		
95% Queue Length								0.0	0.3					0.8		
Control Delay (s/veh)								15.8	18.6					31.9		
Level of Service (LOS)								C	C					D		
Approach Delay (s/veh)					15.8				0.4				1.0			
Approach LOS					C											

HCS 2010 Two-Way Stop Control Summary Report

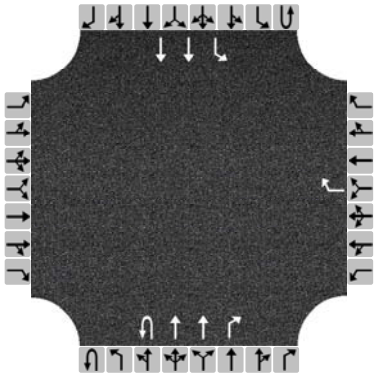
General Information

Analyst	LLL
Agency/Co.	Vectura
Date Performed	3/15/2018
Analysis Year	2018
Time Analyzed	PM Peak Weekend Existing
Intersection Orientation	North-South
Project Description	Proposed Zoo

Site Information

Intersection	U-Turn at US 61
Jurisdiction	District 61
East/West Street	Manchac Lake Apartments
North/South Street	US 61 (Airline Highway)
Peak Hour Factor	0.97
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	1	1	0	2	1	0	1	2	0
Configuration								R	U		T	R		L	T	
Volume (veh/h)								8	15		988	10	2	2	944	
Percent Heavy Vehicles								3	3				3	3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)								8	15					4		
Capacity								506	343					428		
v/c Ratio								0.02	0.04					0.01		
95% Queue Length								0.0	0.1					0.0		
Control Delay (s/veh)								12.2	16.0					13.5		
Level of Service (LOS)								B	C					B		
Approach Delay (s/veh)					12.2				0.2				0.1			
Approach LOS					B											

HCS 2010 Two-Way Stop Control Summary Report

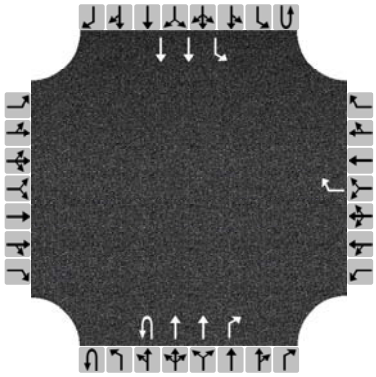
General Information

Analyst	LLL
Agency/Co.	Vectura
Date Performed	3/15/2018
Analysis Year	2023
Time Analyzed	PM Peak No Build Weekend
Intersection Orientation	North-South
Project Description	Proposed Zoo

Site Information

Intersection	U-Turn at US 61
Jurisdiction	District 61
East/West Street	Manchac Lake Apartments
North/South Street	US 61 (Airline Highway)
Peak Hour Factor	0.97
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	1	1	0	2	1	0	1	2	0
Configuration								R	U		T	R		L	T	
Volume (veh/h)								9	16		1061	11	2	2	1013	
Percent Heavy Vehicles								3	3				3	3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)								9	16					4		
Capacity								479	309					387		
v/c Ratio								0.02	0.05					0.01		
95% Queue Length								0.1	0.2					0.0		
Control Delay (s/veh)								12.7	17.3					14.4		
Level of Service (LOS)								B	C					B		
Approach Delay (s/veh)					12.7				0.2				0.1			
Approach LOS					B											

HCS 2010 Two-Way Stop Control Summary Report

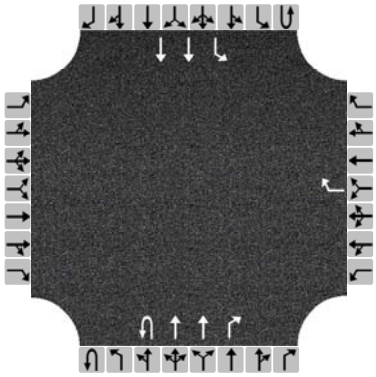
General Information

Analyst	LLL
Agency/Co.	Vectura
Date Performed	3/15/2018
Analysis Year	2023
Time Analyzed	PM Peak Build Weekend
Intersection Orientation	North-South
Project Description	Proposed Zoo

Site Information

Intersection	U-Turn at US 61
Jurisdiction	District 61
East/West Street	Manchac Lake Apartments
North/South Street	US 61 (Airline Highway)
Peak Hour Factor	0.97
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

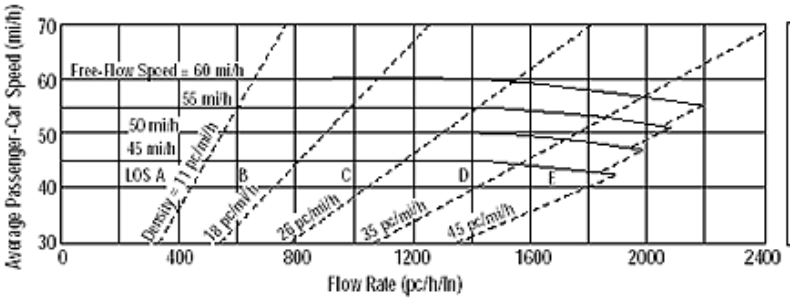
Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	1	1	0	2	1	0	1	2	0
Configuration								R	U		T	R		L	T	
Volume (veh/h)								5	16		1069	11	156	2	1209	
Percent Heavy Vehicles								3	3				3	3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)								5	16					163		
Capacity								476	228					282		
v/c Ratio								0.01	0.07					0.58		
95% Queue Length								0.0	0.2					3.4		
Control Delay (s/veh)								12.6	21.9					33.9		
Level of Service (LOS)								B	C					D		
Approach Delay (s/veh)					12.6				0.3				3.9			
Approach LOS					B											

MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	sbf
Agency or Company	Vectura
Date Performed	3/16/2018
Analysis Time Period	2018

Site Information

Highway/Direction to Travel	US 61 (Airline Hwy)
From/To	near State Fairgrounds
Jurisdiction	DOTD District 61
Analysis Year	AM Existing Weekday

Project Description Proposed Zoo

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1971	Peak-Hour Factor, PHF	0.98
AADT(veh/h)		%Trucks and Buses, P_T	3
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.985

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	12
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	65.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	3.0
f_M (mi/h)	0.0
FFS (mi/h)	62.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	1020
Speed, S (mi/h)	60.0
D (pc/mi/ln)	17.0
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1005.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*3.11*
Bicycle level of service (Exhibit 15-4)	*C*

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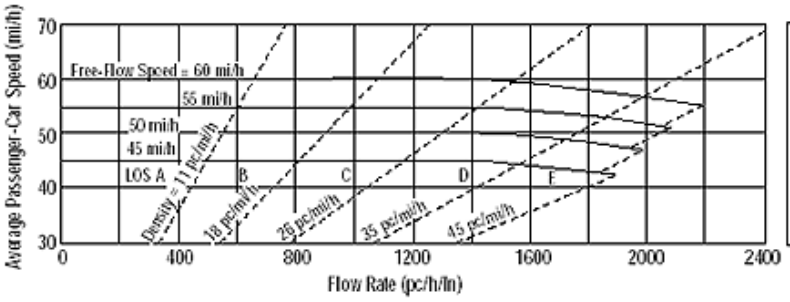
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	sbf
Agency or Company	Vectura
Date Performed	3/16/2018
Analysis Time Period	2018

Site Information

Highway/Direction to Travel	US 61 (Airline Hwy)
From/To	near State Fairgrounds
Jurisdiction	DOTD District 61
Analysis Year	AM Existing Weekday

Project Description Proposed Zoo

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	793	Peak-Hour Factor, PHF	0.98
AADT(veh/h)		%Trucks and Buses, P_T	3
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.985

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	7
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	64.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	1.8
f_M (mi/h)	0.0
FFS (mi/h)	62.3

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	410
Speed, S (mi/h)	60.0
D (pc/mi/ln)	6.8
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*404.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.65*
Bicycle level of service (Exhibit 15-4)	*C*

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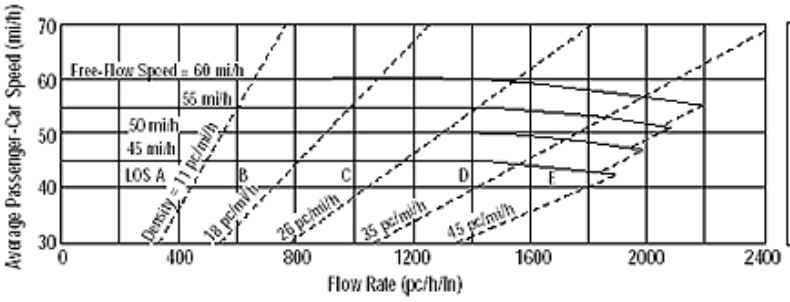
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	sbf
Agency or Company	Vectura
Date Performed	3/16/2018
Analysis Time Period	2023

Site Information

Highway/Direction to Travel	US 61 (Airline Hwy)
From/To	near State Fairgrounds
Jurisdiction	DOTD District 61
Analysis Year	AM NO BUILD Weekday

Project Description Proposed Zoo

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2191	Peak-Hour Factor, PHF	0.98
AADT(veh/h)		%Trucks and Buses, P_T	3
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.985

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	12
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	65.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	3.0
f_M (mi/h)	0.0
FFS (mi/h)	62.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	1134
Speed, S (mi/h)	60.0
D (pc/mi/ln)	18.9
LOS	C

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1117.9*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*3.17*
Bicycle level of service (Exhibit 15-4)	*C*

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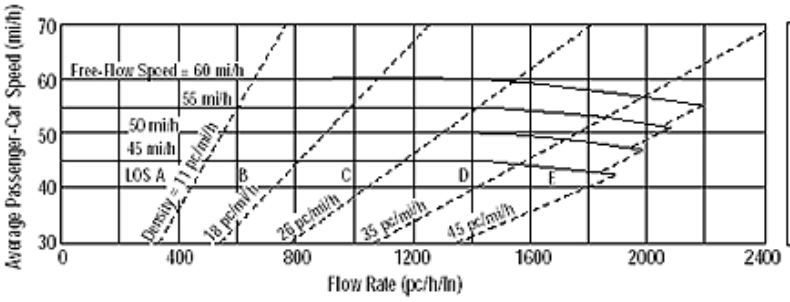
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	sbf
Agency or Company	Vectura
Date Performed	3/16/2018
Analysis Time Period	2023

Site Information

Highway/Direction to Travel	US 61 (Airline Hwy)
From/To	near State Fairgrounds
Jurisdiction	DOTD District 61
Analysis Year	AM NO BUILD Weekday

Project Description Proposed Zoo

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	851	Peak-Hour Factor, PHF	0.98
AADT(veh/h)		%Trucks and Buses, P_T	3
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.985

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	7
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	64.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	1.8
f_M (mi/h)	0.0
FFS (mi/h)	62.3

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	440
Speed, S (mi/h)	60.0
D (pc/mi/ln)	7.3
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*434.2*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.69*
Bicycle level of service (Exhibit 15-4)	*C*

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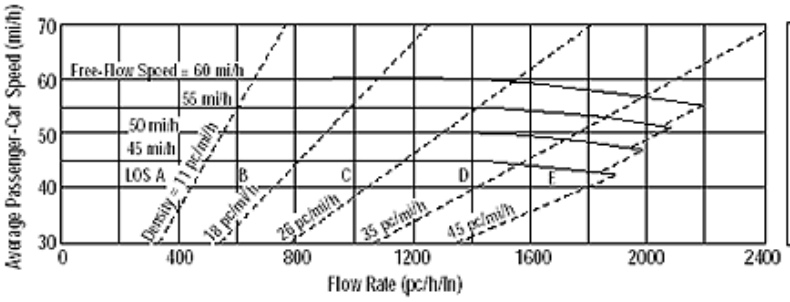
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	sbf
Agency or Company	Vectura
Date Performed	3/16/2018
Analysis Time Period	2023

Site Information

Highway/Direction to Travel	US 61 (Airline Hwy)
From/To	near State Fairgrounds
Jurisdiction	DOTD District 61
Analysis Year	AM BUILD Weekday

Project Description Proposed Zoo

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	2193	Peak-Hour Factor, PHF	0.98
AADT(veh/h)		%Trucks and Buses, P_T	3
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.985

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	12
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	65.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	3.0
f_M (mi/h)	0.0
FFS (mi/h)	62.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	1135
Speed, S (mi/h)	60.0
D (pc/mi/ln)	18.9
LOS	C

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1118.9*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*3.17*
Bicycle level of service (Exhibit 15-4)	*C*

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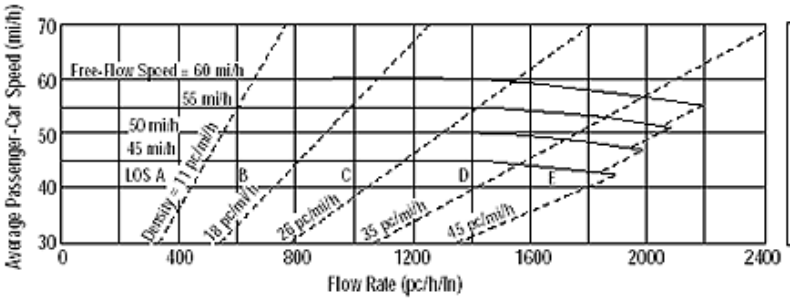
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	sbf
Agency or Company	Vectura
Date Performed	3/16/2018
Analysis Time Period	2023

Site Information

Highway/Direction to Travel	US 61 (Airline Hwy)
From/To	near State Fairgrounds
Jurisdiction	DOTD District 61
Analysis Year	AM BUILD Weekday

Project Description Proposed Zoo

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	865	Peak-Hour Factor, PHF	0.98
AADT(veh/h)		%Trucks and Buses, P_T	3
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.985

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	7
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	64.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	1.8
f_M (mi/h)	0.0
FFS (mi/h)	62.3

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	447
Speed, S (mi/h)	60.0
D (pc/mi/ln)	7.4
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*441.3*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.70*
Bicycle level of service (Exhibit 15-4)	*C*

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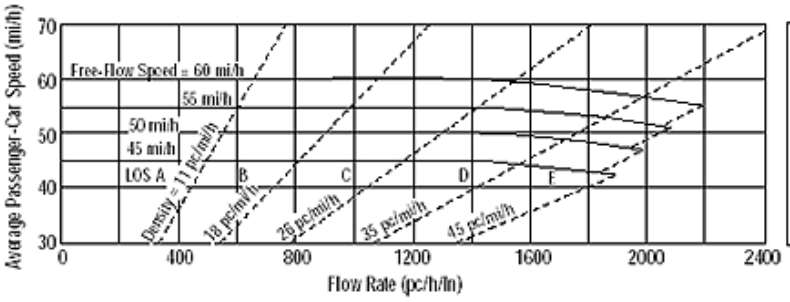
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	sbf
Agency or Company	Vectura
Date Performed	3/16/2018
Analysis Time Period	2018

Site Information

Highway/Direction to Travel	US 61 (Airline Hwy)
From/To	near State Fairgrounds
Jurisdiction	DOTD District 61
Analysis Year	PM Existing Weekday

Project Description Proposed Zoo

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1149	Peak-Hour Factor, PHF	0.94
AADT(veh/h)		%Trucks and Buses, P_T	2
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.990

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	12
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	65.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	3.0
f_M (mi/h)	0.0
FFS (mi/h)	62.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	617
Speed, S (mi/h)	60.0
D (pc/mi/ln)	10.3
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*611.2*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.61*
Bicycle level of service (Exhibit 15-4)	*C*

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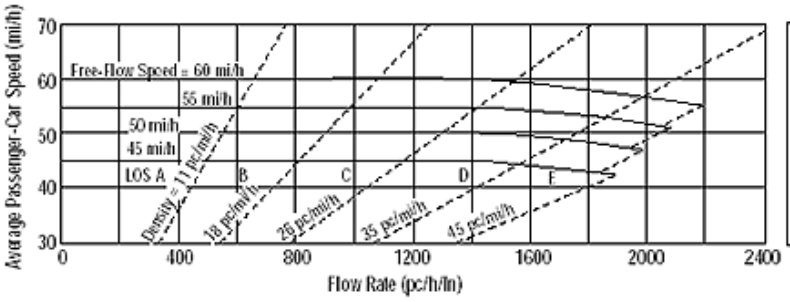
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	sbf
Agency or Company	Vectura
Date Performed	3/16/2018
Analysis Time Period	2018

Site Information

Highway/Direction to Travel	US 61 (Airline Hwy)
From/To	near State Fairgrounds
Jurisdiction	DOTD District 61
Analysis Year	PM Existing Weekday

Project Description Proposed Zoo

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1836	Peak-Hour Factor, PHF	0.94
AADT(veh/h)		%Trucks and Buses, P_T	2
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.990

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	7
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	64.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	1.8
f_M (mi/h)	0.0
FFS (mi/h)	62.3

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	986
Speed, S (mi/h)	60.0
D (pc/mi/ln)	16.4
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*976.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.85*
Bicycle level of service (Exhibit 15-4)	*C*

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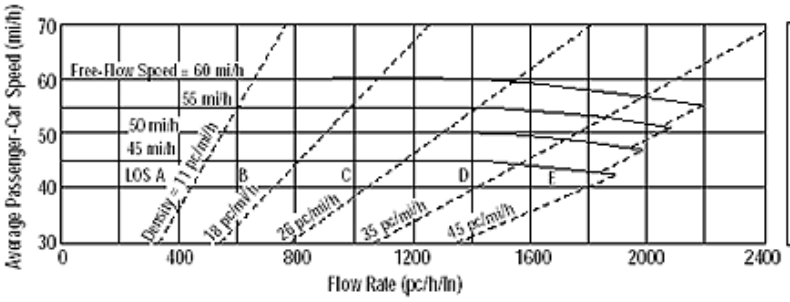
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	sbf
Agency or Company	Vectura
Date Performed	3/16/2018
Analysis Time Period	2023

Site Information

Highway/Direction to Travel	US 61 (Airline Hwy)
From/To	near State Fairgrounds
Jurisdiction	DOTD District 61
Analysis Year	PM NO BUILD Weekday

Project Description Proposed Zoo

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1267	Peak-Hour Factor, PHF	0.94
AADT(veh/h)		%Trucks and Buses, P_T	3
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.985

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	12
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	65.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	3.0
f_M (mi/h)	0.0
FFS (mi/h)	62.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	684
Speed, S (mi/h)	60.0
D (pc/mi/ln)	11.4
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*673.9*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.91*
Bicycle level of service (Exhibit 15-4)	*C*

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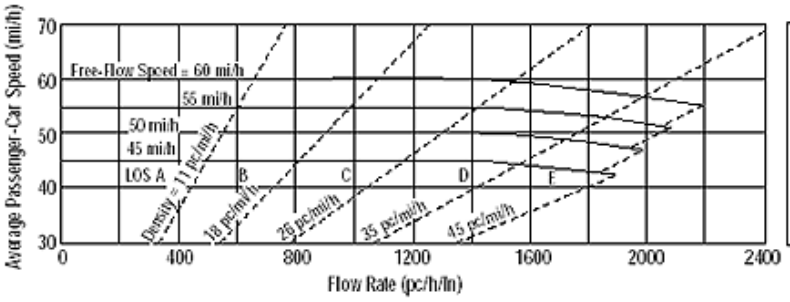
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	sbf
Agency or Company	Vectura
Date Performed	3/16/2018
Analysis Time Period	2023

Site Information

Highway/Direction to Travel	US 61 (Airline Hwy)
From/To	near State Fairgrounds
Jurisdiction	DOTD District 61
Analysis Year	PM NO BUILD Weekday

Project Description Proposed Zoo

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1971	Peak-Hour Factor, PHF	0.94
AADT(veh/h)		%Trucks and Buses, P_T	3
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.985

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	7
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	64.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	1.8
f_M (mi/h)	0.0
FFS (mi/h)	62.3

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	1064
Speed, S (mi/h)	60.0
D (pc/mi/ln)	17.7
LOS	B

Design

Design (N)

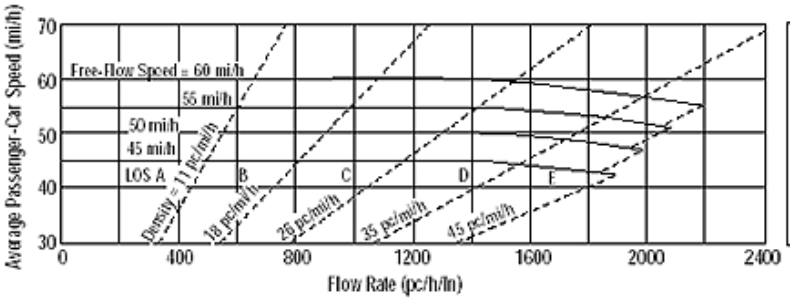
Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1048.4*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*3.14*
Bicycle level of service (Exhibit 15-4)	*C*

MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	sbf
Agency or Company	Vectura
Date Performed	3/16/2018
Analysis Time Period	2023

Site Information

Highway/Direction to Travel	US 61 (Airline Hwy)
From/To	near State Fairgrounds
Jurisdiction	DOTD District 61
Analysis Year	PM BUILD Weekday

Project Description Proposed Zoo

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1318	Peak-Hour Factor, PHF	0.94
AADT(veh/h)		%Trucks and Buses, P_T	3
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.985

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	12
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	65.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	3.0
f_M (mi/h)	0.0
FFS (mi/h)	62.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	711
Speed, S (mi/h)	60.0
D (pc/mi/ln)	11.9
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*701.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.93*
Bicycle level of service (Exhibit 15-4)	*C*

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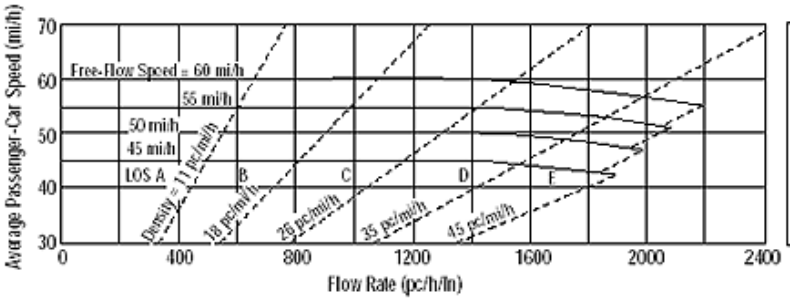
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	sbf
Agency or Company	Vectura
Date Performed	3/16/2018
Analysis Time Period	2023

Site Information

Highway/Direction to Travel	US 61 (Airline Hwy)
From/To	near State Fairgrounds
Jurisdiction	DOTD District 61
Analysis Year	PM BUILD Weekday

Project Description Proposed Zoo

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1975	Peak-Hour Factor, PHF	0.94
AADT(veh/h)		%Trucks and Buses, P_T	3
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.985

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	7
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	64.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	1.8
f_M (mi/h)	0.0
FFS (mi/h)	62.3

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	1066
Speed, S (mi/h)	60.0
D (pc/mi/ln)	17.8
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1050.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*3.14*
Bicycle level of service (Exhibit 15-4)	*C*

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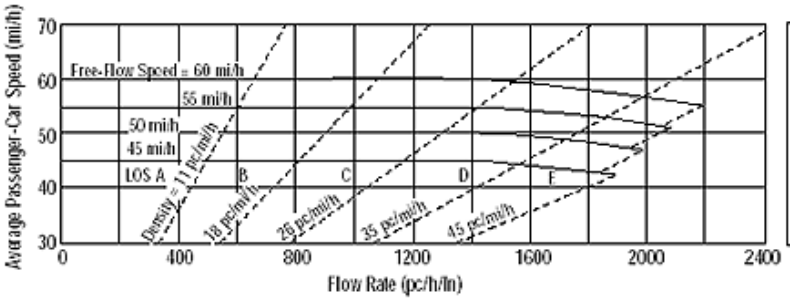
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	sbf
Agency or Company	Vectura
Date Performed	3/16/2018
Analysis Time Period	2018

Site Information

Highway/Direction to Travel	US 61 (Airline Hwy)
From/To	near State Fairgrounds
Jurisdiction	DOTD District 61
Analysis Year	AM Existing Weekend

Project Description Proposed Zoo

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1238	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	3
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.985

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	12
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	65.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	3.0
f_M (mi/h)	0.0
FFS (mi/h)	62.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	661
Speed, S (mi/h)	60.0
D (pc/mi/ln)	11.0+
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*651.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.89*
Bicycle level of service (Exhibit 15-4)	*C*

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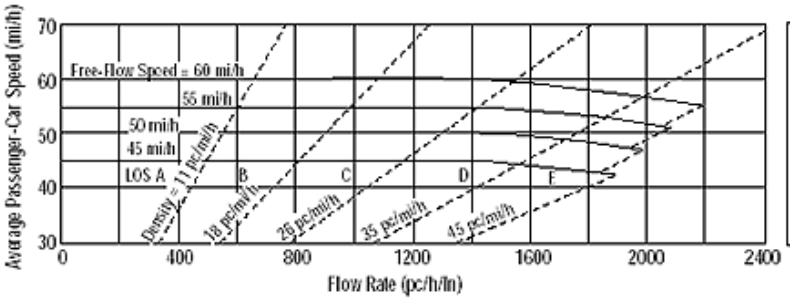
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	sbf
Agency or Company	Vectura
Date Performed	3/16/2018
Analysis Time Period	2018

Site Information

Highway/Direction to Travel	US 61 (Airline Hwy)
From/To	near State Fairgrounds
Jurisdiction	DOTD District 61
Analysis Year	AM Existing Weekend

Project Description Proposed Zoo

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	968	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	3
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.985

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	7
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	64.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	1.8
f_M (mi/h)	0.0
FFS (mi/h)	62.3

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	517
Speed, S (mi/h)	60.0
D (pc/mi/ln)	8.6
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*509.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.77*
Bicycle level of service (Exhibit 15-4)	*C*

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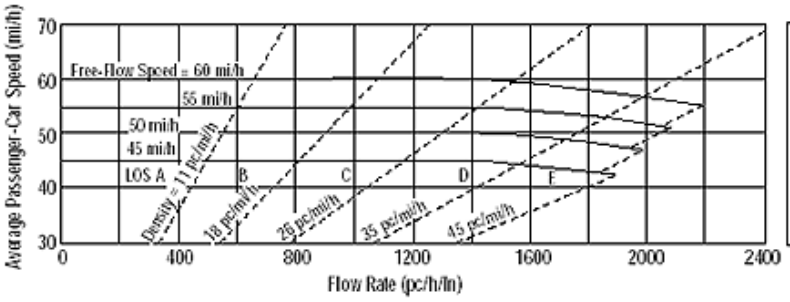
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	sbf
Agency or Company	Vectura
Date Performed	3/16/2018
Analysis Time Period	2023

Site Information

Highway/Direction to Travel	US 61 (Airline Hwy)
From/To	near State Fairgrounds
Jurisdiction	DOTD District 61
Analysis Year	AM NO BUILD Weekend

Project Description Proposed Zoo

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1329	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	3
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.985

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	12
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	65.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	3.0
f_M (mi/h)	0.0
FFS (mi/h)	62.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	709
Speed, S (mi/h)	60.0
D (pc/mi/ln)	11.8
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*699.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.93*
Bicycle level of service (Exhibit 15-4)	*C*

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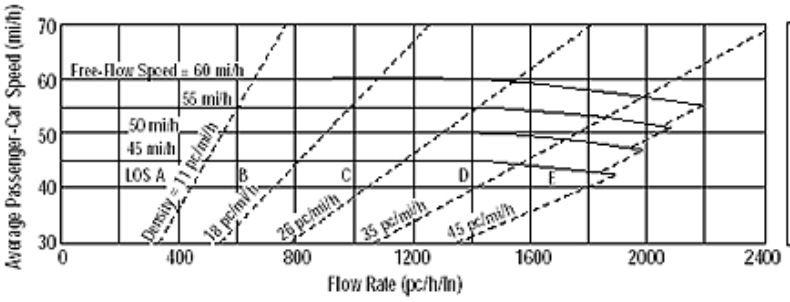
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	sbf
Agency or Company	Vectura
Date Performed	3/16/2018
Analysis Time Period	2023

Site Information

Highway/Direction to Travel	US 61 (Airline Hwy)
From/To	near State Fairgrounds
Jurisdiction	DOTD District 61
Analysis Year	AM NO BUILD Weekend

Project Description Proposed Zoo

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1039	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	3
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.985

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	7
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	64.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	1.8
f_M (mi/h)	0.0
FFS (mi/h)	62.3

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	555
Speed, S (mi/h)	60.0
D (pc/mi/ln)	9.3
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*546.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.81*
Bicycle level of service (Exhibit 15-4)	*C*

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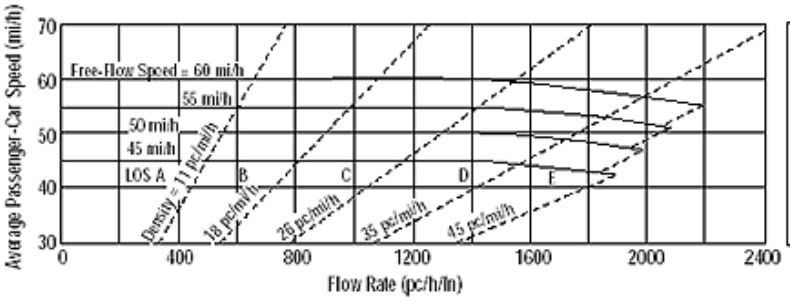
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	sbf
Agency or Company	Vectura
Date Performed	3/16/2018
Analysis Time Period	2023

Site Information

Highway/Direction to Travel	US 61 (Airline Hwy)
From/To	near State Fairgrounds
Jurisdiction	DOTD District 61
Analysis Year	AM BUILD Weekend

Project Description Proposed Zoo

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1341	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	3
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.985

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	12
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	65.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	3.0
f_M (mi/h)	0.0
FFS (mi/h)	62.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	716
Speed, S (mi/h)	60.0
D (pc/mi/ln)	11.9
LOS	B

Design

Design (N)

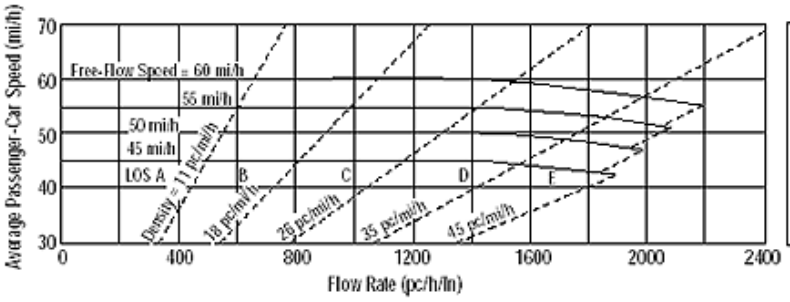
Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*705.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.94*
Bicycle level of service (Exhibit 15-4)	*C*

MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	sbf
Agency or Company	Vectura
Date Performed	3/16/2018
Analysis Time Period	2023

Site Information

Highway/Direction to Travel	US 61 (Airline Hwy)
From/To	near State Fairgrounds
Jurisdiction	DOTD District 61
Analysis Year	AM BUILD Weekend

Project Description Proposed Zoo

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1183	Peak-Hour Factor, PHF	0.95
AADT(veh/h)		%Trucks and Buses, P_T	3
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.985

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	7
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	64.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	1.8
f_M (mi/h)	0.0
FFS (mi/h)	62.3

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	631
Speed, S (mi/h)	60.0
D (pc/mi/ln)	10.5
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*622.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.87*
Bicycle level of service (Exhibit 15-4)	*C*

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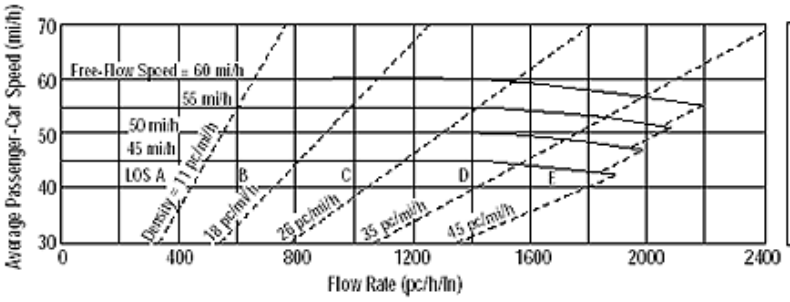
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	sbf
Agency or Company	Vectura
Date Performed	3/16/2018
Analysis Time Period	2018

Site Information

Highway/Direction to Travel	US 61 (Airline Hwy)
From/To	near State Fairgrounds
Jurisdiction	DOTD District 61
Analysis Year	PM Existing Weekend

Project Description Proposed Zoo

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	995	Peak-Hour Factor, PHF	0.97
AADT(veh/h)		%Trucks and Buses, P_T	1
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.995

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	12
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	65.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	3.0
f_M (mi/h)	0.0
FFS (mi/h)	62.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	515
Speed, S (mi/h)	60.0
D (pc/mi/ln)	8.6
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*512.9*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.29*
Bicycle level of service (Exhibit 15-4)	*B*

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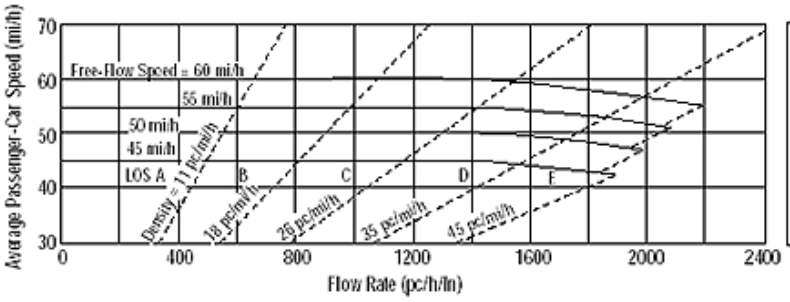
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	sbf
Agency or Company	Vectura
Date Performed	3/16/2018
Analysis Time Period	2018

Site Information

Highway/Direction to Travel	US 61 (Airline Hwy)
From/To	near State Fairgrounds
Jurisdiction	DOTD District 61
Analysis Year	PM Existing Weekend

Project Description Proposed Zoo

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	942	Peak-Hour Factor, PHF	0.97
AADT(veh/h)		%Trucks and Buses, P_T	1
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.995

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	7
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	64.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	1.8
f_M (mi/h)	0.0
FFS (mi/h)	62.3

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	487
Speed, S (mi/h)	60.0
D (pc/mi/ln)	8.1
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*485.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.27*
Bicycle level of service (Exhibit 15-4)	*B*

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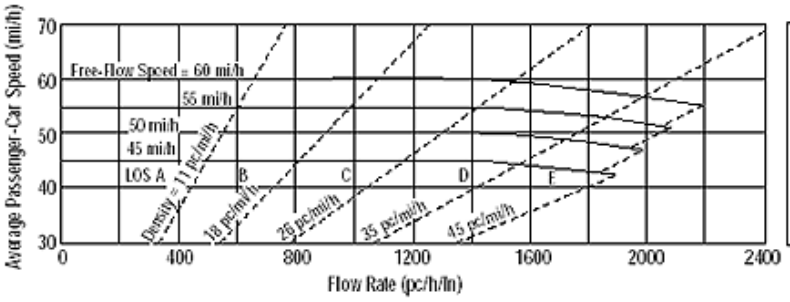
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	sbf
Agency or Company	Vectura
Date Performed	3/16/2018
Analysis Time Period	2023

Site Information

Highway/Direction to Travel	US 61 (Airline Hwy)
From/To	near State Fairgrounds
Jurisdiction	DOTD District 61
Analysis Year	PM NO BUILD Weekend

Project Description Proposed Zoo

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1068	Peak-Hour Factor, PHF	0.97
AADT(veh/h)		%Trucks and Buses, P_T	1
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.995

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	12
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	65.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	3.0
f_M (mi/h)	0.0
FFS (mi/h)	62.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	553
Speed, S (mi/h)	60.0
D (pc/mi/ln)	9.2
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*550.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.33*
Bicycle level of service (Exhibit 15-4)	*B*

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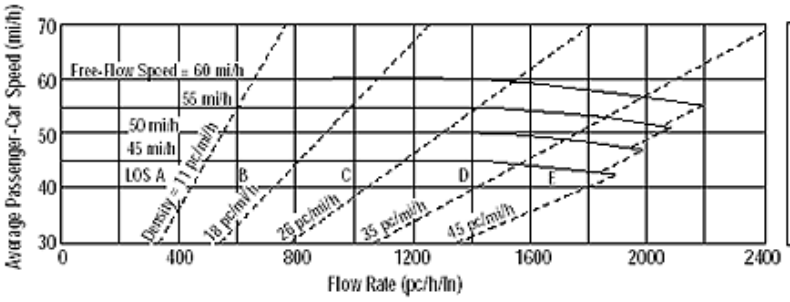
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	sbf
Agency or Company	Vectura
Date Performed	3/16/2018
Analysis Time Period	2023

Site Information

Highway/Direction to Travel	US 61 (Airline Hwy)
From/To	near State Fairgrounds
Jurisdiction	DOTD District 61
Analysis Year	PM NO BUILD Weekend

Project Description Proposed Zoo

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1011	Peak-Hour Factor, PHF	0.97
AADT(veh/h)		%Trucks and Buses, P_T	1
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.995

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	7
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	64.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	1.8
f_M (mi/h)	0.0
FFS (mi/h)	62.3

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	523
Speed, S (mi/h)	60.0
D (pc/mi/ln)	8.7
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*521.1*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.30*
Bicycle level of service (Exhibit 15-4)	*B*

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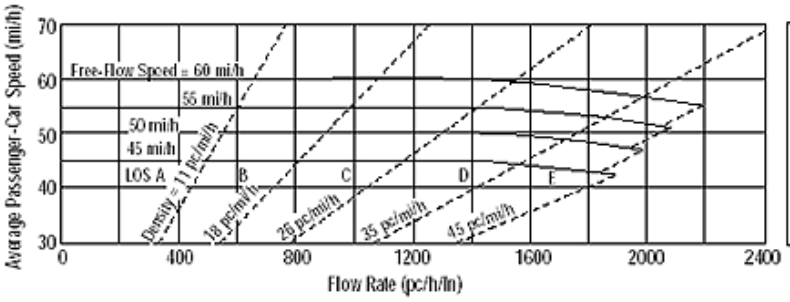
MULTILANE HIGHWAYS WORKSHEET(Direction 2)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	sbf
Agency or Company	Vectura
Date Performed	3/16/2018
Analysis Time Period	2023

Site Information

Highway/Direction to Travel	US 61 (Airline Hwy)
From/To	near State Fairgrounds
Jurisdiction	DOTD District 61
Analysis Year	PM BUILD Weekend

Project Description Proposed Zoo

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1249	Peak-Hour Factor, PHF	0.97
AADT(veh/h)		%Trucks and Buses, P_T	1
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.995

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	12
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	65.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	3.0
f_M (mi/h)	0.0
FFS (mi/h)	62.0

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	647
Speed, S (mi/h)	60.0
D (pc/mi/ln)	10.8
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*643.8*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.41*
Bicycle level of service (Exhibit 15-4)	*B*

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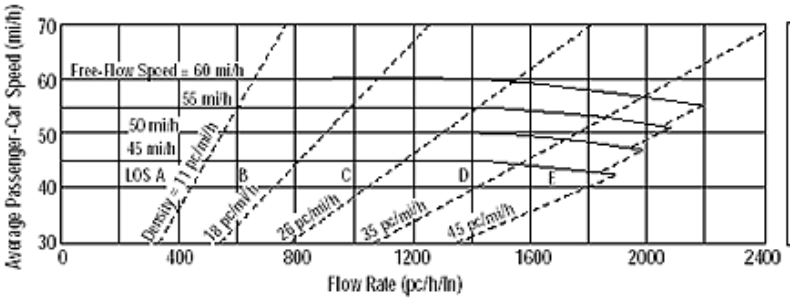
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	sbf
Agency or Company	Vectura
Date Performed	3/16/2018
Analysis Time Period	2023

Site Information

Highway/Direction to Travel	US 61 (Airline Hwy)
From/To	near State Fairgrounds
Jurisdiction	DOTD District 61
Analysis Year	PM BUILD Weekend

Project Description Proposed Zoo

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1021	Peak-Hour Factor, PHF	0.97
AADT(veh/h)		%Trucks and Buses, P_T	1
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Level
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	f_{HV}	0.995

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	7
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	64.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	1.8
f_M (mi/h)	0.0
FFS (mi/h)	62.3

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	528
Speed, S (mi/h)	60.0
D (pc/mi/ln)	8.8
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*526.3*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.79*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.31*
Bicycle level of service (Exhibit 15-4)	*B*

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Appendix C: Crash Data

LADOTD Crash List

Proposed New Zoo Location
Airline at Manchac Park Lane

Within 150 feet of latitude 30.345730, longitude -90.995285
2014-01-01 to 2016-12-31

Csect	Log Mile	Route	Mile Point	tot acc	pdo acc	fat acc	inj acc	num fat	num inj	crash date	most harm evt	manner coll	crash type	surf cond	crash num	par ish	hour	int	iv agy	dir trav	move prior	Dist ft
007-08	0.29	0061	65.16	1	1	0	0	0	0	2015-05-12	MV in Trans	Rear End	2 vehicles	dry	20150024062	17	07	0	A	NN	QA	80
007-08	0.25	0061	65.12	1	1	0	0	0	0	2015-11-09	MV in Trans	Rear End	2 vehicles	dry	20150044149	17	07	0	A	NN	QA	137
Total	2015			2	2	0	0	0	0													
007-08	0.26	0061	65.13	1	1	0	0	0	0	2016-10-12	Ditch	Non Coll	Other fixed	dry	20160043293	17	22	0	A	S	G	95
007-08	0.25	0061	65.12	1	1	0	0	0	0	2016-11-12	MV in Trans	Rear End	2 vehicles	dry	20160046129	17	12	0	A	NN	BA	138
Total	2016			2	2	0	0	0	0													
Grand	Total			4	4	0	0	0	0													

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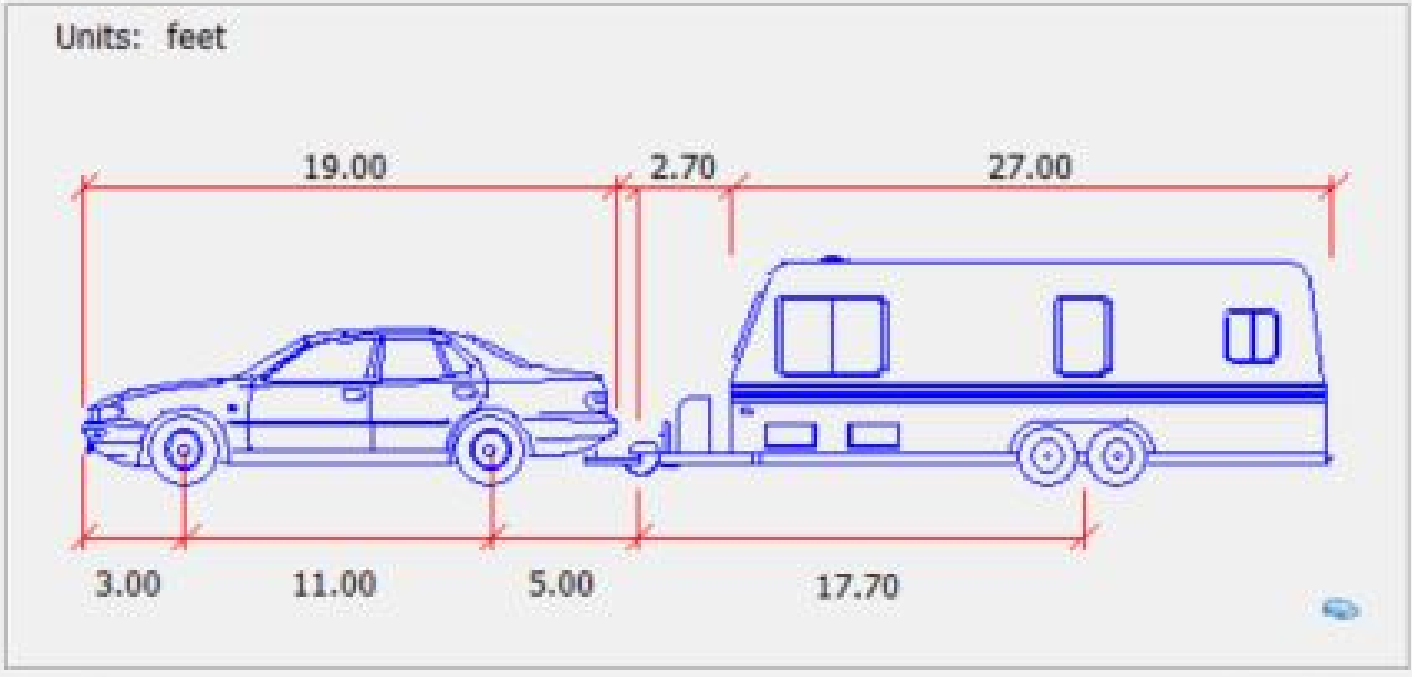
Appendix D: Design Vehicles

Select Current Vehicle

Group Vehicles By:

- (•) Library
- ( ) Region
- ( ) Class
- ( ) Country
- ( ) # of Parts
- ( ) No Group
- ( ) Recent 5

AASHTO 2001 (US)
AASHTO 2004 (US)
AASHTO 2011 (US)
AASHTOM 2001 (US)
AASHTOM 2004 (US)
AASHTOM 2011 (US)
ALBERTA DB68 (CA)
ALBERTA INFTRA-HGDG (CA)
ARCHITECTURAL
AUSTROADS (AU)



Library	Vehicle Name	Class	Region	Lock	# Parts	Length	Wheelbase	Trailer Len.
AASHTO 2001...	A-BUS	Bus	North A...	38.3	2	60.00	22.00	21.20
AASHTO 2001...	BUS-40	Bus	North A...	39.3	1	40.00	25.85	N/A
AASHTO 2001...	BUS-45	Bus	North A...	44.3	1	45.00	28.50	N/A
AASHTO 2001...	CITY-BUS	Bus	North A...	41.4	1	40.00	25.00	N/A
AASHTO 2001...	MH	Recreati...	North A...	33.8	1	30.00	20.00	N/A
AASHTO 2001...	MH-B	Recreati...	North A...	25.8	2	53.00	20.00	20.00
AASHTO 2001...	P	Passeng...	North A...	31.6	1	19.00	11.00	N/A
AASHTO 2001...	P-B	Recreati...	North A...	31.6	2	42.00	11.00	20.00
AASHTO 2001...	P-T	Recreati...	North A...	21.5	2	48.70	11.00	27.00

OK Cancel Help

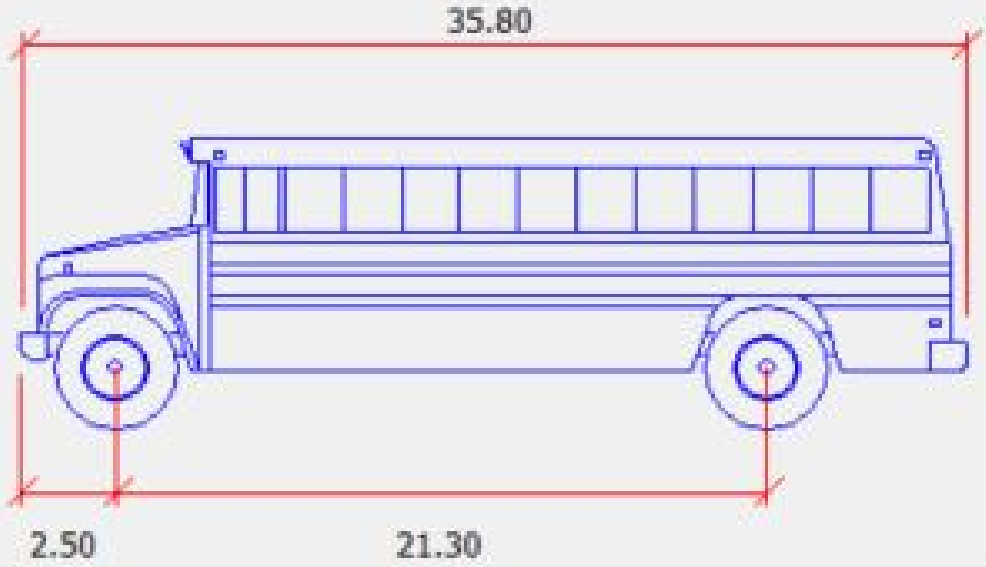
Select Current Vehicle

Group Vehicles By:

- (•) Library
- ( ) Region
- ( ) Class
- ( ) Country
- ( ) # of Parts
- ( ) No Group
- ( ) Recent 5

AASHTO 2001 (US)
AASHTO 2004 (US)
AASHTO 2011 (US)
AASHTOM 2001 (US)
AASHTOM 2004 (US)
AASHTOM 2011 (US)
ALBERTA DB68 (CA)
ALBERTA INFTRA-HGDG (CA)
ARCHITECTURAL
AUSTROADS (AU)

Units: feet



Library	Vehicle Name	Class	Region	Lock	# Parts	Length	Wheelbase	Trailer Len.
AASHTO 2001...	CITY-BUS	Bus	North A...	41.4	1	40.00	25.00	N/A
AASHTO 2001...	MH	Recreati...	North A...	33.8	1	30.00	20.00	N/A
AASHTO 2001...	MH-B	Recreati...	North A...	25.8	2	53.00	20.00	20.00
AASHTO 2001...	P	Passeng...	North A...	31.6	1	19.00	11.00	N/A
AASHTO 2001...	P-B	Recreati...	North A...	31.6	2	42.00	11.00	20.00
AASHTO 2001...	P-T	Recreati...	North A...	21.5	2	48.70	11.00	27.00
AASHTO 2001...	S-BUS-36	Bus	North A...	37.6	1	35.80	21.30	N/A
AASHTO 2001...	S-BUS-40	Bus	North A...	34.4	1	40.00	20.00	N/A
AASHTO 2001...	SU	Commer...	North A...	31.8	1	30.00	20.00	N/A

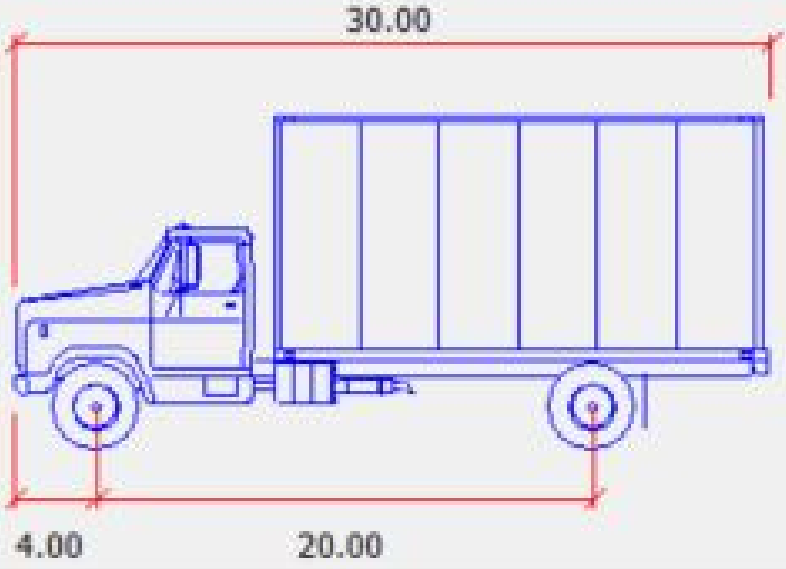
OK Cancel Help

Group Vehicles By:

- (•) Library
- ( ) Region
- ( ) Class
- ( ) Country
- ( ) # of Parts
- ( ) No Group
- ( ) Recent 5

- AASHTO 2001 (US)
- AASHTO 2004 (US)
- AASHTO 2011 (US)
- AASHTOM 2001 (US)
- AASHTOM 2004 (US)
- AASHTOM 2011 (US)
- ALBERTA DB68 (CA)
- ALBERTA INFTRA-HGDG (CA)
- ARCHITECTURAL
- AUSTROADS (AU)

Units: feet



Library	Vehicle Name	Class	Region	Lock	# Parts	Length	Wheelbase	Trailer Len.
AASHTO 2001...	CITY-BUS	Bus	North A...	41.4	1	40.00	25.00	N/A
AASHTO 2001...	MH	Recreati...	North A...	33.8	1	30.00	20.00	N/A
AASHTO 2001...	MH-B	Recreati...	North A...	25.8	2	53.00	20.00	20.00
AASHTO 2001...	P	Passeng...	North A...	31.6	1	19.00	11.00	N/A
AASHTO 2001...	P-B	Recreati...	North A...	31.6	2	42.00	11.00	20.00
AASHTO 2001...	P-T	Recreati...	North A...	21.5	2	48.70	11.00	27.00
AASHTO 2001...	S-BUS-36	Bus	North A...	37.6	1	35.80	21.30	N/A
AASHTO 2001...	S-BUS-40	Bus	North A...	34.4	1	40.00	20.00	N/A
AASHTO 2001...	SU	Commer...	North A...	31.8	1	30.00	20.00	N/A

APPENDIX - 5

Airline Park Wetland Delineation-Report
(2018)

HYDRIK
WETLANDS - GIS - FLOOD CONTROL
WWW.HYDRIK.COM

WETLAND DELINEATION/JD REQUEST

BREC c/o Duplantis Design Group
~120.11 acres on and south of Airline Hwy (US 61)
Baton Rouge, La

EBR PARISH, LA
S37, T8S, R2E
February 2018

In an effort to reduce paper consumption, all reports are transmitted to the client digitally. A hard copy will be provided upon request only.

Prepared and Transmitted by:

HYDRIK
2323 Highway 190 East Suite 2
Hammond, LA 70401
985 429 0333
www.hydrik.com
HF 1805b

Keep in mind that the following report is a wetland delineation/jurisdictional delineation request prepared by Hydrik Wetlands Consultants and must be presented the US Army Corps of Engineers for jurisdictional approval before it is legally valid in any sense. Determination of wetlands, their extents, and boundaries is the final decision of the United States Army Corps of Engineers under the authority of the Clean Water Act.

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LIST OF FIGURES

APPENDIX

2323 Hwy 190 East Suite 2
Hammond, LA 70401
985 429 0333

1.0 Formal Request for a Corps Approved Wetland Delineation (JD)

LMN Form 1263(a) Proponent: CEMVN-OD-SS Revised: May 97

To: CEMVN-OD-SS
Chief, Surveillance & Enforcement
U.S. Army Corps of Engineers
P.O. Box 60267
New Orleans, La 70160-0267

I am requesting a jurisdictional wetland delineation **(JD)** on property described as:

~120.11 acres on and south of Airline Hwy (US 61) in Baton Rouge, La

Parish: **EBR** Acreage: **~120.11**

Sections: **40** Township: **6s** Range: **9e**

Site Center: **30.41571°, -90.15688°**

The subject property is:

-**Forested/Herbaceous/ Urban (BREC Fairgrounds)**

Description of proposed activity:

-**Applicant is the owners Engineer**

-Future use: Unknown

ALL SITE VISITS REQUIRE PRIOR LANDOWNER NOTIFICATION AND CONSULTANT PRESE

***Signature:** _____ **Date:** 02 12 18

*THIS SIGNATURE AUTHORIZES A PHYSICAL INSPECTION OF THE SITE.

Michael Henry, Senior PM
Hydrik Wetlands Consultants
2323 Hwy 190 East Suite 2
Hammond, LA 70401
985 429 0333 ext1
985 634 5223 c
mike@hydrik.com

Consultant for: Duplantis Design Group

2.0 Definitions, General Procedures, and Site Summary

2.1 How Wetlands are Defined and Identified

The definition of wetlands as used by the U.S. Army Corps of Engineers (the Corps) and the U.S. Environmental Protection Agency (EPA) since the 1970s for regulatory purposes is as follows:

“Wetlands are areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

In more common language, wetlands are areas where the frequent and prolonged presence of water at or near the soil surface drives the natural system meaning the kind of soils that form, the plants that grow, and the fish and/or wildlife communities that use the habitat.

Contrary to popular belief, areas that may be classified as wetlands under authority of the Corps do not have to have standing water present. In addition, wetlands that may have standing water may simply not be jurisdictional due to other factors. There are “biological” wetlands, and there are “jurisdictional” wetlands. For sake of defining a wetland for purposes of the Clean Water Act, we are looking for jurisdictional wetlands. Jurisdictional wetlands are indeed biologically wetland habitats but they also meet other requirements that cause them to be taken under Corps jurisdiction.

2.2 Characteristics of Wetlands

When the upper part of the soil is saturated with water at growing season temperatures, soil organisms consume the oxygen in the soil and cause conditions unsuitable for most plants. Such conditions also cause the development of soil characteristics (such as color and texture) of so-called "hydric soils." The plants that can grow in such conditions, such as marsh grasses, are called "hydrophytes”. Together, hydric soils and hydrophytes give clues that a wetland area is present.

The presence of water by ponding, flooding, or soil saturation is not always a good indicator of wetlands. Except for wetlands flooded by ocean tides, the amount of water present in wetlands fluctuates as a result of rainfall patterns, snow melt, dry seasons and longer droughts.

Some of the most well-known wetlands, such as the everglades and Mississippi bottomland hardwood swamps, are often dry. In contrast, many

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985 429 0333

upland areas are very wet during and shortly after wet weather. Such natural fluctuations must be considered when identifying areas subject to federal jurisdiction. Similarly, the effects of upstream dams, drainage ditches, dikes, irrigation, and other modifications must also be considered.

2.3 Section 404 of the Clean Water Act and the USACE "1987 Wetlands Delineation Manual"

Section 404 of the Clean Water Act requires a permit from the Corps and authorized State agencies for the discharge of dredge or fill material into wetlands and waters of the United States. Guidelines for performing a wetland delineation in order to define these jurisdictional wetlands under the Clean Water Act are outlined in the "1987 Corps of Engineers Wetland Delineation Manual" and succeeding Regulatory Guidance Letters, including the "2008 Atlantic Regional Supplement".

The EPA and the Corps use the "1987 Manual" to define wetlands for the Clean Water Act's Section 404 program. The "1987 Manual" organizes environmental characteristics of a potential wetland into three categories: hydric soils, hydrophytic vegetation, and wetland hydrology. Hydrik is required to use the "1987 Manual" and any supplements to perform a wetland delineation.

To be considered a "wetland" by definition the area must sustain wetland/hydrophytic vegetation, hydric (wetland) soils, and must fulfill the guidelines defined in the "1987 manual" to have wetland hydrology. All three parameters were used in developing the technical guideline for wetlands and all approaches for applying the technical guideline embody the multi-parameter concept.

The actual determination and definition of these criteria can be complex. For detailed information on requirements as defined by the "1987 Manual" and the 2008 Atlantic Regional Supplement to perform a jurisdictional wetland delineation as well as detailed definitions of all three requirements mentioned above, you are welcomed to download a free copy of the "1987 Manual" and the 2008 Atlantic Regional Supplement from our website at *www.hydrik.com/resources.*

1987 Manual: **http://www.hydrik.com/downloads/Hydrik_Delineation87.pdf**
2008 Atlantic Supplement: **http://el.erdc.usace.army.mil/elpubs/pdf/trel08-30.pdf**

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2.4 Site Summary and Project Procedures

The site under review is described as approximately 120.11 acres within Section 37, Township 8 South, Range 2 East on and south of US. Hwy 61 (Airline Hwy) Baton Rouge, La within East Baton Rouge Parish **(see Figures)**.

The 120.11 acre delineated area consists of approximately 74.21 acres of developed and maintained BREC park recreational areas including baseball/softball fields, playgrounds, infrastructure buildings, fenced in parish fairground areas, an air rifle range, gravel roads and parking areas, and a small oxidation pond. The remaining 45.9 acres are a combination of forested hardwood uplands, forested hardwood wetlands (Section 404 PFO), a 1.4 acre lake (Section 404), and a series of non wetland waters (Section 404). The waterways of Ward's Creek, Ward's Creek Diversion Canal, and Bayou Manchac were located during the field review and are primarily outside of the review boundary. They have however been included in our mapping for sake of any future improvements. Bayou Manchac flows along the southern boundary and all other located creeks and non wetland waters including Ward's Creek and it's diversion ultimately terminate into Bayou Manchac.

The overall topography consists of two high broad ridges with shallow to steep elevation changes along the drain channels that flow out to the waterways. The first ridge is in the northern portion of the review area and meanders northwest to southeast along US Hwy. 61. The second ridge is located in the southern portion of the review area and meanders on a northwest to southeast axis.

The review area is bound to the north by residential homes, to the east by US Hwy 61 (Airline Hwy), to the south by Bayou Manchac and to the west by Ward's Creek and the Ward's Creek Diversion Canal.

After extensive in house research of NRCS soils data, digital elevation models, Infrared DOQQ imagery, Nation Wetland Inventory data and varying years of high resolution RGB and infrared aerial imagery, field investigations were performed January-February 2018 to determine the extent of wetlands and non wetland waters of the U.S. (WOUS) on the site. Soil data points were taken throughout the site and representative findings from soils, vegetation, and hydrology were documented where applicable to community changes. Wetland interfaces were lightly flagged with pink "wetland delineation" flagging and mapped using a WAAS GPS enabled Leica® Submeter GPS unit. Data was post processed "on the fly" through Leica Smart Net.

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Hammond, LA 70401
985 429 0333

3.0 Field Findings Summary and Conclusion

3.1 Vegetative Findings

Dominant vegetation accounting for 20% or more of the species was observed at the tree layer (T), sapling and shrub layer (S/S), herbaceous layer (H), and woody vine/liana layer (WV). Species were documented and their wetland indicator status noted.

Several varying vegetative communities were noted on the tract. The dominant habitat consists of open, herbaceous upland areas while the smaller non-dominant habitats consist of forested hardwood uplands, forested hardwood wetlands (PFO), and open water.

The forested hardwood upland areas represent the dominant forested habitat on the site. These mature, forested upland areas contain a dominant presence of sugarberry, water oak, Chinese tallow, American elm, live oak, southern magnolia and sweet gum in the tree layer, the aforementioned species as well as Chinese privet and yaupon in the sapling/shrub layer, and Virginia creeper, blackberry, Japanese climbing fern, greenbrier, muscadine and Japanese honeysuckle in the herbaceous and woody vine layer.

The forested hardwood wetlands (PFO) are shallow, depressional areas located in the lower elevation areas near several Section 404 drains (non wetland waters). The tree layer contains a dominant presence of green ash, Chinese tallow, American elm and black willow, the aforementioned species as well as well as a dominant presence of planer tree and buttonbush in the sapling/shrub layer, and trumpet creeper and slender wood oats in the herbaceous and woody vine layer.

Vegetative Findings Conclusion: Overall, all vegetation on the site other than portions of the maintained recreational areas is hydrophytic/positive for wetland classification.

3.2 Soil Findings

Typically, soil observations are performed using a sharpshooter at a depth of 12-16 inches, and soil color is observed using the required Munsell ® soil color chart. After sampling, we attempted to confirm the accuracy of the NRCS Soil Survey data.

Per the USDA Soil survey, the site is mapped as having a combination of the soil types CdA (Calhoun silt loam, 0-1% slopes, occasionally flooded), FrA (Frost silt loam, 0-1% slopes, occasionally flooded), GaB (Galvez silt loam, 0-1% slopes, frequently flooded), OpA (Oprairie silt, 0-1% slopes), OpB (Oprairie silt, 1-3% slopes) and UA (Udarents).

The OpA & OpB series as mapped by the USDA comprises roughly 48% of the site, the GaB series 18 %, the FrA series 17%, the CdA series 12% and the UA 5%. All listed soils are considered wetland/hydric soils except for the

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Hammond, LA 70401
985 429 0333

Oprairie and Udarent's series soils. However, the 0-1% slope factors of the hydric FrA, CdA, and GaB series soils typically prevents the formation of hydrology sufficient to form significant wetlands areas where, as in this case, sufficient overall site drainage is present.

Our field investigation concludes that the site does contain all soil series as listed by the USDA. As typical of USDA NRCS mapping, all soils as mapped were present on site but not accurately delineated per NRCS map data.

Soil Findings Conclusion: Mapped wetland areas within the review area typically exhibited lower chroma soils indicative of the hydric Galvez and Frost series. Upland areas contained a mixture of both the hydric Galvez and Frost series and the non hydric Oprairie series soils but the lack of wetland hydrology in many areas containing hydric soils has prevented wetlands from forming.

3.3 Hydrological Findings

As indicated in the "87 manual", when evaluating hydrology, areas must be seasonally inundated or saturated for a consecutive 12.5 percent of the growing season.

Hydrology was evaluated based on a combination of properties exhibited by the soil at various levels such as oxidized rhizospheres (root channels), crayfish mounds, water marks, sedimentary deposits and evidence of soil inundation or saturation within 12 inches of the surface for extended periods during the growing season.

Mapped wetland areas contain multiple primary and secondary hydrology indicators such as water marks, crayfish mounds, sedimentation on the leaves, leaf debris, saturation, and oxidized rhizospheres.

Overall site surface hydrology flows to the west into Ward's Creek and Ward's Creek Diversion Canal while the southern portion of the site flows south into Bayou Manchac. Wetlands as located and mapped adjacent to the mapped non wetland waters appear to have formed due to minor ponding in slightly lower elevation areas during excessive rainfall as well as bank breaching of Bayou Manchac and Ward's Creek and its diversion.

Hydrological Findings Conclusion: Wetland hydrology and vegetative community/density changes due to minor elevation variations was the key factors in delineating the wetland/upland interface in the field. The presence or lack of wetland hydrology was the primary determining factor in a particular area's classification as a wetland/upland.

Although not fully inclusive of all minor elevation variances, please see **Figures 4 and 5** for general site contour details.

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3.4 Final Conclusion

Based upon our findings, and after mapping areas as wetlands that were positive for all three indicators (hydrophytic vegetation, hydric soils, and wetland hydrology) and mapping of all "water" features it is the conclusion of our office that the 120.11 acre review area contains the following:

A. 2.76 acres of Section 404 jurisdictional Palustrine Forested (PFO) wetlands.

B. 4750 linear feet of Section 404 jurisdictional linear non wetland waters.

C. 1.4 acres of Section 404 jurisdictional non wetland waters (lake)

D. Ward's Creek Diversion and Bayou Manchac although outside of the review boundary have been mapped and are classified as Section 10 jurisdictional waters.

E. Ward's Creek although primarily outside of the review boundary (minor encroachment noted) has been mapped and is classified as a Section 404/10 jurisdictional water.

The extent and boundaries of the mapped wetlands and waters are indicated on **Figure 6,** and acreage breakdowns of each mapped wetland community are indicated on **Figure 7.**

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Figures 1-7

2323 HWY 190 EAST SUITE 2
HAMMOND, LA 70401
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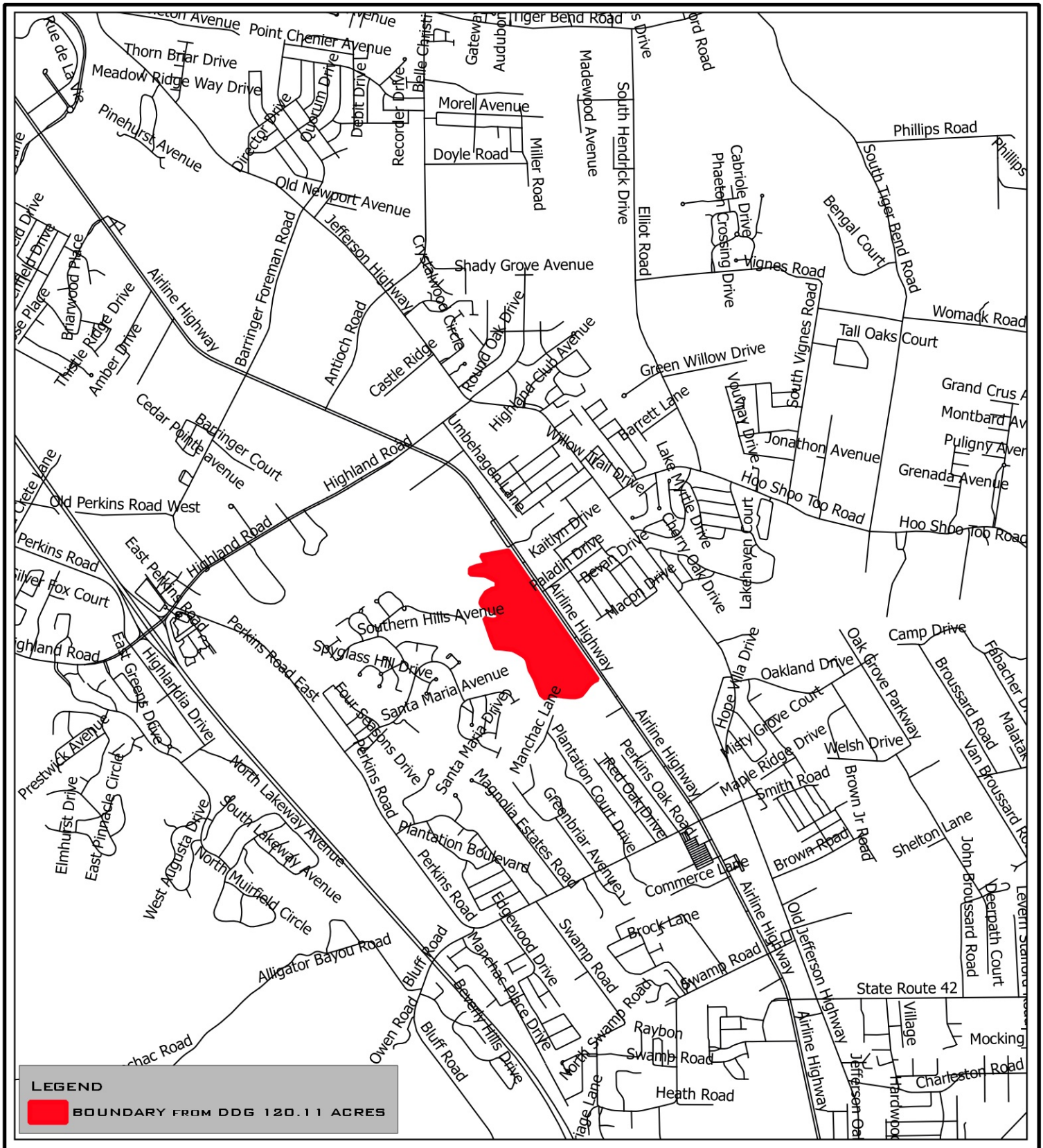


~120.11 ACRE REVIEW AREA
BATON ROUGE, LA
EAST BATON ROUGE PARISH
LSP FIPS 1702 NAD 83
SITE CENTER: 30.34663 ,-90.99897

PLEASE NOTE: MAP DATA IS FOR REFERENCE ONLY. THIS IS NOT A LEGAL SURVEY AND SHOULD NOT BE USED AS SUCH

SITE VICINITY

DUPLANTIS DESIGN GROUP
"BREC FAIRGROUNDS SITE"

FIGURE 1

HF:18058

DATE:020618

HYDRIK
WETLANDS - GIS - FLOOD CONTROL
WWW.HYDRIK.COM
2323 HWY 190 EAST SUITE 2
HAMMOND, LA 70401
985 429 0333

~120.11 ACRE REVIEW AREA
BATON ROUGE, LA
EAST BATON ROUGE PARISH
LSP FIPS 1702 NAD 83
SITE CENTER: 30.34663 ,-90.99897

200 0 200 400 600 800 FT

PLEASE NOTE: MAP DATA IS FOR REFERENCE ONLY. THIS IS NOT A LEGAL SURVEY AND SHOULD NOT BE USED AS SUCH

1998 INFRARED DOQQ

DUPLANTIS DESIGN GROUP
"BREC FAIRGROUNDS SITE"

FIGURE 2

HF:18058

DATE:020618

HYDRIK
WETLANDS - GIS - FLOOD CONTROL
WWW.HYDRIK.COM
2323 HWY 190 EAST SUITE 2
HAMMOND, LA 70401
985 429 0333

~120.11 ACRE REVIEW AREA
BATON ROUGE, LA
EAST BATON ROUGE PARISH
LSP FIPS 1702 NAD 83
SITE CENTER: 30.34663 ,-90.99897

200 0 200 400 600 800 FT

PLEASE NOTE: MAP DATA IS FOR REFERENCE ONLY. THIS IS NOT A LEGAL SURVEY AND SHOULD NOT BE USED AS SUCH

2004 INFRARED DOQQ

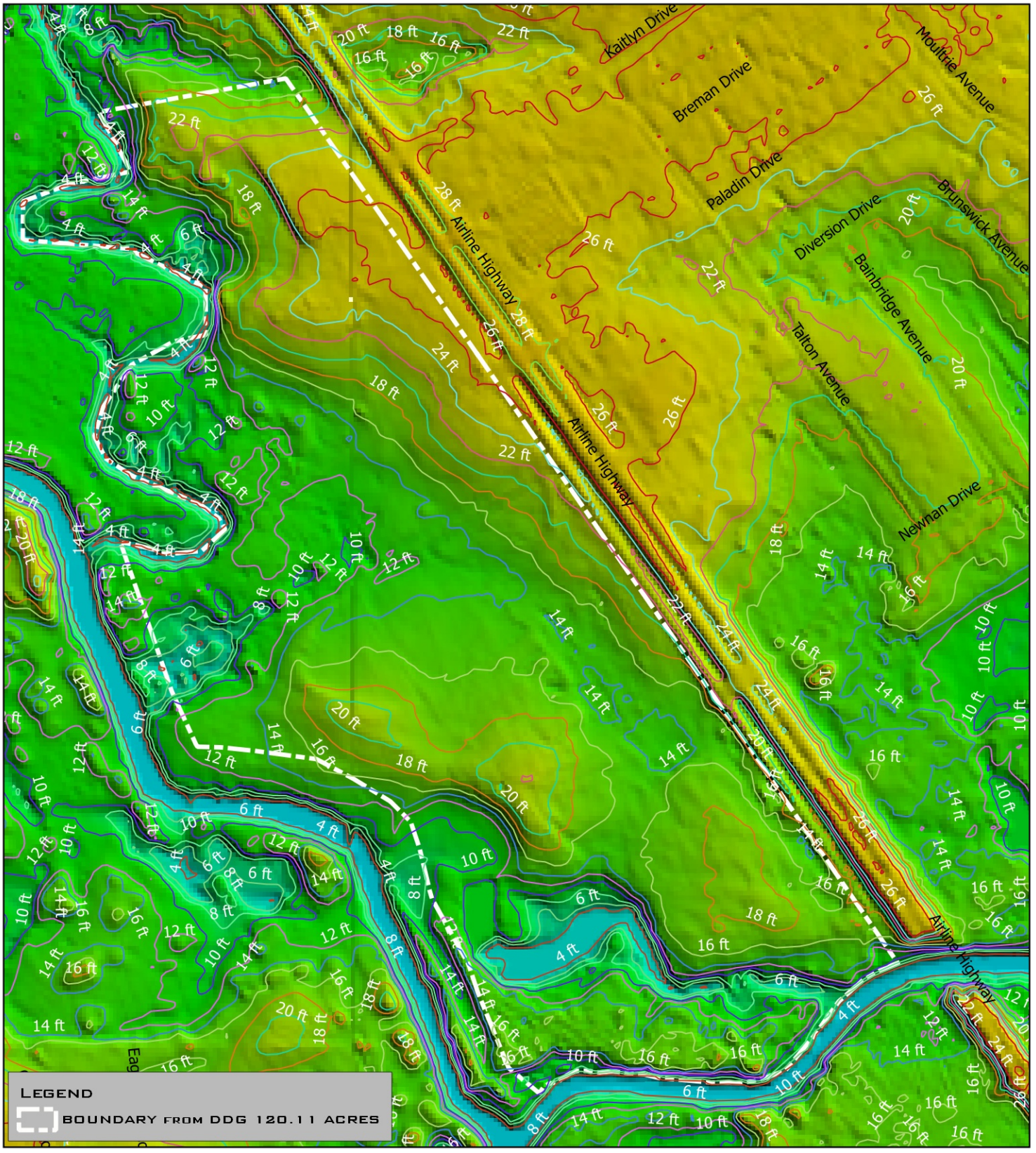
DUPLANTIS DESIGN GROUP
"BREC FAIRGROUNDS SITE"

FIGURE 3

HF:18058

DATE:020618

HYDRIK
WETLANDS - GIS - FLOOD CONTROL
WWW.HYDRIK.COM
2323 HWY 190 EAST SUITE 2
HAMMOND, LA 70401
985 429 0333



~120.11 ACRE REVIEW AREA
BATON ROUGE, LA
EAST BATON ROUGE PARISH
LSP FIPS 1702 NAD 83
SITE CENTER: 30.34663 ,-90.99897

200 0 200 400 600 800 FT

PLEASE NOTE: MAP DATA IS FOR REFERENCE ONLY. THIS IS NOT A LEGAL SURVEY AND SHOULD NOT BE USED AS SUCH

DIGITAL ELEVATION MODEL/2 FT
LIDAR BASED CONTOURS

DUPLANTIS DESIGN GROUP
"BREC FAIRGROUNDS SITE"

FIGURE
4

HYDRIK
WETLANDS - GIS - FLOOD CONTROL
WWW.HYDRIK.COM

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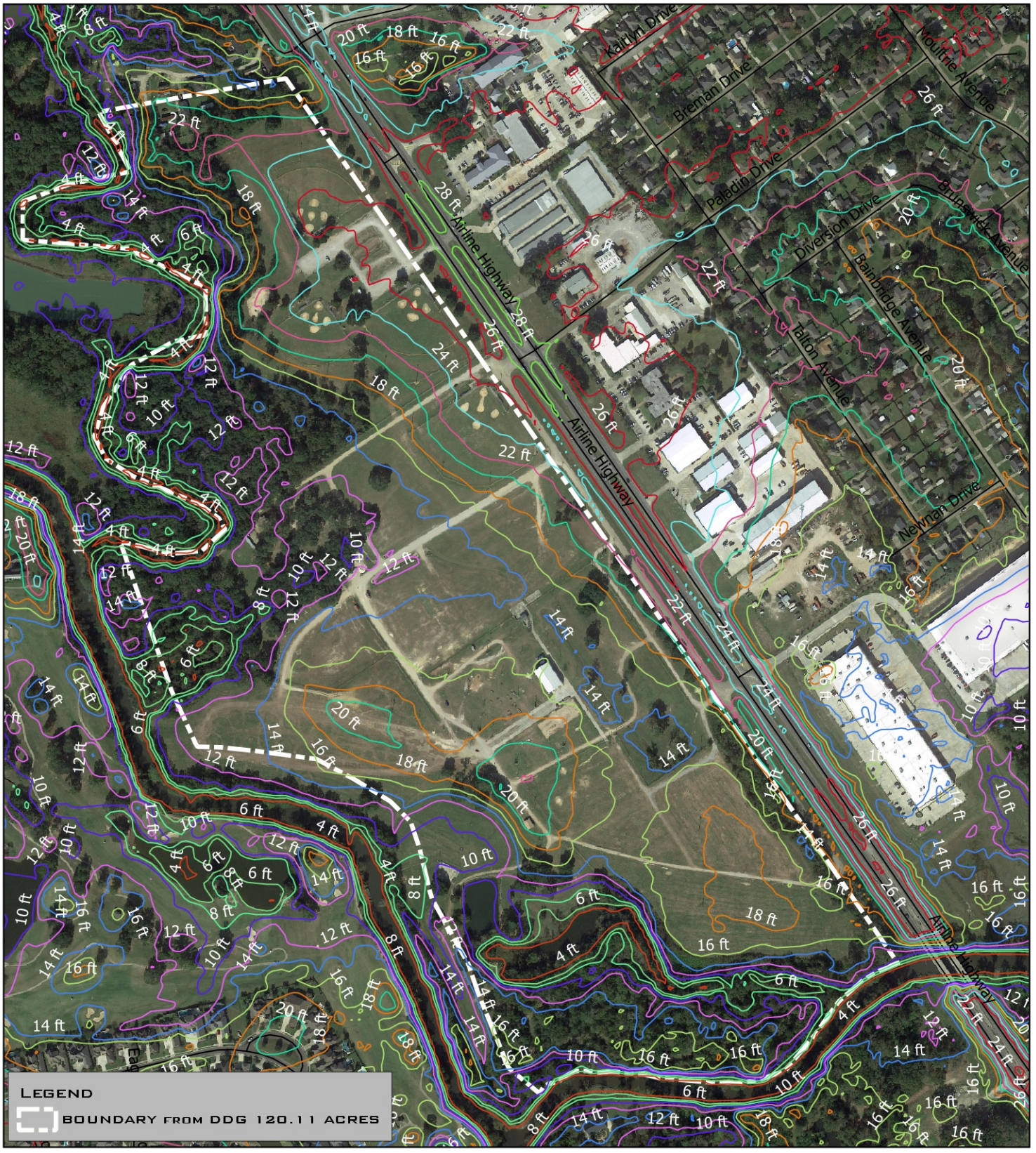
HAMMOND, LA 70401
985 429 0333

HF:18058

DATE:020618



~120.11 ACRE REVIEW AREA
BATON ROUGE, LA
EAST BATON ROUGE PARISH
LSP FIPS 1702 NAD 83
SITE CENTER: 30.34663 ,-90.99897

200 0 200 400 600 800 FT

PLEASE NOTE: MAP DATA IS FOR REFERENCE ONLY. THIS IS NOT A LEGAL SURVEY AND SHOULD NOT BE USED AS SUCH

2016 RGB AERIAL/2 FT LIDAR BASED CONTOURS

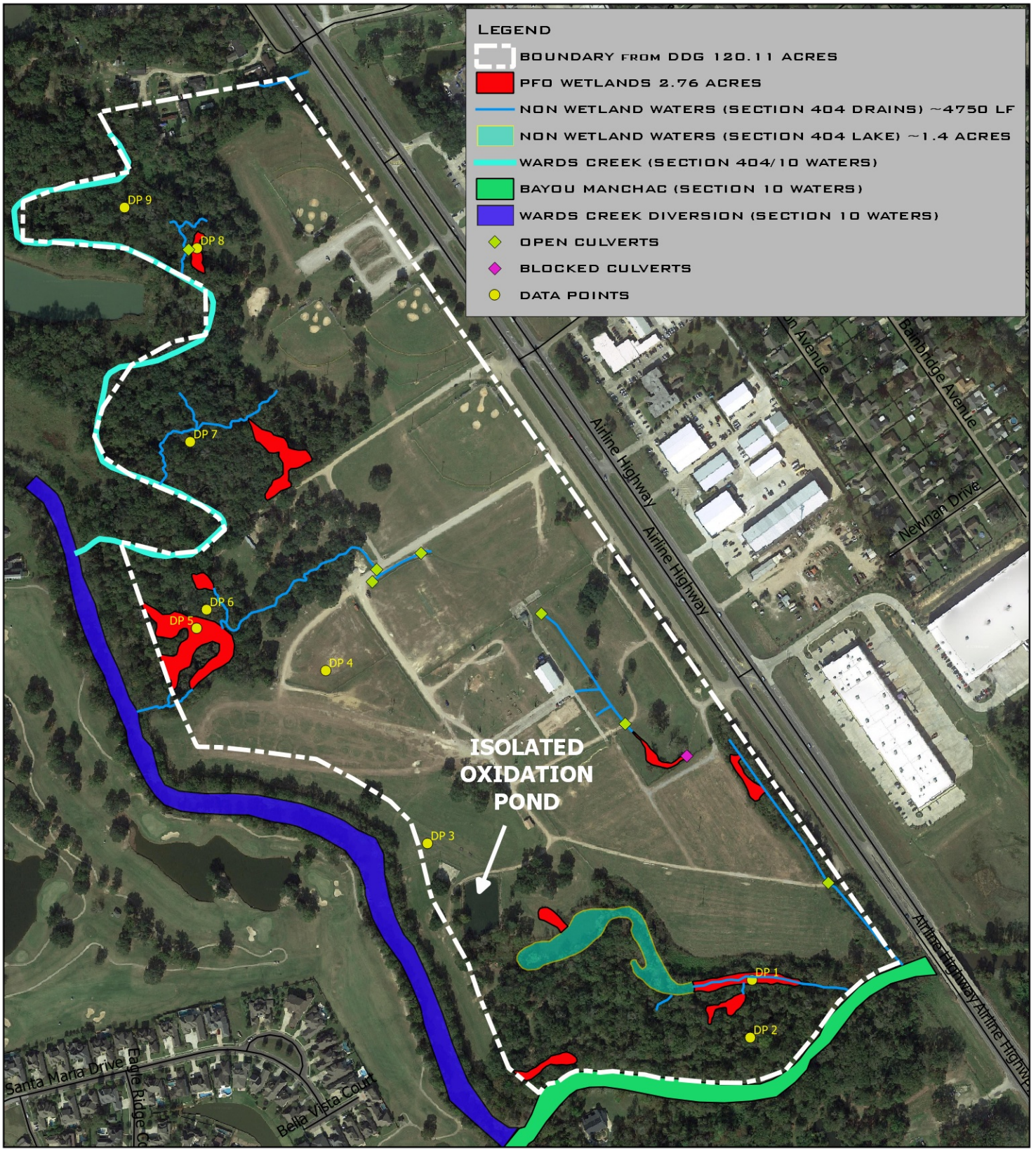
DUPLANTIS DESIGN GROUP
"BREC FAIRGROUNDS SITE"

FIGURE 5

HF:18058

DATE:020618

HYDRIK
WETLANDS - GIS - FLOOD CONTROL
WWW.HYDRIK.COM
2323 HWY 190 EAST SUITE 2
HAMMOND, LA 70401
985 429 0333



~120.11 ACRE REVIEW AREA
BATON ROUGE, LA
EAST BATON ROUGE PARISH
LSP FIPS 1702 NAD 83
SITE CENTER: 30.34663 ,-90.99897

200 0 200 400 600 800 FT

PLEASE NOTE: MAP DATA IS FOR REFERENCE ONLY. THIS IS NOT A LEGAL SURVEY AND SHOULD NOT BE USED AS SUCH

WETLAND DELINEATION /2016 RGB AERIAL OVERLAY

DUPLANTIS DESIGN GROUP
"BREC FAIRGROUNDS SITE"

FIGURE 6

HF:18058

DATE:020618

HYDRIK
WETLANDS - GIS - FLOOD CONTROL
WWW.HYDRIK.COM
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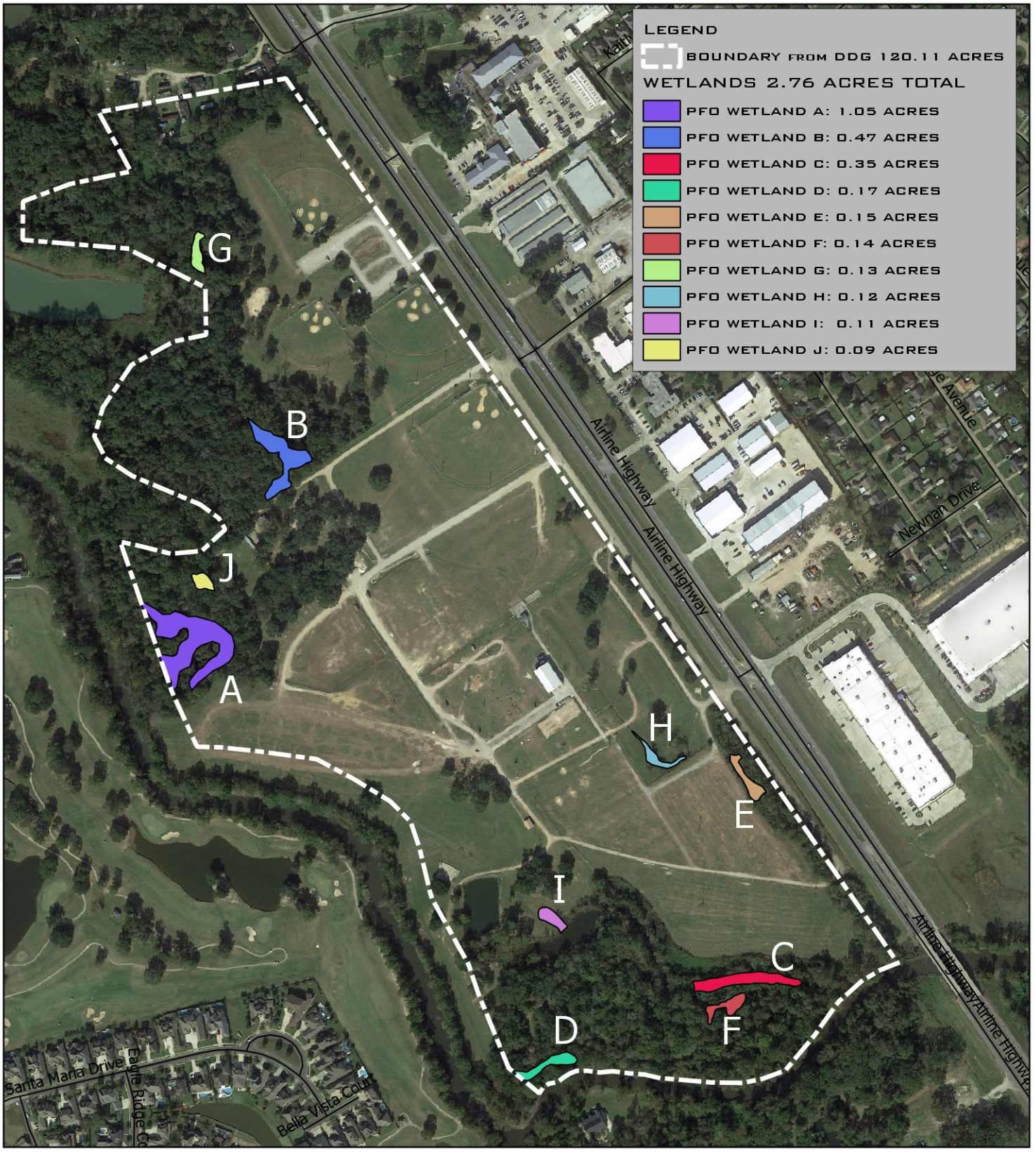
HAMMOND, LA 70401
985 429 0333



~120.11 ACRE REVIEW AREA
BATON ROUGE, LA
EAST BATON ROUGE PARISH
LSP FIPS 1702 NAD 83
SITE CENTER: 30.34663 ,-90.99897

200 0 200 400 600 800 FT

PLEASE NOTE: MAP DATA IS FOR REFERENCE ONLY. THIS IS NOT A LEGAL SURVEY AND SHOULD NOT BE USED AS SUCH

WETLAND DELINEATION WETLAND COMMUNITY ACREAGE BREAKDOWN

DUPLANTIS DESIGN GROUP
"BREC FAIRGROUNDS SITE"

FIGURE 7

HF:18058

DATE:020618

HYDRIK
Wetlands - GIS - Flood Control
www.hydrik.com
2323 Hwy 190 East Suite 2
Hammond, LA 70401
985 429 0333

Appendix A: Data Sheets and Photographs

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985 429 0333

DATA POINT 1

2323 Hwy 190 East Suite 2
Hammond, LA 70401
985 429 0333

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Airline Highway Park site **City/County:** East Baton Rouge **Sampling Date:** 25-Jan-18

Applicant/Owner: BREC **State:** LA **Sampling Point:** 01

Investigator(s): Hydrik-Kelly Turk **Section, Township, Range:** S 37 T 8 S R 2 E

Landform (hillslope, terrace, etc.): drainage way **Local relief (concave, convex, none):** concave **Slope:** 10.0 % / 5.7 °

Subregion (LRR or MLRA): MLRA 134 in LRR P **Lat.:** 30.342629 **Long.:** -90.995293 **Datum:** LSP

Soil Map Unit Name: (GaB) Galvez silt loam, 0-2% slopes, freuently flooded **NWI classification:** PFO1A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ◉ No ○	

Remarks:
Plot located in wetland drainageway in forest.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☑ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ◉	No ○	Depth (inches): 16
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches): 0

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: 01

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30)				
1. Triadica sebifera	25	☑	83.3%	FAC
2. Fraxinus pennsylvanica	5	☐	16.7%	FACW
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 15	20% of Total Cover: 6	30	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: 30)				
1. Cephalanthus occidentalis	30	☑	40.0%	OBL
2. Triadica sebifera	5	☐	6.7%	FAC
3. Acer rubrum	10	☐	13.3%	FAC
4. Planera aquatica	30	☑	40.0%	OBL
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 37.5	20% of Total Cover: 15	75	= Total Cover	
Shrub Stratum (Plot size: 30)				
1.		☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Herb Stratum (Plot size: 30)				
1. Persicaria pensylvanica	85	☑	85.0%	FACW
2. Brunnichia ovata	15	☐	15.0%	FACW
3.		☐	0.0%	
4.		☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
50% of Total Cover: 50	20% of Total Cover: 20	100	= Total Cover	
Woody Vine Stratum (Plot size: 30)				
1. Brunnichia ovata	20	☑	66.7%	FACW
2. Campsis radicans	10	☑	33.3%	FAC
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
50% of Total Cover: 15	20% of Total Cover: 6	30	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	60	x 1 =	60
FACW species	125	x 2 =	250
FAC species	50	x 3 =	150
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	235 (A)		460 (B)

Prevalence Index = B/A = 1.957

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc²	Texture	Remarks
0-7	10YR	4/1	95	10YR	5/6	5	D	M	Clay Loam	
7-16	10YR	5/1	85	10YR	5/8	15	D	M	Clay Loam	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

DATA POINT 2

2323 Hwy 190 East Suite 2
Hammond, LA 70401
985 429 0333

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Airline Highway Park site **City/County:** East Baton Rouge **Sampling Date:** 25-Jan-18

Applicant/Owner: BREC **State:** LA **Sampling Point:** 02

Investigator(s): Hydrik-Kelly Turk **Section, Township, Range:** S 37 T 8 S R 2 E

Landform (hillslope, terrace, etc.): ridge side **Local relief (concave, convex, none):** convex **Slope:** 8.0 % / 4.6 °

Subregion (LRR or MLRA): MLRA 134 in LRR P **Lat.:** 30.342042 **Long.:** -90.995316 **Datum:** LSP

Soil Map Unit Name: (GaB) Galvez silt loam, 0-2% slopes, freuently flooded **NWI classification:** PFO1A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:
Plot located on upland forested ridgeside.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: 02

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30)				
1. Platanus occidentalis	35	☑	36.8%	FACW
2. Triadica sebifera	20	☑	21.1%	FAC
3. Celtis laevigata	25	☑	26.3%	FACW
4. Quercus nigra	15	☐	15.8%	FAC
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 47.5 20% of Total Cover: 19	95	= Total Cover		
Sapling or Sapling/Shrub Stratum (Plot size: 30)				
1. Ligustrum sinense	60	☑	80.0%	FAC
2. Celtis laevigata	15	☑	20.0%	FACW
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 37.5 20% of Total Cover: 15	75	= Total Cover		
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0	= Total Cover		
Herb Stratum (Plot size: 30)				
1. Allium canadense	35	☑	36.8%	FACU
2. Lonicera japonica	30	☑	31.6%	FACU
3. Sambucus nigra	15	☐	15.8%	FACW
4. Rubus argutus	15	☐	15.8%	FAC
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
50% of Total Cover: 47.5 20% of Total Cover: 19	95	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 71.4% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	90	x 2 =	180
FAC species	110	x 3 =	330
FACU species	65	x 4 =	260
UPL species	0	x 5 =	0
Column Totals:	265 (A)		770 (B)

Prevalence Index = B/A = 2.906

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)	%	Type [1]	Loc²	Texture	Remarks
0-7	10YR	3/2	100					Silt Loam	
7-16	10YR	4/3	100					Silt Loam	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

DATA POINT 3

2323 HWY 190 EAST SUITE 2
HAMMOND, LA 70401
985 429 0333

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Airline Highway Park site **City/County:** East Baton Rouge **Sampling Date:** 25-Jan-18

Applicant/Owner: BREC **State:** LA **Sampling Point:** 03

Investigator(s): Hydrik-Kelly Turk **Section, Township, Range:** S 37 T 8 S R 2 E

Landform (hillslope, terrace, etc.): Valley bottom **Local relief (concave, convex, none):** concave **Slope:** 3.0 % / 1.7 °

Subregion (LRR or MLRA): MLRA 134 in LRR P **Lat.:** 30.343950 **Long.:** -90.999256 **Datum:** LSP

Soil Map Unit Name: (GaB) Galvez silt loam, 0-2% slopes, freuently flooded **NWI classification:** none

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○ No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:
Plot located in upland herbaceous field.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: 03

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Herb Stratum (Plot size: 30)				
1. Rumex crispus	25	☐	18.5%	FAC
2. Cynodon dactylon	95	☑	70.4%	FACU
3. Trifolium repens	15	☐	11.1%	FACU
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
50% of Total Cover: 67.5	20% of Total Cover: 27	135	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	25	x 3 =	75	
FACU species	110	x 4 =	440	
UPL species	0	x 5 =	0	
Column Totals:	135 (A)		515	(B)

Prevalence Index = B/A = 3.815

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 03

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc²	Texture	Remarks
0-6	10YR	5/3	80	10YR	5/6	20			Silt Loam	
6-16	10YR	6/2	80	10YR	5/6	20			Silt Loam	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

DATA POINT 4

2323 Hwy 190 East Suite 2
Hammond, LA 70401
985 429 0333

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Airline Highway Park site **City/County:** East Baton Rouge **Sampling Date:** 25-Jan-18

Applicant/Owner: BREC **State:** LA **Sampling Point:** 04

Investigator(s): Hydrik-Kelly Turk **Section, Township, Range:** S 37 T 8 S R 2 E

Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** convex **Slope:** 10.0 % / 5.7 °

Subregion (LRR or MLRA): MLRA 134 in LRR P **Lat.:** 30.345788 **Long.:** -91.000286 **Datum:** LSP

Soil Map Unit Name: (OpB) Oprairie silt, 1-3% slopes **NWI classification:** none

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○ No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:
Plot located in upland herbaceous field.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: 04

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Herb Stratum (Plot size: 30)				
1. Cynodon dactylon	95	☑	73.1%	FACU
2. Rumex crispus	15	☐	11.5%	FAC
3. Trifolium repens	20	☐	15.4%	FACU
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
50% of Total Cover: 65	20% of Total Cover: 26	130	= Total Cover	
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	115	x 4 =	460
UPL species	0	x 5 =	0
Column Totals:	130 (A)		505 (B)

Prevalence Index = B/A = 3.885

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 04

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc²	Texture	Remarks
0-3	10YR	3/3	100						Silt Loam	
3-11	10YR	5/4	100						Silty Clay Loam	
11-16	10YR	6/3	60	10YR	5/4	40			Clay	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

DATA POINT 5

2323 HWY 190 EAST SUITE 2
HAMMOND, LA 70401
985 429 0333

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Airline Highway Park site **City/County:** East Baton Rouge **Sampling Date:** 25-Jan-18

Applicant/Owner: BREC **State:** LA **Sampling Point:** 05

Investigator(s): Hydrik-Kelly Turk **Section, Township, Range:** S 37 T 8 S R 2 E

Landform (hillslope, terrace, etc.): Lowland **Local relief (concave, convex, none):** concave **Slope:** 8.0 % / 4.6 °

Subregion (LRR or MLRA): MLRA 134 in LRR P **Lat.:** 30.346223 **Long.:** -91.001801 **Datum:** LSP

Soil Map Unit Name: (FrA) Frost silt loam, 0-1% slopes, occasionally flooded **NWI classification:** none

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ◉ No ○	

Remarks:
Plot located in forested wetland area.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☑ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☑ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches): 0

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: 05

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30)				
1. Triadica sebifera	30	☑	30.0%	FAC
2. Ulmus americana	20	☑	20.0%	FAC
3. Fraxinus pennsylvanica	25	☑	25.0%	FACW
4. Salix nigra	25	☑	25.0%	OBL
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 50	20% of Total Cover: 20	100	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: 30)				
1. Salix nigra	10	☑	22.2%	OBL
2. Triadica sebifera	15	☑	33.3%	FAC
3. Acer rubrum	20	☑	44.4%	FAC
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 22.5	20% of Total Cover: 9	45	= Total Cover	
Shrub Stratum (Plot size: 30)				
1. Sabal minor	30	☑	100.0%	FACW
2.		☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
50% of Total Cover: 15	20% of Total Cover: 6	30	= Total Cover	
Herb Stratum (Plot size:)				
1. Carex cherokeensis	25	☑	55.6%	FACW
2. Campsis radicans	20	☑	44.4%	FAC
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
50% of Total Cover: 22.5	20% of Total Cover: 9	45	= Total Cover	
Woody Vine Stratum (Plot size: 30)				
1. Campsis radicans	10	☑	50.0%	FAC
2. Toxicodendron radicans	10	☑	50.0%	FAC
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
50% of Total Cover: 10	20% of Total Cover: 4	20	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 12 (A)

Total Number of Dominant Species Across All Strata: 12 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:		
OBL species	35	x 1 =	35	
FACW species	80	x 2 =	160	
FAC species	125	x 3 =	375	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	240 (A)		570	(B)

Prevalence Index = B/A = 2.375

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 05

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc²	Texture	Remarks
0-3	10YR	5/1	100						Silt Loam	
3-16	10YR	6/1	80	10YR	5/8	20	D	M	Silt Loam	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

DATA POINT 6

2323 HWY 190 EAST SUITE 2
HAMMOND, LA 70401
985 429 0333

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Airline Highway Park site **City/County:** East Baton Rouge **Sampling Date:** 25-Jan-18

Applicant/Owner: BREC **State:** LA **Sampling Point:** 06

Investigator(s): Hydrik-Kelly Turk **Section, Township, Range:** S 37 T 8 S R 2 E

Landform (hillslope, terrace, etc.): ridge **Local relief (concave, convex, none):** convex **Slope:** 6.0 % / 3.4 °

Subregion (LRR or MLRA): MLRA 134 in LRR P **Lat.:** 30.346411 **Long.:** -91.001683 **Datum:** LSP

Soil Map Unit Name: (FrA) Frost silt loam, 0-1% slopes, occasionally flooded **NWI classification:** none

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:
Plot located in upland forest.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: 06

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30)				
1. Quercus virginiana	35	☑	36.8%	FACU
2. Quercus nigra	30	☑	31.6%	FAC
3. Triadica sebifera	20	☑	21.1%	FAC
4. Ulmus americana	10	☐	10.5%	FAC
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 47.5 20% of Total Cover: 19	95		**= Total Cover**	
Sapling or Sapling/Shrub Stratum (Plot size: 30)				
1. Ligustrum sinense	50	☑	55.6%	FAC
2. Poncirus trifoliata	25	☑	27.8%	UPL
3. Triadica sebifera	10	☐	11.1%	FAC
4. Sabal minor	5	☐	5.6%	FACW
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 45 20% of Total Cover: 18	90		**= Total Cover**	
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		**= Total Cover**	
Herb Stratum (Plot size: 30)				
1. Rubus argutus	20	☑	25.0%	FAC
2. Lonicera japonica	25	☑	31.3%	FACU
3. Allium canadense	25	☑	31.3%	FACU
4. Berchemia scandens	10	☐	12.5%	FAC
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
50% of Total Cover: 40 20% of Total Cover: 16	80		**= Total Cover**	
Woody Vine Stratum (Plot size: 30)				
1. Parthenocissus quinquefolia	15	☑	37.5%	FACU
2. Vitis rotundifolia	15	☑	37.5%	FAC
3. Berchemia scandens	10	☑	25.0%	FAC
4.	0	☐	0.0%	
5.	0	☐	0.0%	
50% of Total Cover: 20 20% of Total Cover: 8	40		**= Total Cover**	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 11 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 54.5% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	175	x 3 =	525
FACU species	100	x 4 =	400
UPL species	25	x 5 =	125
Column Totals:	305 (A)		1060 (B)

Prevalence Index = B/A = 3.475

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 06

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc²	Texture	Remarks
0-5	10YR	4/3	100						Silt Loam	
5-16	10YR	5/2	90	10YR	5/4	10	D	M	Silt Loam	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

DATA POINT 7

2323 Hwy 190 East Suite 2
Hammond, LA 70401
985 429 0333

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Airline Highway Park site **City/County:** East Baton Rouge **Sampling Date:** 25-Jan-18

Applicant/Owner: BREC **State:** LA **Sampling Point:** 07

Investigator(s): Hydrik-Kelly Turk **Section, Township, Range:** S 37 T 8 S R 2 E

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** convex **Slope:** 3.0 % / 1.7 °

Subregion (LRR or MLRA): MLRA 134 in LRR P **Lat.:** 30.348119 **Long.:** -91.001869 **Datum:** LSP

Soil Map Unit Name: (FrA) Frost silt loam, 0-1% slopes, occasionally flooded **NWI classification:** none

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:
Plot located in upland forest.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: 07

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30)				
1. Quercus virginiana	30	☑	37.5%	FACU
2. Quercus nigra	30	☑	37.5%	FAC
3. Ulmus americana	20	☑	25.0%	FAC
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 40 — 20% of Total Cover: 16	80	= Total Cover		
Sapling or Sapling/Shrub Stratum (Plot size: 30)				
1. Ligustrum sinense	60	☑	70.6%	FAC
2. Poncirus trifoliata	25	☑	29.4%	UPL
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 42.5 — 20% of Total Cover: 17	85	= Total Cover		
Shrub Stratum (Plot size: 30)				
1. Sabal minor	15	☑	100.0%	FACW
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
50% of Total Cover: 7.5 — 20% of Total Cover: 3	15	= Total Cover		
Herb Stratum (Plot size: 30)				
1. Lonicera japonica	25	☑	50.0%	FACU
2. Smilax glauca	15	☑	30.0%	FAC
3. Parthenocissus quinquefolia	10	☑	20.0%	FACU
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
50% of Total Cover: 25 — 20% of Total Cover: 10	50	= Total Cover		
Woody Vine Stratum (Plot size: 30)				
1. Vitis rotundifolia	15	☑	42.9%	FAC
2. Parthenocissus quinquefolia	10	☑	28.6%	FACU
3. Smilax rotundifolia	10	☑	28.6%	FAC
4.	0	☐	0.0%	
5.	0	☐	0.0%	
50% of Total Cover: 17.5 — 20% of Total Cover: 7	35	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 12 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 58.3% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:		
OBL species	0	x 1 =	0	
FACW species	15	x 2 =	30	
FAC species	150	x 3 =	450	
FACU species	75	x 4 =	300	
UPL species	25	x 5 =	125	
Column Totals:	265 (A)		905	(B)

Prevalence Index = B/A = 3.415

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 07

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc²	Texture	Remarks
0-3	10YR	4/3	100						Silt Loam	
3-7	10YR	5/3	100						Silt Loam	
7-16	10YR	6/2	80	10YR	5/6	20	D	M	Silty Clay Loam	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

DATA POINT 8

2323 HWY 190 EAST SUITE 2
HAMMOND, LA 70401
985 429 0333

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Airline Highway Park site **City/County:** East Baton Rouge **Sampling Date:** 25-Jan-18

Applicant/Owner: BREC **State:** LA **Sampling Point:** 08

Investigator(s): Hydrik-Kelly Turk **Section, Township, Range:** S 37 T 8 S R 2 E

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** none **Slope:** 0.0 % / 0.0 °

Subregion (LRR or MLRA): MLRA 134 in LRR P **Lat.:** 30.350088 **Long.:** -91.001782 **Datum:** LSP

Soil Map Unit Name: (FrA) Frost silt loam, 0-1% slopes, occasionally flooded **NWI classification:** none

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ◉ No ○	

Remarks:
Plot located in wetland sapling/shrub depression (PFO historically).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☑ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☑ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ◉	No ○	Depth (inches): 7
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: 08

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30)				
1. Triadica sebifera	20	☑	100.0%	FAC
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 10	20% of Total Cover: 4	20	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: 30)				
1. Triadica sebifera	15	☑	100.0%	FAC
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 7.5	20% of Total Cover: 3	15	= Total Cover	
Shrub Stratum (Plot size: 30)				
1. Cephalanthus occidentalis	20	☑	100.0%	OBL
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
50% of Total Cover: 10	20% of Total Cover: 4	20	= Total Cover	
Herb Stratum (Plot size: 30)				
1. Persicaria punctata	75	☑	68.2%	OBL
2. Brunnichia ovata	20	☐	18.2%	FACW
3. Packera glabella	15	☐	13.6%	OBL
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
50% of Total Cover: 55	20% of Total Cover: 22	110	= Total Cover	
Woody Vine Stratum (Plot size: 30)				
1. Brunnichia ovata	15	☑	37.5%	FACW
2. Toxicodendron radicans	10	☑	25.0%	FAC
3. Campsis radicans	15	☑	37.5%	FAC
4.	0	☐	0.0%	
5.	0	☐	0.0%	
50% of Total Cover: 20	20% of Total Cover: 8	40	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:		
OBL species	110	x 1 =	110	
FACW species	35	x 2 =	70	
FAC species	60	x 3 =	180	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	205 (A)		360	(B)

Prevalence Index = B/A = 1.756

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 08

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc²	Texture	Remarks
0-4	10YR	3/2	100						Silt Loam	
4-7	10YR	6/1	85	10YR	5/6	15	D	M	Silty Clay Loam	
7-16	10YR	5/1	90	10YR	5/6	10	D	M	Silty Clay Loam	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

DATA POINT 9

2323 Hwy 190 East Suite 2
Hammond, LA 70401
985 429 0333

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Airline Highway Park site **City/County:** East Baton Rouge **Sampling Date:** 25-Jan-18

Applicant/Owner: BREC **State:** LA **Sampling Point:** 09

Investigator(s): Hydrik-Kelly Turk **Section, Township, Range:** S 37 T 8 S R 2 E

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** none **Slope:** 0.0 % / 0.0 °

Subregion (LRR or MLRA): MLRA 134 in LRR P **Lat.:** 30.350504 **Long.:** -91.002633 **Datum:** LSP

Soil Map Unit Name: (FrA) Frost silt loam, 0-1% slopes, occasionally flooded **NWI classification:** none

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:
Plot located in upland forest.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: 09

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30)				
1. Quercus virginiana	55	☑	57.9%	FACU
2. Quercus nigra	25	☑	26.3%	FAC
3. Triadica sebifera	15	☐	15.8%	FAC
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 47.5	20% of Total Cover: 19	95	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: 30)				
1. Ligustrum sinense	70	☑	77.8%	FAC
2. Poncirus trifoliata	20	☑	22.2%	UPL
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 45	20% of Total Cover: 18	90	= Total Cover	
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Herb Stratum (Plot size: 30)				
1. Lygodium japonicum	25	☑	45.5%	FAC
2. Lonicera japonica	20	☑	36.4%	FACU
3. Oxalis violacea	10	☐	18.2%	UPL
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
50% of Total Cover: 27.5	20% of Total Cover: 11	55	= Total Cover	
Woody Vine Stratum (Plot size: 30)				
1. Vitis rotundifolia	15	☑	50.0%	FAC
2. Toxicodendron radicans	15	☑	50.0%	FAC
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
50% of Total Cover: 15	20% of Total Cover: 6	30	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 62.5% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	165	x 3 =	495
FACU species	75	x 4 =	300
UPL species	30	x 5 =	150
Column Totals:	270 (A)		945 (B)

Prevalence Index = B/A = 3.500

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 09

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc²	Texture	Remarks
0-4	10YR	3/3	100						Silt Loam	
4-11	10YR	5/4	100						Silty Clay Loam	
11-16	10YR	5/3	75	10YR	5/6				Silty Clay Loam	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

FACING NE PAST BUILDINGS IN CENTRAL PORTION OF REVIEW AREA

NON WETLAND WATERS NEAR BAYOU MANCHAC

2323 Hwy 190 East Suite 2
Hammond, LA 70401
985 429 0333

TYPICAL NON WETLAND WATERS WITHIN FORESTED AREAS (RIDGE AND SWALE COMPLEX)

ISOLATED OXIDATION POND

2323 Hwy 190 East Suite 2
Hammond, LA 70401
985 429 0333

WARDS CREEK DIVERSION AT BAYOU MANCHAC INTERSECTION

WARDS CREEK DIVERSION (RIGHT SIDE) ENTERING BAYOU MANCHAC

2323 Hwy 190 East Suite 2
Hammond, LA 70401
985 429 0333

WARDS CREEK FACING NORTH NEAR AIR RIFLE RANGE

HISTORIC MARKER

2323 Hwy 190 East Suite 2
Hammond, LA 70401
985 429 0333