Attachment A

CONTRACT NO. 4400005022
STATE PROJECT NO. H.010116
FEDERAL AID PROJECT NO. H010116
LA 1088 CORRIDOR EA
ROUTE LA 1088
ST. TAMMANY PARISH

SCOPE OF WORK

PROJECT DESCRIPTION

The scope of services for this project consists of the preparation of an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA), and other applicable laws for the proposed project. The project proposes to improve the mobility and safety of vehicle, pedestrian and bicycle traffic along the LA 1088 corridor between LA 59 (Girod St.) and the I-12 westbound ramps in St. Tammany Parish. The total length of the project is approximately 3.5 miles. The study area for this project will be considered from the intersection of LA 59 and US 190 north along LA 1088 until its intersection with LA 36. Logical termini have not been established by the Department of Transportation and Development (DOTD) Environmental Section and the Federal Highway Administration (FHWA).

A Traffic Report and a Stage 0 Checklist was prepared previously for the project. The Consultant will be provided a copy of this study, which contains alternatives and an environmental inventory.

The Consultant will evaluate the social, economic, and environmental consequences of the alternatives (including the no-build) and present this information in the EA document. In addition to the formal EA document and Finding of No Significant Impact (FONSI), the consultant may be required to develop separate reports such as Wetland Finding, Phase I Environmental Site Assessment, Phase I Cultural Resources Survey Reports, Noise analysis, possible Section 4(f) statement, Conceptual Stage Relocation Plan, etc. A Public Meeting will be held to inform the public of the project, potential impacts of the project, and to obtain comments and input from the public on the alternatives, design features, and impacts. A Public Hearing will be held to inform the public of the results and conclusions of the EA and to obtain input from the public. The Consultant will obtain a FONSI from the FHWA once the EA has been approved by FHWA.

The Consultant shall be required to provide the Project Manager with meeting minutes on any meetings conducted with DOTD and/or Agency Stakeholders within 3 business days.

The Consultant shall comply with Chapter 4 of the Consultant Contract Services Manual regarding coordination procedures.

The Consultant shall complete a Consultant Contract Tracking table to be submitted with each mvmce. The Tracking Table will be provided in electronic format by the Project Manager.

Items to be addressed in the EA Document

1) PURPOSE AND NEED FOR PROPOSED ACTION

The purpose and need for the proposed action shall be discussed in the EA.

2) ALTERNATIVES

All alternatives considered in the feasibility study, and if necessary, a NEPA derived alternative will be discussed in the EA. Only alternatives that meet the project's purpose and need are considered reasonable. If any alternative is dismissed at an early stage, the reasons for the dismissal shall be discussed in the EA. The alternatives shall address the purpose and need of the project. These alternatives, including the No-Build, will be described and analyzed in the environmental document. The consultant will develop typical sections and estimate the required right-of-way for the different alternatives. The estimated right-of-way takings will be used in analyzing the various impacts of the alternatives and for estimating costs. Cost estimates will be prepared for each alternative. Exhibits depicting the alternatives and estimated right-of-way takings will be prepared for the Public Meeting and Hearing. The alternatives presented in the traffic report are as follows:

- Alternative 1A – Utilizes the existing roadway section with roundabout improvements at eight existing intersections: LA 59 (Girod St.), Garon Dr./Jackson St., Spring Blvd/Magnolia Trace School, Soult St./Viola St., Trinity Dr., Forest Brook Blvd., I-12 Eastbound ramps and the I-12 westbound ramps. Entry and Exit of Roundabouts are designed to accommodate the future roadway section in Alternative 2 without any modifications at the roundabouts except for the complete streets (pedestrian and bicycle) component. A new 4-lane divided section is necessary from Forest Brook Blvd. to the interstate interchange with Roundabouts replacing the interchange intersections.
- Alternative 1B – Utilizes the existing roadway section with roundabout improvements at eight existing intersections: LA 59 (Girod St.), Garon Dr./Jackson St., Spring Blvd/Magnolia Trace School, Soult St./Viola St., Trinity Dr., Forest Brook Blvd., I-12 Eastbound ramps and the I-12 westbound ramps. Utilizes the existing roadway width (LA 59 to Forest Brook Blvd.) with addition of 5' bike lanes on both sides of the road that will be adjacent to the through lanes with curb & gutter. A sidewalk will be added to the north to meet the complete streets design. A new 4-lane divided section is necessary from Forest Brook

Blvd. to the interstate interchange with roundabouts replacing the interchange intersections.

- Alternative 2 – A new 2-lane divided curb & gutter section (LA 59 to Forest Brook Blvd.) with a 6' median (back of curb to back of curb) with 5' bike lanes on both sides of the road adjacent to the through lanes. A sidewalk will be added to the north to meet the complete streets design. A new 4-lane divided section is necessary from Forest Brook Blvd. to the interstate interchange with Roundabouts replacing the interchange intersections.
- Alternative 3 – A new 3-lane section with full access with 5' bike lanes on both sides of the road adjacent to the through lanes and a sidewalk on the north side of the roadway.
- Alternative 4 – A new 4-lane divided roadway with limited access from side streets utilizing U-turns and/or roundabouts. It will include a 5' bike lane on both sides of the roadway and a sidewalk on the north side of the roadway.

3) IMPACTS

Analysis of each alternative, including the No-Build, will be made and discussed in the EA. Items to consider include, but are not limited to, traffic patterns, permits, land use, community/social, economic, historic, cultural, recreational, archaeological, noise, air, hazardous waste sites, wetlands, floodplains, farmland, and endangered or threatened species and/or their habitats. Some of these items may require the production of a separate document in addition to the EA. The impacts will be identified from the intersection of LA 59 and US 190 and continue north along LA 1088 until the intersection of LA 36. Potential mitigation measures designed to reduce or alleviate impacts will be discussed in the document.

4) WETLANDS

A Wetlands Findings Reports delineating impacts to wetlands and Other Waters of the United States will be prepared for comparison during the EA process.

Potential wetlands within the study area will be initially identified via desktop investigations using aerial and infrared photography, U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory maps, U.S. Geological Survey quadrangle maps, Natural Resources Conservation Service (NRCS) soil maps, and other available resources.

A field survey will be conducted on all alternatives, within the required ROW and/or limits of construction, whichever is greater. Wetlands will be delineated in accordance with the 1987 United States Army Corps of Engineers (USACE) Wetland Delineation Manual and the 2010 USACE Atlantic and Gulf Coastal Plain Regional Supplement. Field-delineated wetland boundaries will be documented with sub-meter capable GPS units, then mapped using current USACE GIS/wetland mapping guidelines. Field-determined characteristics and delineation data for wetlands occurring within the study area of the alternatives will be recorded on currently

accepted USACE Wetland Determination Data Forms by the Consultant and provided within the Wetlands Finding Report. Ecological values and potential impact quantities for all wetlands and Other Waters of the United States identified within the study areas will be calculated in acres in the report and provided to the DOTD for use in the subsequent permit application process, which is not included in this scope.

The Wetlands Finding Report, using the latest FHWA criteria, will be submitted to the DOTD for review and comment. It will include reproducible maps and photographs of each soil sample taken during wetland delineation activities. Soil sample photographs will include appropriate Munsell soil chart pages for each sample. Quadrangle and layout maps provided in the report will depict locations of delineated wetland areas and respective project station numbers. If wetland impacts are minor and the Wetlands Findings Report small, the report may be placed in an appendix of the EA document as needed. The final document along with associated GIS files/data will also be provided to DOTD.

5) WETLAND RESERVE PROGRAM (WRP)

The consultant will coordinate with the National Resources Conservation Service to determine the location of any WRPs in the project area. All WRPs will be mapped in GIS and used as a constraint to avoid when evaluating alternatives. If the project impacts a WRP property, the consultant will notify the Department immediately.

6) ENDANGERED & THREATENED SPECIES

The Consultant will define and describe the protected species associated with the subject project, if applicable. Species occurrence records will be obtained from the Louisiana National Heritage Program (LNHP), maintained by the Louisiana Department of Wildlife and Fisheries (LDWF), prior to the initiation of field surveys. Field surveys will be conducted to determine the presence (relative abundance) or absence of protected species and/or their habitat, if applicable. A biological report documenting field survey methods, conclusions, and recommendations will be written. Coordination with knowledgeable staff representing the U.S. Fish and Wildlife Service (USFWS) and LDWF will be conducted in order to determine impacts by the project. Coordination with these agencies will be made through the DOTD Environmental Section or with the express approval of DOTD. Maps showing the areas of concern to threatened and endangered species and their habitats will be included in the biological report. However, the biological report documenting Threatened and Endangered Species in the project area will not be distributed to the public nor will the maps or the report be included as an appendix of the EA. Attempts will be made to avoid impacts to any protected species or their habitats when planning the alternatives. Five (5) copies of the draft report and two (2) copies of each revision will be submitted to DOTD for approval. Once approved, (5) five copies of the final report will be submitted to DOTD as well as an electronic copy in PDF format on a labeled CD.

7) SCENIC STREAMS

The Consultant will prepare a Class B Scenic Stream permit application, if required, for each scenic stream in the project area. Seven (7) copies (all with original photos or color laser print copies) will be provided to the Department's Environmental Section.

8) ENVIRONMENTAL SITE ASSESSMENT

A Phase I Environmental Site Assessment (ESA) Report shall be prepared in accordance with the most recent ASTM International Standard E1527. The report shall include a statement of compliance with the standard and identification of specific deviations from the standard which may have occurred. The Phase I ESA shall have four components: Records Review, Site Reconnaissance, Interviews, and the Report. The Consultant shall meet with the project team if recognized environmental conditions are discovered. Results of site evaluations, findings, conclusions, and opinions concerning the site's impact shall be provided in the ESA Report. A Phase I ESA Report shall be submitted to the DOTD for review and comment. A revised version of this report shall be prepared if changes are required. Up to three versions of the document shall be prepared. The final document shall also be provided to the DOTD as a PDF file on a CD. The consultant will meet with the Environmental Section's Project Coordinator if Recognized Environmental Conditions (RECs) are discovered. Results of site evaluations, findings, conclusions, and opinions concerning the site's impact will be provided in the ESA.

9) NOISE

A Traffic Noise Study shall be conducted for the project. Existing noise conditions shall be measured and the latest FHWA approved Traffic Noise Model (TNM) shall be used. The DOTD's latest Highway Traffic Noise Policy shall be applied to the noise analysis. Prior to conducting any field measurements or modeling, the Consultant shall submit a protocol of the methodology that shall be used in the noise study to the DOTD for approval. The Consultant shall submit the draft Noise Protocol to the DOTD. A revised final Noise Protocol shall be submitted if required. Noise sensitive land uses such as potentially impacted residences, businesses, recreation areas, schools, and churches in the vicinity of the build alternatives shall be identified during a field survey. Additionally, the Consultant shall perform a document search to ascertain the existence of planned, designed, and programmed activities.

The Consultant shall produce a noise study documenting the noise monitoring results, identification of other noise sources in the corridor, calibration of the computer model, and a discussion of predicted noise levels for each alternative. The report shall include exhibits showing the locations of receptors and predicted noise contours of the build alternative which indicates the location of the 66 decibel and 71 decibel noise contour. The noise contour should extend from the intersection of LA 59 with US 190 and continue north along LA 1088 until the intersection of LA 36. Traffic noise impacts shall be presented in a table with an accompanying discussion. The table shall include

impacts during existing conditions and predicted impacts for the build and design years. The noise study shall also include an analysis of the reasonableness and feasibility of considered abatement measures. The noise study shall contain sufficient detail and background data (computer printouts) to allow for review of both the methodology and accuracy of all analyses. The noise study shall have appendices showing model input and output data sets for each scenario in addition to completed copies of the worksheets required by the latest DOTD Traffic Noise Policy.

The Consultant shall prepare and submit a Traffic Noise Report for the DOTD and FHWA review/comments. Should changes be required following the DOTD and FHWA review, the Consultant shall prepare and submit a final Noise Report Up to three versions of the document shall be prepared. The final document shall also be provided to the DOTD as a PDF file on a CD. A summary of the final noise analysis shall be included in the EA, and the full text shall be included in an appendix of the EA as directed by the DOTD.

10) AIR QUALITY

A discussion of the anticipated impact to project level and regional air quality is required, including temporary impacts during construction as well as long term impacts.

11) CULTURAL RESOURCE SURVEY AND ARCHAEOLOGICAL/HISTORIC PROPERTIES (106 & 4(f))

All research and documentation related to Phase I surveying services, which are necessary to comply with Section 106 of the National Historic Preservation Act (NRHP) will be prepared by the Consultant under this contract. If a Phase II or Phase III survey is required, additional services (research, testing, and documentation) may be conducted under a supplement to this agreement. All coordination with the SHPO's office will be through the Environmental Section or with the express approval of the Environmental Section.

a) Determine Area of Potential Effect (APE)

The Consultant will consult with FHWA and DOTD to develop the APE (direct and indirect) of the project. After FHWA and DOTD have determined the APE, the agencies will consult with the State Historic Preservation Officer (SHPO) for concurrence.

b) Identify Historic Properties

i) Incorporate Existing Data

The Consultant will review previous cultural resource survey reports and compile information on previously recorded archaeological sites, historic structures, and

NRHP properties, on file at the Louisiana Division of Archaeology and the Louisiana Division of Historic Preservation. Historical and archival research on alternatives to be surveyed will also be conducted at this time.

ii) Phase I Cultural Resources Survey

A Phase I archaeological survey will be performed on the alignments of up to three build alternatives to determine the presence of archaeological sites, standing structures approaching 50 years old/older, and other places or objects eligible for listing on the NRHP. The Consultant will coordinate with DOTD prior to the initiation of the survey. Any preservation affiliated groups expressing interest in the project should be contacted for additional information prior to survey.

(1) Archaeological Survey

This survey will follow current Louisiana Division of Archaeology guidelines for Phase I surveys. All archaeological sites will be recorded on site forms. This team will also be responsible for revisiting known sites and completing site update forms as required by the Division of Archaeology. Cultural materials (artifacts) recovered from archaeological sites will be processed and analyzed using accepted archaeological typologies and methods. According to DOA curation standards, artifacts will be catalogued and prepared for permanent curation with the Division of Archaeology, or with any other repository designated by DOTD.

(2) Standing Structure Survey

A standing structure survey will be conducted within the APE of the project. Any structures that will meet the 50-year requirement within five years of the notice to proceed will be recorded on Louisiana standing structure inventory forms. A five-year buffer is necessary to allow for changes to the project before construction begins.

c) <u>Evaluate Historic Significance</u>

If archaeological sites are located that require Phase II test excavations to evaluate their significance, this work may be conducted under a supplement to this agreement. A technical report – that meets or exceeds the Division of Archaeology guidelines for Phase I reports - describing all work efforts undertaken on the project, as well as the results of investigations and analyses, will be prepared. Recommendations for further work will be presented. Maps, including USGS 7.5-inch quadrangle maps and exhibits shall be utilized to delineate the project area and the location of any cultural resources. All archaeological sites (to the extent possible with survey level data) and standing structures will be evaluated against NRHP criteria as either eligible or ineligible for nomination for the NRHP. The draft Cultural Resources Survey will be submitted to DOTD for review; DOTD will transmit copies of the report to the SHPO for review. An

unbound typed site form or site update form (for previously recorded archaeological sites) and unbound typed Louisiana Historic Resource Inventory Forms (with original black and white photographs affixed to the forms) for each recorded standing structure will be submitted to DOTD's Environmental Section along with the draft Cultural Resources Survey. All site forms and site update forms should be finalized prior to submittal of the final report.

Following DOTD, FHWA, and agency review, the Consultant will prepare a final Cultural Resources Report for delivery by DOTD to the SHPO. The final Cultural Resources Survey will be submitted to DOTD; DOTD will transmit the finals to the SHPO.

d) Assess Adverse Effects

The Consultant will consult with FHWA, DOTD, and the SHPO concerning the potential effect of the project on any historic properties identified in the project APE. If there is agreement that one or more properties will be affected, then the Consultant will prepare Section 106 Adverse Effect Documentation in order to determine whether or not the properties will be adversely affected. If the number of sites requiring documentation exceeds five properties, the additional work may be conducted under a supplement to this agreement.

e) Memorandum of Agreement (MOA) for Resolution of Adverse Effects

If historic properties will be adversely affected, the Consultant will consult with FHWA, DOTD, the SHPO, and other interested parties, such as local historical groups, to attempt to resolve the adverse effects through avoidance or some form of mitigation. If any of the historic properties are prehistoric archaeological sites, the appropriate authorities (i.e. THPO) will be consulted as well. If the adverse effects cannot be avoided, the Consultant will prepare an MOA that discusses the mitigation measures agreed upon, identifies who is responsible for carrying them out, and provides documentary evidence that the agency is following the requirements of Section 106.

12) RECREATIONAL RESOURCES (SECTIONS 4(f) & 6(f)

All publicly owned recreational and park lands, wildlife and waterfowl refuges, and all historic sites will be identified and delineated. Research, analysis, and documentation of compliance with Section 4(f) of the DOT Transportation Act will be done by the consultant. Resources built using the Land and Water Conservation funds will be identified by the consultant. If such resources are present, the consultant will prepare all documentation for the coordination with the appropriate agencies.

13) PUBLIC MEETING

One Public Meeting will be required for this project. If additional Public Meetings are required, these will be added at the discretion of DOTD and FHWA. All arrangements

for the Public Meeting(s), including location, time, handouts preparation of notices, preparation of appropriate exhibit and technical presentations will be made by the consultant but subject to the review of the Department's Environmental Section. Upon the Department's approval of the notice, the consultant will advertise the notice of the Public Meeting(s) in the local newspaper(s) as well as other media agreed upon by the Department. Actual conduct of the Public Meeting(s) will be by the consultant. The consultant will have knowledgeable informed staff present at the Public Meeting(s) to address the queries of the public in regards to environmental, engineering, and other project related issues. As the purpose of the Public Meeting(s) is to assist the public in understanding how the project fits into and impacts their community, exhibits aiding in the visualization of each alternative of the project at the Public Meeting(s) will be the responsibility of the consultant. The consultant will record and prepare a verbatim transcript of the Public Meeting(s). The consultant will meet with DOTD's Environmental Section approximately 1 week before the public meeting to present the handouts, exhibits, and technical presentation for approval.

14) OTHER

Other items that will be evaluated and coordinated with appropriate agencies include, but are not limited to: prime farmlands, sole source aquifers, 100 year floodplain, utility relocations, and water wells. Some of these items utilize standard forms; other coordination is by letter or permit applications. Items of special or local interest should be noted and evaluated within the context of this project. The Consultant will evaluate this project with respect to the DOTD's Complete Streets Policy and adhere this policy.

15) REVIEW OF DRAFT EA

The EA shall be written in accordance with FHWA's guidelines. Copies of the review document will be provided to DOTD's Environmental Section for their review, comment, and distribution. All comments will be addressed by the consultant prior to the Environmental Section issuing approval to print the EA for public distribution. The distribution of the Draft EA will be the responsibility of the consultant. The Environmental Section's project coordinator will provide the consultant with the mailing list to be used for distribution of the Draft EA.

16) EA DOCUMENT

The EA document will be typed and single spaced on 8.5 x 11 inch paper with inside margins of no less than 1 inch. All pages will be numbered. Photographs, plans, maps, drawings and text must be clear and clean with typed or mechanically lettered captions. Exhibits utilizing the 8.5 x 11 inch format are preferred but 11 x 17 inch folded pages are acceptable. The consultant's name and logo shall not appear on the cover of the document. They can appear on the inside cover sheet in a size not to exceed the Department's name and logo. A copy of the Draft EA, Final EA, and FONSI will be provided in the pdf file format.

17) PUBLIC HEARING

After approval by the Department's Environmental Section and FHWA, the draft EA will be made available to the public and one Public Hearing will be scheduled. All arrangements for the Public Hearing- including location, time, handouts, and preparation of exhibits and technical presentations will be made by the consultant (subject to the Environmental Section's approval).The consultant will advertise the notice of the Public Hearing to the local newspaper(s) as well as other media agreed upon by the Department. Actual conduct of the Public Hearing will be by the consultant. Preparation of a handout for distribution to interested stakeholders present at the meeting will be the responsibility of the consultant. This handout shall be submitted to the Environmental Section's project coordinator at least one month prior to the scheduled Public Hearing. The consultant will have knowledgeable, informed staff present at the Public Hearing(before the Hearing, at recess, and after the Hearing) to address the queries of the public in regards to environmental, engineering, and other project related issues. The consultant will record and prepare a verbatim transcript of the Public Hearing. The consultant will meet with DOTD's Environmental Section approximately 1 week before the public hearing to present the handouts, exhibits, and technical presentation for approval.

18) PUBLIC HEARING(S) AND ENVIRONMETNAL DOCUMENT COMMENTS

All comments received during the comment period on the EA including those received at the Public Hearing(s), will be addressed in the Final EA document by the consultant. After approval by the Department's Environmental Section of the final document and issuance by FHWA of a FONSI, the EA with FONSI will be distributed by the consultant. The Environmoental Section's project coordinator will provide the mailing list to be used for distribution of the FONSI.

19) CONCEPTUAL STAGE RELOCATION PLAN

The Contractor will prepare a Conceptual Stage Relocation Plan in accordance with the requirements of the DOTD's Office of Right of Way Operations Manual and 49 CFT Part 24 § 24.205a. The results of the plan will be summarized in the Draft EA. The scope of the plan will include:

a) An estimate of the number of households to be displaced including information such as owner/tenant status, estimated value and rental rates of properties to be acquired, family characteristics, and special consideration of the impacts on minorities, elderly, large families, and persons with disabilities when applicable. Environmental Justice Considerations will also be reviewed.
b) The type of dwelling (mobile home, frame, brick) to be acquired or adversely impacted.
c) The location and quantity of available comparable replacement housing; if none is available, the estimated cost to build new housing; or whether any displacements have sufficient remainder on which to move or build. Should comparable replacement housing not be available, other methods in addition to new

construction, will be evaluated as part of a possible Housing of Last Resort program as provided for under Section 206A of the Uniform Act.

d) The location and types of businesses, farms, and non-profit organizations to be displaced, the race of the owner, estimated number of employees, by race, bypassed businesses if applicable, and a listing of available commercial buildings and sites.
e) An estimate of the availability of replacement business sites. When an adequate supply of replacement business sites is not expected to be available, the impacts of displacing the businesses will be considered and addressed. An analysis of business moving problems for those displaced businesses which are reasonably expected to involve complex or lengthy moving processes or small businesses with limited financial resources and/or few alternative relocation sites will be included.
f) The functional replacement of a publicly-owned facility, if applicable, and the existence of publicly-owned recreation lands.
g) The estimated costs of relocation assistance.
h) Consideration of any special relocation advisory services that may be necessary from the displacing Agency and other cooperating Agencies.

The data collected for the plan will be from secondary sources and field observations. Interviews will not be conducted with those families and businesses potentially affected by the various alternatives.

The Consultant shall develop a preliminary cost estimate for each proposed project concept. The project costs will include estimates for all right-of-way acquisition costs. Estimates for right-of-way will include all land and improvements situated within the proposed right-of-way (all alternates considered). Additionally, the right-of-way estimate should include the estimated cost for land as well as improvements not in the required area, but possibly impacted by the proposed project. The right-of-way cost estimate should take into consideration damages, etc. that may accrue due to the proposed project (all alternates considered). Refer to the Real Estate Needs Checklist for Stage 1 Cost Estimates and Stage 1 Cost Estimate Appraiser Checklist.

LINE AND GRADE

Three alternates will be considered as depicted in the Stage 0 study:
(Alternate 1A) Design a new 4-lane divided section with sidewalks on both sides of the roadway from Forest Brook Boulevard to the I-12 Interchange. Utilizing the existing roadway section, design roundabouts at the following eight existing intersections: LA 59 (Girod Street), Garon Drive/Jackson Street, Spring Boulevard Magnolia Trace School, Soult Street/Viola Street, Trinity Drive, Forest Brook Boulevard, I-12 eastbound ramps, and I-12 westbound ramps.
(Alternate 1B) Design a new 4-lane divided section with sidewalks on both sides of the roadway from Forest Brook Boulevard to the I-12 Interchange. Utilizing the existing roadway width, design 5’ bike lanes, adjacent to the through lanes, on each side of the roadway and sidewalk on the north side of the roadway from LA 59 to Forest Brook Boulevard. Design roundabouts at the following eight existing intersections: LA 59 (Girod

Street), Garon Drive/Jackson Street, Spring Boulevard Magnolia Trace School, Soult Street/Viola Street, Trinity Drive, Forest Brook Boulevard, I-12 eastbound ramps, and I-12 westbound ramps
(Alternate 2) Design a new 2-lane divided curb and gutter section from LA 59 to Forest Brook Boulevard with a 6' median, 2-5' bikes lanes adjacent to the through lanes, and a sidewalk on the north side of the roadway. Design a new 4-lane divided section from Forest Brook Boulevard to the I-12 Interchange. Design roundabouts at the following eight existing intersections: LA 59 (Girod Street), Garon Drive/Jackson Street, Spring Boulevard Magnolia Trace School, Soult Street/Viola Street, Trinity Drive, Forest Brook Boulevard, I-12 eastbound ramps, and I-12 westbound ramps.

Following the selection of the preferred alternate, the horizontal and vertical alignment will be more accurately defined. The line and grade study shall include but not be limited to:

- Establishment of design criteria.
- Required lane configurations based on level of service.
- Develop typical roadway sections.
- Develop horizontal geometry.
- Develop vertical geometry and set minimum roadway grade.
- Identify major drainage structure locations.
- Establish approximate required right of way limits.
    - Develop a list of impacted improvements.
    - Identify known existing utilities and any potential conflicts
- Cost estimates for right of way, utility relocation, engineering, and construction.

Specifics

A. Horizontal Alignment

A horizontal alignment study will be prepared for all alternates. The alignment should consider major utility conflicts, major drainage structures, existing roadway/bridge geometry, superelevation, and sight distance. The final refinement to the alignment will be the performance of a constructability review. These reviews will assess if the proposed alignment can be constructed in accordance with Department standards (considering maintenance of traffic, etc). The location of the final alignment(s) should consider:

- Existing roadway conditions.
- Maintenance of traffic.
- Existing bridge.
- Location of utilities.
- Environmentally sensitive areas.
- Topographic features.
- Developed Properties.
- Railroad crossings.

A plan view of the proposed horizontal alignment will be prepared. At a minimum, the following geometric data will be displayed on the plan:

* Curve Lengths (L)
* Tangent Lengths (T)
* Curve Radii (R)
* Superelevation rates and transition lengths
* Estimated R/W limits, existing and required
* Control of Access limits
* Baselines and stationing
* New edge of pavement and shoulder lines
* Curb lines
* Lane and shoulder dimensions
* Major drainage features, if any

In addition, intersection and interchange schematics will be shown on the plans.

B. Vertical Alignment

A more detailed vertical alignment study will be prepared for the preferred alternate. The vertical alignment shall consider above ground and underground utility clearance, major drainage or structure locations, overpass clearances, etc.

A vertical alignment study will be prepared for each proposed alternative using LIDAR DTM or equal data to create the existing surface. The vertical alignment should consider above ground and below ground utilities, major drainage or structure locations. (0% vertical grades will not be allowed unless approved by DOTD)

A profile view of the proposed vertical alignments will be prepared. The following geometric data will be displayed on the profile:

* P. V. I. Location
* Length of Vertical Curve (V. C.)
* Headlight or Stopping Sight Distance (H. L. S. D. or S. S. D.)

C. Deliverables

1. The line and grade study will be included as part of the environmental document and will contain the following:

    * Table of Design Criteria
    * Plan and profile displays as noted in sections A and B
    * Displays of typical roadway sections
    * Cost estimates for right of way, utility relocation, engineering, and construction

MISCELLANEOUS

The consultant shall notify the Department's Environmental Section a minimum of two (2) weeks prior to any field work. The consultant shall notify the Department's Environmental Section when field work begins and ends. The consultant will also update the Department's Environmental Section bi-weekly as to their progress in the field.

All reference materials utilized will be noted and an accurate and complete bibliography supplied to the Department with the draft and final documents. Accessibility and location of all reference material or otherwise not easily accessible material will be noted (i.e., library location, etc.). Utilization of unpublished material or otherwise not easily accessible material will be specifically coordinated with the Environmental Section prior to its use in the document.

The Consultant will use Geographic Information Systems (GIS) to illustrate characteristics of the study area and to assist in the assessment of the effects of alternatives under consideration. The Consultant will compile metadata files for data used in the project and develop metadata files for new data layers in accordance with the Content Standard for Digital Geospatial Metadata, Vers. 2 (FGDC-STD-001-1998), the federal Metadata standard. Aerial photography will be the preferred base map for exhibits to be used both in the EA and for presentation during the public meetings and hearing. This map will be used to overlay environmental constraints and environmentally sensitive areas located within the study area. Readily available data and field-determined data will be mapped and collected for use in describing the existing conditions in the study area and to provide a baseline condition against which future impact projections will be based.

On all correspondence with the Department's Environmental Section, the consultant will use applicable state project number, along with the project name, route number, parish, and federal aid project number. The consultant shall provide the Environmental Section with a monthly progress report. The report will include the estimated and actual date of completion of each task to be performed. The consultant will send invoices to the Department's Environmental Section monthly. The consultant will use the Department's standard form for invoicing.

Deliverables

The month and year of the submittal will be identified on the report cover and on the transmittal document for all versions. The only deliverables that will be identified as "DRAFT" or "FINAL" are the Draft and Final EA documents. The Consultant will prepare a draft and a revised version(s) of each deliverable that addresses one consolidated list of comments on the deliverable, which has been compiled and/or approved by the Client for incorporation by the Consultant. Up to the noted number of copies of the following deliverables will be provided during the contract performance period.

Description	Draft Copies	Revised Copies	Final Copies	PDF on Labeled CD
Work Plan & Schedule			**3**	
Design Criteria	**1**		**1**	
Bridge and Roadway Typical Sections	**1**		**1**	
Conceptual Alternatives' Geometric Layouts	**1**			
Alternatives Analysis Memorandum	**3**	**1**	**10**	
Engineering Report	**5**		**20**	
Wetlands Finding Report	**5**	**2**	**5**	**1**
Biological Field Survey Report	**5**	**2**	**5**	**1**
Biological Assessment	**5**	**2**	**5**	**1**
Phase I ESA Report	**4**	**3**	**5**	**1**
Traffic Noise Analysis Protocol	**1**			
Noise Study	**4**	**3**	**5**	**1**
Cultural Resources Phase I Report	**5**		**5**	**1**
Cultural Resources Site Form			**2**	**1**
Cultural Resources Standing Structure Form			**2**	**1**
Conceptual Stage Relocation Plan	**3**		**3**	**1**
4(f) Statement	**20**			
Draft EA Document	**15**	**15**	**up to 70**	**5**
Final EA/FONSI Document	**15**	**15**	**up to 70**	**5**
Visual Renderings	**1**	**1**	**1**	**1**
Public Meeting Summary/Transcript	**4**		**50**	**1**
Public Hearing Summary/Transcript	**4**		**50**	**1**