

Department of Engineering
Tim Bryan, P.E., County Engineer

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MEMORANDUM

May 28, 2021

To: Sheila Jones, Supervisor, District I
Trey Baxter, Supervisor, District II
Gerald Steen, Supervisor, District III
Karl Banks, Supervisor, District IV
Paul Griffin, Supervisor, District V

From: Tim Bryan, P.E.
County Engineer

Re: Engineering Design Services Contract for Bozeman Road from Reunion Parkway to Gluckstadt Road
Neel Schaffer, Inc.

The Engineering Department requests the Board approve this design services contract for Neel Schaffer to design the section of Bozeman Road from Reunion Parkway to Gluckstadt Road for a fee not to exceed \$469,500.00.

This phase will match the typical section for the current phase south of Reunion Parkway

AGREEMENT FOR PROFESSIONAL SERVICES

BETWEEN

Madison County

AND

NEEL-SCHAFFER, INC.

This is an Agreement made on _____, 2021, between the Madison County Board of Supervisors, Madison County, Mississippi, the **OWNER**, and **NEEL-SCHAFFER, INC.**, the **ENGINEER**.

The **OWNER** intends to improve Bozeman Road from Reunion Parkway to Belle Terre Subdivision which will be considered Phase 2 of the overall Bozeman Road Improvements project, which is described in more detail in **Exhibit A, Project Description**, and hereinafter called the “**Project**.”

Exhibit B contains the “**Scope of Design Phase Services**” while the “**Project Schedule**” is contained in **Exhibit C**. Compensation is detailed in **Exhibit D, Payment to Engineer**”. This AGREEMENT does not include the following services:

- Appraisals and Right of Way Acquisition services.

The **OWNER** and the **ENGINEER**, in consideration of the mutual covenants herein, agree with respect to the performance of professional engineering services by the **ENGINEER** relative to the **Project** and the payment for these services by the **OWNER** as set forth herein.

SECTION 1 — BASIC SERVICES OF ENGINEER

1.1 **ENGINEER** shall provide for **OWNER** professional engineering services for all phases of the **Project** to which this **Agreement** applies as hereinafter provided. These services will include serving as **OWNER's** professional engineering representative for the **Project**, providing consultation and advice and furnishing customary engineering services.

1.2 By execution of this **Agreement**, **OWNER** authorizes **ENGINEER** to provide Basic Services for the Design Phase of the **Project** in accordance with **Exhibit B, "Scope of Design Phase Services."**

SECTION 2 — ADDITIONAL SERVICES OF ENGINEER

If authorized in writing by **OWNER**, **ENGINEER** shall provide, or obtain from other qualified persons or firms, Additional Services which are not included as part of the Basic Services specified in Section 1. Additional Services shall include, but are not limited to, the following:

2.1. Services resulting from significant changes in the general scope, extent or character of the **Project** designed or specified by **ENGINEER** or its design including, but not limited to, changes in size, complexity, **OWNER's** schedule, character of construction or method of financing; and revising

previously accepted studies, reports, design documents or Contract Documents when such revisions are required by changes in laws, rules, regulations, ordinances, codes or orders enacted subsequent to the preparation of such studies, reports or documents, or are due to any other causes beyond **ENGINEER's** control.

2.2. Preparing documents for alternate bids requested by **OWNER** for Contractor's work which is not executed or documents for out-of-sequence work.

2.3. Services resulting from the award of more than one separate prime contract for construction, materials or equipment for the **Project** unless multiple awards were contemplated and included as part of Basic Services in Section 1.

2.4. Assistance in connection with rebidding or renegotiating contracts for construction which involve modifying the Contract Documents to revise the **Project's** general scope, extent or character as necessary to reduce or increase the Construction Cost to bring it within the cost limit.

2.5. Preparing to serve or serving as a consultant or witness for **OWNER** in any litigation, arbitration or other legal or administrative proceeding involving the **Project**.

2.6. Services in making revisions to Contract Documents occasioned by the acceptance of

substitutions proposed by Contractor; and services after the award of the construction contract in evaluating and determining the acceptability of an unreasonable or excessive number of substitutions proposed by Contractor.

2.7. Services resulting from significant delays in Project schedule which occurred through no fault of **ENGINEER**.

2.8. Additional or extended services during construction made necessary by (a) work damaged by fire or other cause during construction; (b) a significant amount of defective, neglected or delayed work of Contractor or supplier; (c) protracted or extensive assistance in the startup or utilization of any equipment or system; (d) acceleration of the progress schedule involving services beyond normal working hours; and (e) default or bankruptcy by Contractor.-

2.9. Services during out-of-town travel required of **ENGINEER** other than visits to the **Project** site or **OWNER's** office.

2.10. Additional Services in connection with the **Project**, including services which are to be furnished by **OWNER** in accordance with Section 3 and services not otherwise provided for in Basic Services as specified in Section 1 of this **Agreement**.

SECTION 3 — OWNER’S RESPONSIBILITIES

OWNER shall do the following in a timely manner so as not to delay the services of **ENGINEER** and bear all costs incident thereto:

3.1. Designate in writing a person to act as **OWNER's** representative with respect to the services to be rendered under this **Agreement**. Such person shall have complete authority to transmit instructions and receive information, with respect to **ENGINEER's** services for the **Project**.

3.2. Provide all criteria and full information as to **OWNER's** requirements for the **Project**, including design objectives and constraints; space, capacity and performance requirements; and flexibility, expendability, and any budgetary limitations. Also furnish copies of additional design and construction standards which **OWNER** will require to be included in the Contract Documents.

3.3. Assist **ENGINEER** by placing at **ENGINEER's** disposal available information pertinent to the **Project** including previous reports; geotechnical information; utility locations; property descriptions, zoning, deed and other land use restrictions; and any other data relative to design or construction of the **Project**. **ENGINEER** shall not be liable for any claims for injury or loss arising from errors, omissions or inaccuracies in documents or other information provided by the **OWNER**.

3.4. Arrange for access to and make all provisions for **ENGINEER** to enter upon public and private property as required for **ENGINEER** to perform services under this **Agreement**.

3.5. Examine studies, reports, sketches, drawings, specifications, proposals and other documents presented by **ENGINEER** and render in writing decisions pertaining thereto within a reasonable time so as not to delay the services of **ENGINEER**.

3.6. Acquire property for easements and rights-of-way required for construction of the **Project**.

3.7. Give prompt written notice to **ENGINEER** whenever **OWNER** observes or otherwise becomes aware of any development that affects the scope or timing of **ENGINEER's** services, or any defect or nonconformance in the work of the **ENGINEER** or of any Contractor.

SECTION 4 — PERIOD OF SERVICE

4.1. The provisions of this Section 4 and the various rates of compensation for **ENGINEER's** services provided for elsewhere in this **Agreement** have been agreed to in anticipation of the orderly and continuous progress of the **Project** through completion of all phases to which this **Agreement** applies. Specific periods of time and/or completion dates for

rendering services are set forth in **Exhibit C, "Project Schedule."**

4.2. If **OWNER** requests modifications or changes in the scope, extent or character of the **Project**, or if periods of time and/or completion dates are exceeded through no fault of **ENGINEER**, the period of service and amount of compensation for **ENGINEER's** services shall be adjusted equitably.

4.3. In the event that the work designed or specified by **ENGINEER** is to be performed under more than one prime construction contract, the period of service and/or amount of compensation for **ENGINEER's** services shall be adjusted equitably unless multiple awards were contemplated and included as part of Basic Services in Section 1.

SECTION 5 — PAYMENTS TO ENGINEER

5.1. **Methods of Payment.** **OWNER** shall pay **ENGINEER** for Basic Services rendered under Section 1 and Additional Services rendered under Section 2 in accordance with the provisions of **Exhibit D, "Payments to Engineer."**

5.2. **Times of Payment.** **ENGINEER** shall submit monthly statements for Basic and Additional Services rendered. For lump sum and percentage methods of payment, statements will be based upon **ENGINEER's** estimate of the proportion of the total services actually completed at the time of billing. For

cost-plus-fixed-fee method of payment, the amount of fixed fee billed will be based on the proportion of the costs incurred at the time of billing to the maximum allowable costs established for this **Agreement**. **OWNER** shall make prompt monthly payments in response to **ENGINEER's** monthly statements.

5.3. **Delinquent Payments.** The **OWNER** recognizes time is critical with respect to payment of the **ENGINEER's** statements, and that timely payment is a material part of the consideration of this **Agreement**. **ENGINEER's** statements shall be due and payable within 30 calendar days of statement date. If **OWNER** objects to all or any portion of an invoice, **OWNER** shall notify the **ENGINEER** within 14 calendar days of the invoice date, identify the cause of the disagreement and pay when due that portion of the statement not in dispute. If **OWNER** fails to make any payment due **ENGINEER** for services and expenses, excepting any portion of the statement in dispute, within 60 calendar days after receipt of **ENGINEER's** statement, the amounts due **ENGINEER** shall include a charge at the rate of one percent per month from the 60th day unless special arrangements have been previously made and agreed to by both parties in writing. Payment will be credited first to interest and then to principal. In the event of a disputed or contested billing, only that

portion so contested may be withheld from payment, and the undisputed portion will be paid.

5.4. **Termination Payment.** In the event of termination by **OWNER** or **ENGINEER** under Paragraph 6.2, **OWNER** shall pay **ENGINEER** for services and expenses provided to date of termination in accordance with the methods of payment specified in Paragraph 5.1.

5.5. **Records of Costs.** Records of costs pertinent to **ENGINEER's** compensation will be kept in accordance with generally accepted accounting principals. **ENGINEER** is only obligated to maintain these records for a period of three years following date of final payment for services rendered under this **Agreement**.

SECTION 6 — GENERAL TERMS AND CONDITIONS

6.1. **Construction Cost.**

6.1.1. **Opinions of Cost.** Since **ENGINEER** has no control over the cost of labor, materials, equipment or services furnished by others, or over the Contractor's methods of determining prices, or over competitive bidding or market conditions, **ENGINEER's** opinions of probable Construction Cost provided for herein are to be made on the basis of experience and qualifications and represent **ENGINEER's** best judgment as an experienced and

qualified professional, generally familiar with the construction industry; but **ENGINEER** cannot and does not guarantee that proposals, bids or actual Construction Cost will not vary from opinions of probable cost prepared by **ENGINEER**.

6.1.2. **Construction Cost Budget.** If a Construction Cost budget is established by written agreement between **OWNER** and **ENGINEER** and specifically set forth in this **Agreement** as a condition thereto, the following will apply:

6.1.2.1. The acceptance by **OWNER** at any time during the provision of services under this **Agreement** of a revised opinion of probable Construction Cost in excess of the then established budget will constitute a corresponding revision in the Construction Cost budget to the extent indicated in such revised opinion.

6.1.2.2. Any Construction Cost budget so established will include a contingency of 10 percent unless another amount is agreed upon in writing.

6.1.2.3. **ENGINEER** will be permitted to determine what materials, equipment, component systems and types of construction are to be included in the Contract Documents and to make reasonable adjustments in the extent of the **Project** to bring it within the budget.

6.1.2.4. If proposals or bids have not been obtained within six months after completion of the Design Phase, the established Construction Cost budget

will not be binding on **ENGINEER**, and **OWNER** shall consent to an adjustment in such cost limit commensurate with any applicable change in the general level of prices in the construction industry between the date of completion of the Design Phase and the date on which proposals or bids are sought.

6.1.2.5. Use of an estimated or actual Construction Cost of the project as a basis of payment to the **ENGINEER** shall not be construed to mean that a Construction Cost budget has been established for the **Project**.

6.2. **Termination.** The obligation to provide further services under this **Agreement** may be terminated by either party upon 30 calendar days' written notice in the event of substantial failure by the other party to perform in accordance with the terms hereof through no fault of the terminating party.

6.3. **Suspension.** Upon 14 calendar days' written notice to the **ENGINEER**, the **OWNER** may suspend the **ENGINEER's** work. Suspension for any reason exceeding 60 calendar days shall, at the **ENGINEER's** option, make this **Agreement** subject to re-negotiation or termination as provided for elsewhere in this **Agreement**. Any suspension shall extend the period of service in a manner that is satisfactory to both the **OWNER** and the **ENGINEER**.

6.4. **Ownership and Reuse of Documents.**

6.4.1. Contract Documents and reports prepared by **ENGINEER** pursuant to this **Agreement** shall be the property of the **OWNER**. **ENGINEER** shall have the right to retain copies of all documents for his files.

6.4.2. Contract Documents prepared or furnished by **ENGINEER** and **ENGINEER's** independent professional associates and consultants, pursuant to this **Agreement** are instruments of service with respect to the **Project**. These documents are not intended or represented to be suitable for reuse by **OWNER** or others on extensions of the **Project** or on any other project. Any reuse without written verification or adaptation by **ENGINEER** for the specific purpose intended will be at **OWNER's** sole risk and without liability or legal exposure to **ENGINEER**, or to **ENGINEER's** independent professional associates or consultants. **OWNER** shall indemnify and hold harmless **ENGINEER** and **ENGINEER's** independent professional associates and consultants from all claims, damages, losses and expenses including attorneys' fees arising out of or resulting therefrom. Any such verification or adaptation will entitle **ENGINEER** to further compensation at rates to be agreed upon by **OWNER** and **ENGINEER**.

6.5. **Insurance.**

6.5.1. The **ENGINEER** maintains workers' compensation insurance coverage and unemployment compensation coverage in an amount as required by state law; comprehensive general liability insurance with maximum limits of \$500,000/\$1,000,000; automotive liability insurance with maximum limits of \$500,000/ \$500,000; and professional liability insurance with an annual limit of \$500,000.

6.6. **Personnel and Facilities.** The **ENGINEER** has, or will secure at his own expense, personnel, equipment and other materials and supplies required to perform the services under this **Agreement** within the period of service set forth in Section 4. **ENGINEER** may subcontract a portion of these services, but these Subcontractors shall be subject to written approval by the **OWNER**. Such personnel shall not be employees of nor have contractual relationship with the **OWNER**.

6.7. **Accounting System.** The **ENGINEER** shall maintain an accounting system which accounts for costs in accordance with generally accepted accounting principles. The **OWNER** reserves the right to audit the **ENGINEER's** accounts which relate to services provided under this **Agreement**.

6.8. **Successors and Assigns.** Neither **OWNER** nor **ENGINEER** shall assign any interest in this **Agreement** without the prior written consent of the other and in no case shall assignment relieve

assignor from liability under this **Agreement**. This **Agreement** shall bind the successors and legal representatives of both parties. Nothing in this **Agreement** shall give any rights or benefits to anyone other than **OWNER** and **ENGINEER**.

6.9. **Relationship.** The **OWNER** has retained **ENGINEER** to provide professional services. These parties have not entered into any joint venture or partnership with the other. The **ENGINEER** is not to be considered the agent of the **OWNER**.

6.10. **Standard of Care.** The **ENGINEER** will ~~strive~~ to perform services under this Agreement in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. No other representation, express or implied, and no warranty or guarantee is included or intended in this Agreement, or in any report, opinion, document or otherwise.

6.11. **Indemnification.**

6.11.1. To the fullest extent permitted by law, the **ENGINEER** agrees to hold harmless and indemnify **OWNER** from and against liability arising out of **ENGINEER's** negligent performance of professional services under this **Agreement**. To the fullest extent provided by law, the **OWNER** agrees to hold harmless and indemnify **ENGINEER** from and against liability arising out of **OWNER's** negligence.

6.11.2. The **OWNER** shall not be liable to the **ENGINEER** and the **ENGINEER** shall not be liable to the **OWNER** for any special, incidental or consequential damages, including, but not limited to, loss of use and loss of profit, incurred by either party due to the fault of the other, regardless of the nature of this fault, or whether it was committed by the **OWNER**, or the **ENGINEER** or their employees, agents or subcontractors.

6.12. **Recovery of Dispute Resolution Costs.**

In the event that legal action is brought by either party against the other, the prevailing party shall be reimbursed by the other for the prevailing party's legal costs, in addition to whatever other judgments or settlement amounts, if any, may be due.

6.13. **Compliance with Codes and Standards.**

The **ENGINEER's** professional services shall incorporate those publicly announced federal, state and local laws, regulations, codes and standards that are applicable at the time the services are rendered. In the event of a change in a law, regulation, et al., the **ENGINEER** shall assess its impact. If, ~~in the~~, the impact is such to significantly affect the **ENGINEER's** compensation or the period of service, then the compensation and/or period of service can be renegotiated.

6.14. **Force Majeure.** Neither **OWNER** nor **ENGINEER** shall be liable for faults or delays caused

by any contingency beyond his control, including, but not limited to, acts of God, wars, strikes, walkouts, fires, natural calamities, or demands or requirements of governmental agencies.

6.15. **Separate Provisions.** If any provisions of this **Agreement** are held to be invalid or unenforceable, the remaining provisions shall be valid and binding.

6.16. **Hazardous Materials.**

6.16.1.1. When hazardous materials are known, assumed or suspected to exist at a project site, **ENGINEER** is required to take appropriate precautions to protect the health and safety of his personnel, to comply with the applicable laws and regulations and to follow procedures deemed prudent to minimize physical risks to employees and the public. **OWNER** hereby warrants that, if he knows or has any reason to assume or suspect that hazardous materials may exist at the project site, he will inform **ENGINEER** in writing prior to initiation of services under this **Agreement**.

6.16.1.2. Hazardous materials may exist at a site where there is no reason to believe they could or should be present. **OWNER** agrees that the discovery of unanticipated hazardous materials constitutes a changed condition mandating a renegotiation of the scope of work or termination of services. **ENGINEER** agrees to notify **OWNER** as soon as practically possible

should unanticipated hazardous materials or suspected hazardous materials be encountered.

6.17. **Subsurface Conditions and Utilities.**

6.17.1. The **OWNER** recognizes that a comprehensive sampling and testing program implemented by trained and experienced personnel of **ENGINEER**, or **ENGINEER's** subconsultants, with appropriate equipment may fail to detect certain hidden conditions. The **OWNER** also recognizes that actual environmental, geological and geotechnical conditions that **ENGINEER** properly inferred to exist between sampling points may differ significantly from those that actually exist.

6.17.2. **ENGINEER** will locate utilities which will affect the **Project** from information provided by the **OWNER** and utility companies and from **ENGINEER's** surveys. In that these utility locations are based, at least in part, on information from others, **ENGINEER** cannot and does not warrant their completeness and accuracy.

6.18. **Anticipated Change Orders.** **OWNER** recognizes and expects that a certain amount of imprecision and incompleteness is to be expected in Contract Documents; that all details of a completed project are not intended to be covered in the Contract Documents; that a certain amount of errors, omissions, ambiguities and inconsistencies are to be expected in Contract Documents; that contractors are expected to

furnish and perform work, materials and equipment that may reasonably be inferred from the Contract Documents or from the prevailing custom or trade usage as being required to produce the intended result whether or not specifically called for; and that a certain amount of Change Orders are to be expected. -In no case will **OWNER** make claim against **ENGINEER** for costs incurred if the Change Order work is a necessary part of the **Project** for which **OWNER** would have incurred costs if work had been included originally in the Contract Documents unless **OWNER** can demonstrate that such costs were higher through issuance of the Change Order than they would have been if originally included in the Contract Documents in which case any claim of **OWNER** against **ENGINEER** will be limited to the cost increase and not the entire cost of the Change Order.

6.19. **Value Engineering.** If the **OWNER** retains the services of a **VALUE ENGINEER (VE)** to review the Contract Documents prepared by the **ENGINEER**, it shall be at the **OWNER's** sole expense and shall be performed in a timely manner so as not to delay the orderly progress of the **ENGINEER's** services. The **OWNER** shall promptly notify the **ENGINEER** of the identity of the **VE** and shall define the **VE's** scope of services and responsibilities for the **ENGINEER**. All recommendations of the **VE** shall be given to the

ENGINEER for review, and adequate time will be provided to the **ENGINEER** to respond to these recommendations. If the **ENGINEER** objects to any recommendations made by the **VE**, it shall so state in writing to the **OWNER**, along with the reasons for objecting. If the **OWNER** requires the incorporation of changes in the Contract Documents to which the **ENGINEER** has objected, the **OWNER** agrees, to the fullest extent permitted by law, to waive all claims against the **ENGINEER** and to indemnify and hold harmless the **ENGINEER** from any damages, liabilities or costs, including reasonable attorneys' fees and costs of defense, which arise in connection with or as result of the incorporation of such changes required by the **OWNER**. In addition, the **ENGINEER** shall be compensated for services necessary to incorporate recommended **VE** changes into reports, drawings, specifications, bidding or other documents. The **ENGINEER** shall be compensated as Additional Services for all time spent to prepare for, review and respond to the recommendations of the **VE**. The **ENGINEER's** time for performance of its services shall be equitably adjusted.

6.20. **Affirmative Action.** During the performance of this **Agreement**, the **ENGINEER** agrees to take affirmative action to ensure that applicants are employed, and employees are treated

during employment, without regard to their race, color, religion, sex or national origin.

6.21. **Conflicts.** In the event of a conflict between the main text of this **Agreement** and any appendix thereof, provisions of the main text shall govern.

6.22. **Governing Law.** The laws of the State of Mississippi will govern the validity of this **Agreement**, its interpretations and performance, and remedies for any claims related to this **Agreement**.

6.23. **Separate Provisions.** If any provisions of this **Agreement** are held to be invalid or unenforceable, the remaining provisions shall be valid and binding.

6.24. The **ENGINEER** authorizes Mark J. Beyea, P.E., Registered Professional Engineer No. 12599 and Frank O'Keefe, P.E., Registered Professional Engineer No. 11097 in the State of Mississippi, to act on his behalf for this **Project**.

SECTION 7 — DEFINITIONS

As used herein, the following words and phrases have the meanings indicated, unless otherwise specified in various sections of this Agreement:

7.1. **Addenda.** Written or graphic instruments issued prior to the opening of bids which

clarify, correct or change the bidding documents or the Contract Documents.

7.2. **Agreement.** This contract including all exhibits and documents included by reference.

7.3. **Application for Payment.** The form accepted by **ENGINEER** which is to be used by Contractor in requesting progress or final payments and which is to include such supporting documentation as is required by the Contract Documents.

7.4. **Bid.** The offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the construction work to be performed.

7.5. **Change Order.** A document recommended by **ENGINEER** which is signed by Contractor and **OWNER** and authorizes an addition, deletion or revision in the construction work, or an adjustment in the contract price or the contract time, issued on or after the effective date of the construction contract.

7.6. **Contract Documents.** The drawings and specifications, addenda, and other documents required to obtain bids from contractors for construction of the **Project**.

7.7. **Contractor.** The person, firm or corporation with whom **OWNER** has entered into a contract for construction of the **Project**.

7.8. **Construction Cost.** Total cost of entire **Project** to **OWNER** not including **ENGINEER's**

compensation and expenses, cost of land and rights-of-way, or compensation for or damages to properties, unless this **Agreement** so specifies; nor will it include **OWNER's** legal, accounting, insurance counseling or auditing services, or interest and financing charges incurred in connection with the **Project** or the cost of services to be provided by others to **OWNER** pursuant to Section 3 of this **Agreement**.

7.9. **Direct Labor Costs.** Salaries and wages paid to **ENGINEER's** personnel engaged directly on the **Project**, including engineers, draftsmen, technicians, designers, surveyors, resident project representatives and other technical and administrative personnel; but does not include indirect payroll related costs or fringe benefits.

7.10. **Drawings.** The drawings which show the character and scope of the **Project** and which have been prepared or approved by **ENGINEER** and are referred to in the Contract Documents.

7.11. **Reimbursable Expenses.** Actual expenses incurred by **ENGINEER** directly in connection with providing services for the **Project**. These include, but are not limited to, transportation and subsistence; reproduction and printing; communications; postage and express mail; equipment rental; and expense of computers and other specialized equipment.

7.12. **Resident Project Representative.** The authorized representative of **ENGINEER** who is assigned to the construction site or any part thereof for the purpose of observing the performance of the work of the Contractor.

7.13. **Shop Drawings.** All drawings, diagrams, illustrations, schedules and other data which are specifically prepared by or for Contractor to illustrate some portion of the work and all illustrations, brochures, standard schedules and other information prepared by a Supplier and submitted by Contractor to illustrate material or equipment for some portion of the **Project**.

7.14. **Specifications.** Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the **Project** and certain administrative details applicable thereto.

7.15. **Subcontractor.** An individual, firm or corporation having a direct contract with Contractor or with any other subcontractor for the performance of a part of the **Project** at the site.

7.16. **Supplier** A manufacturer, fabricator, supplier, distributor, material man or vendor of products or equipment used in construction of the project.

SECTION 8 — SPECIAL PROVISIONS AND EXHIBITS

8.1. This **Agreement** is subject to the following Special Provisions.

8.2. The following Exhibits are attached to and made a part of this **Agreement**.

8.2.1. Exhibit A, "Project Description."

8.2.2. Exhibit B, "Scope of Design Phase Services."

8.2.3. Exhibit C, "Project Schedule."

8.2.4. Exhibit D, "Payments to Engineer."

8.3. This **Agreement**, consisting of Pages 1 to 16, inclusive, together with the Exhibits identified above, constitute the entire agreement between **OWNER** and **ENGINEER** and supersede all prior written and oral understandings. This **Agreement** and said Exhibits may only be amended, supplemented, modified or canceled through a duly executed written instrument.

IN WITNESS WHEREOF, the parties hereto have made and executed this Agreement as of the day and year first written above.

OWNER: Town of Flora

BY: _____

TITLE: _____

WITNESS: _____

ENGINEER: NEEL-SCHAFFER, INC.

BY:  _____

TITLE:  _____

WITNESS:  _____

EXHIBIT A
PROJECT DESCRIPTION

Madison County intends to improve Bozeman Road starting in the vicinity of its intersection with MS 463 and terminating in the vicinity of its intersection with Gluckstadt Road. Phase 1 will include a raised median section from MS 463 to Reunion Parkway with improvements from Belle Terre Subdivision to Gluckstadt Road. Also a multi-use trail will be constructed from MS 463 to Gluckstadt Road.

Phase 2 improvements (current project) will include a raised median section from Reunion Parkway to Belle Terre Subdivision.

EXHIBIT B

SCOPE OF SERVICES

Bozeman Road Widening Phase 2 Madison County

The following engineering services shall be performed by the CONSULTANT on behalf of the Local Public Agency (LPA) in accordance with this CONTRACT at the direction of the LPA, unless otherwise modified by the Mississippi Department of Transportation (MDOT).

A project schedule is attached. Work progression is to proceed in accordance with the attached agreed project schedule. The following engineering services shall be performed by the CONSULTANT in accordance with this CONTRACT and the latest Project Development Manual (PDM) for the LPA at the time of the execution of this contract. Where this CONTRACT and the PDM differ, the PDM shall govern.

A monthly status report along with an updated project schedule is required. This report is to be submitted by the 7th of each month to the LPA for their signature and then submitted to the District LPA Coordinator. This monthly report is to be submitted by the CONSULTANT and will update the LPA on the status of the project. Recent milestones in plan development, such as the submittal of plans for review, shall be documented. Also, the target dates for the future milestones should be included.

Maps and Deeds are not included in this contract. An amendment will be required once Field Review Plans are complete and the number of parcels needed for Right of Way acquisition has been determined.

TYPICAL ITEMS/MATERIALS PROVIDED BY THE LPA:

Based upon availability, the LPA will provide within normal resources of the LPA, the following:

1. Maps, aerial photographs, and other cartographic items as may be available;
2. Available old construction plans, drawings, and maps pertinent to the project;
3. Copies of previous studies/analyses, environmental assessments, conceptual plan, and other information pertaining to the project;
4. Names, addresses, and telephone numbers of points of contact which may prove useful to the CONSULTANT in conducting this analysis;
5. A single point of contact within the LPA for day-to-day coordination of each CONTRACT;

-
6. Computer files (depending on availability) may include Computer Aided Design and Drafting (CADD) files, GIS data, or Survey Control Points set by other Surveyors on or near the project employed by the LPA;

GENERAL REQUIREMENTS:

As directed, the CONSULTANT shall provide engineering/technical assistance to perform specific assignments requiring needed expertise or staff resources unavailable to the LPA.

Manuals, guides, and specifications applicable to this CONTRACT shall be those approved and adopted by the MDOT and in effect on the effective date this CONTRACT unless otherwise specified in the CONTRACT or subsequently directed by the MDOT during the course of this CONTRACT.

The design of roadways shall be in compliance with the MDOT Roadway Design Manual, and supplemented with updated design policies as described in design memos, American Association of State Highway and Transportation Officials (AASHTO)'s Policy on Geometric Design Of Highways and Streets; AASHTO Guide for the Development of Bicycle Facilities; Draft ADA Public Right of Way Accessibility Guidelines (PROWAG); MDOT Standard Drawings (roadway and bridge), MDOT Roadway CADD Manual; MDOT Standard Specifications for Road and Bridge Construction; Manual on Uniform Traffic Control Devices (MUTCD); MDOT Access Management Policy; and MDOT Survey Manual. The latest edition of the aforementioned documents shall be used.

Hydraulic design shall conform to the MDOT's Roadway Design Manual, 23 CFR 625, 630 AND 650, 44 CFR Part 60.3(d)(3), the Floodplain Management Regulations for the State of Mississippi (Chapter 5, General laws of 1979, 1st Extraordinary session of the State, as amended) and Federal Emergency Management Agency (FEMA) regulations and any other State or Federal regulations as appropriate.

This project shall be performed using English units.

The CONSULTANT shall not begin work in any phase of this CONTRACT until a written NOTICE TO PROCEED (NTP) for that individual phase has been issued. The LPA reserves the right to not issue a NTP until work in the previous phase has been completed.

All preliminary plans shall be marked "PRELIMINARY, NOT FOR CONSTRUCTION" on each sheet. Once plans are complete, the "PRELIMINARY" markings shall be removed, and the Roadway Title sheet shall be signed and sealed/stamped by the CONSULTANT's engineer. If the scope of the CONSULTANT's work is limited to certain aspects of the plans, the scope shall be briefly noted near the seal/stamp (e.g., "ROADWAY AND LIGHTING ONLY" or "BRIDGE AND RETAINING WALL ONLY"). If multiple CONSULTANTS develop the plans, each firm shall sign and seal/stamp the title sheet.

It is the responsibility of the CONSULTANT to request and receive approval from the LPA's Project Manager prior to making any changes to plans developed under this contract. This requirement includes plans developed by any subconsultants.

Other provisions herein notwithstanding, in emergencies due to bridge damage, verbal NTP with a follow-up letter of authorization may be given to the CONSULTANT by the LPA, or designee, to

assess the damage, make recommendations for remedial safety measures and obtain essential information for preparing an estimate of time and cost.

As a minimum, the Scope of Work shall be divided into two phases as follows:

FIELD REVIEW PLANS

Part 1 -- Pre-Design Conference

Part 2 -- Centerline Soil Profile and Preliminary Geotechnical Design Report

Part 3 -- Highway Hydraulic Design

Part 4 -- Field Inspection Plans

OFFICE REVIEW PLANS

Part 1 -- Office Review Plans

Part 2 -- Final Contract Plans

FIELD SURVEY:

The CONSULTANT shall survey the project utilizing standard surveying practices as required to prepare preliminary and final contract plans in accordance with the current MDOT Design Manual. The work shall be drafted in accordance with the current MDOT Survey Manual, unless specifically accepted, and with any additional instructions or requests as specified by the LPA, including the following:

No field staking is included in the CONTRACT.

FIELD REVIEW PLANS:

Roadway plans shall conform to the MDOT Roadway Design Division's CADD specifications as described in the MDOT Roadway Design Division's CADD User's Manual. Field review plans will include the extension of existing cross drains. If calculations show that structures are insufficient to meet regulations and AASHTO standards, the consultant shall provide recommendations.

Unless stated otherwise in the CONTRACT, the following specific requirements are typical for this phase:

Part 1 - PRE-DESIGN CONFERENCE

The purpose of the conference is to discuss LPA procedures, contract administration, data required by this CONTRACT, the design criteria, and other matters as the parties deem necessary. After the

Pre-Design Conference, the Project Director shall authorize the CONSULTANT to proceed with the preparation of the conceptual design plans.

Part 2 - CENTERLINE SOIL PROFILE AND PAVEMENT DESIGN REPORT

The CONSULTANT will investigate sub-surface soil and geological conditions along the project route as required to provide the necessary design criteria for water and wastewater infrastructure (utility structures), storm drainage structures, pavement support criteria, and other as required by the LPA.

Design Criteria for pavement support shall be determined from a Centerline Soil Profile. The specific objective of this study is to determine the quality and type of soils located along the project. The centerline soil profile shall be completed prior to the submittal of the Preliminary Right-of-Way plans so that the plans reflect slope requirements in areas that contain high-volume-change soils. Specific work requirements include the following:

For this CONTRACT, the CONSULTANT shall perform necessary field and laboratory work to develop and provide the complete soil profile along the centerline of survey. The soil survey shall be performed by the CONSULTANT in such a manner as necessary to produce a report similar in content and format commonly developed by the LPA's District Materials laboratories, and in accordance with MDOT Standard Operating Procedures *TMD-20-14-00-000 – Standard Design Procedures for Construction of Roadways Through High Volume Change Soils*.

The CONSULTANT shall identify the types of soils along the proposed alignment, evaluate their potential use as fill materials, and locate any undesirable low strength surface soils which may require undercutting or other remedial measures for construction. From the original soil profile, a tentative base design will be formed by the LPA and any undesirable strata shall be noted for special consideration by the Project Engineer in charge of the actual construction. It is of distinct value in determining soil strata placement during grading operations where better soils should be placed at grade and poor soils below. The CONSULTANT will provide a pavement design based on project traffic conditions for this project and provide recommendations related to the construction of the utility and storm drainage structures.

Prior to the beginning of the field exploration, the CONSULTANT shall submit the proposed plan of work to the LPA, or designee, for review and approval. As a general rule, soil borings should be spaced a maximum of 200 feet (60 m) apart along the centerline and drilled to a depth of 15 feet (5 m) below the proposed subgrade line in cut sections or natural ground in fill sections. The spacing and depth of soil borings should vary if unusual conditions are encountered such as rock layers, water strata, or weak deposits (muck or unstable material). The auger method of drilling for disturbed samples is generally suitable for identification of the materials obtained.

Additional laboratory tests and analyses, which are not specified in TMD-20-14-00-000, shall be performed by the CONSULTANT. These include:

1. Estimated CBR, from charts supplied by the LPA;
2. Volume Change, AASHTO T 92;
3. pH, Mississippi Test Method MT-30;

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4. Soil Resistivity, Mississippi Test Method MT-47;
 5. Soluble Sulfates, Mississippi Test Method MT-58.

The CONSULTANT shall prepare a report of the findings of the soil survey. This report shall include recommendations for handling unsuitable or undesirable soils, copies of the laboratory test results on MDOT form TMD-683, or equivalent, and the centerline soil profile. The centerline soil profile shall show the limits of each soil type identified, with each type labeled with:

1. an identification number to reference it to the laboratory test results,
2. AASHTO classification,
3. Unified Soils classification,
4. estimated CBR.
5. % Volume Change (if applicable)

The CONSULTANT shall provide 10 copies of the report to the LPA, or designee.

Design Criteria for potable water, sewer and storm drainage structures shall be determined from subsurface investigation and laboratory testing. The same geotechnical borings and testing performed for the centerline soil profile shall be used in preparation of the Geotechnical Design Report. The Geotechnical Design Report shall contain reproductions of the field boring logs and test results and contain recommendations for construction of the utility and storm drainage structures. Specific work requirements include the following:

The necessary field investigation, laboratory testing, and engineering services shall be conducted by the CONSULTANT on behalf of the LPA in accordance with this Contract at the direction of the LPA'S Geotechnical Engineer, unless otherwise modified by the LPA. The Geotechnical Investigation shall consist of the following:

- * Subsurface investigations, consisting of borings on land;
- * Auger Sampling;
- * Laboratory testing of disturbed samples;
- * Preliminary Geotechnical Design Report containing results of Subsurface Investigation and Laboratory Testing along with construction recommendations;
- * Engineering analyses of subsurface conditions;
- * Preparation of necessary plan sheets and special provisions for inclusion in plans with only minor modifications; and
- * Final Geotechnical Investigation Report containing conclusions and recommendations as well as all supporting data.

The CONSULTANT shall be responsible for obtaining permits, licenses, and/or authority from public agencies required for the conduct of his operations under this CONTRACT, including payment of any charges for the same, and shall not work or use public property without such authority, licenses, or permits. This also applies to permits required to transport equipment over or across public thoroughfares. The CONSULTANT will also be required to notify private landowners and to obtain

access and permission to enter or work on their property. The LPA shall be notified in writing within 5 working days of any landowner's refusal to grant access to their property.

All geotechnical investigation work – drilling, soils classification, laboratory testing – and all other work in connection therewith, shall follow procedures outlined in AASHTO publication, *Manual on Subsurface Investigation, 1988*.

CADD Drawings:

The Generalized Soil Profile(s) and special design sheets that are included in the Final Geotechnical Investigation shall be submitted in the agreed format with the Final Contract Plans. The Generalized Soil Profiles shall contain standard notes and disclaimers. These notes will be furnished by the LPA. In addition, the Generalized Soil Profiles shall contain a geologic description of the individual soil zones.

Final Geotechnical Investigation Report:

The Final Geotechnical Investigation Report shall be prepared and signed by an engineer licensed in the State of Mississippi with a minimum of 10 years of experience in the practice of geotechnical engineering. The report should contain the following:

1. A cover letter containing Project Number, County, and a general description of the project;
2. A Project Layout Sheet containing the project termini and a map encompassing the entire project area;
3. A copy of the boring logs;
4. Results of the laboratory tests;
5. Any design sheets and draft special provisions required for the plans; and
6. Generalized soil profiles suitable for inclusion in the plans.

In addition, the Geotechnical Investigation Report shall be organized according to the following outline.

- I. Cover Letter
- II. Layout Sheet
- III. General
- IV. Geology
- V. Conclusions and Recommendations
 - A. Pavement Design
- VI. Reference Section
 - A. Generalized Soil Profile

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- B. Laboratory Test Results
 - C. Boring Logs

The CONSULTANT shall furnish the LPA, or his or her designee, with 10 copies of the geotechnical report.

Part 3 – HIGHWAY HYDRAULIC DESIGN

Highway hydraulic design including hydrology, channels, culverts, energy dissipators, storm drainage systems, and storage facilities shall be in conformance with the MDOT Roadway Design Manual, AASHTO Drainage Manual, FHWA Hydraulic Engineering Circulars and Publications, 23 CFR 625, 630 and 650, 44 CFR Part 59-78, the Floodplain Management Regulations for the State of Mississippi (Chapter 5, General Laws of 1979, 1st Extraordinary Session of the State, as amended and supplemented from time to time), National Flood Insurance Program (NFIP) regulations, and Federal Emergency Management Agency (FEMA) regulations and any other applicable Laws.

Drainage design shall achieve the most effective and economical methods by which runoff waters can be passed through and removed from the roadway. Drainage installations shall not create hazardous conditions for traffic operations nor shall they adversely affect conditions of adjoining properties.

Major reference publications (latest editions and interim revisions) for hydraulic design of highways are as follows (in addition to any other publications that are applicable to engineering industry standards):

1. FHWA Publication *Hydraulic Design of Highway Culverts*, Hydraulic Design Series Number 5 (HDS-5)
2. FHWA Publication *Hydraulic Design of Energy Dissipators for Culverts and Channels*, Hydraulic Engineering Circular No. 14 (HEC-14).
3. FHWA Publication *Design of Roadside Channels with Flexible Linings*, Hydraulic Engineering Circular No. 15 (HEC-15).
4. FHWA Publication *Urban Drainage Design Manual*, Hydraulic Engineering Circular No. 22 (HEC-22).

The hydraulic analysis shall be performed using a nationally recognized and readily available computer program for determination of design requirements. Acceptable software for drainage design applications may include HY-8 Culvert Hydraulic Analysis Program, FHWA Hydraulic Toolbox, HEC-RAS, PondPack, StormCAD, StreamStats, HEC-HMS, WMS, and SMS.

If the project is located in or across a FEMA Regulatory Floodway or base flood elevations have been determined as shown on the National Flood Insurance Program (NFIP) maps, the CONSULTANT shall obtain the step-backwater hydraulic model for the specified stream and community from FEMA. Modification of this input data will be required to demonstrate that the proposed development will not impact the pre-project base flood elevations, regulatory floodway elevations, or regulatory floodway widths.

For structures with drainage areas less than 1000 acres, the design flood for encroachments by through lanes of Interstate highways shall not be less than the flood with a 2 percent chance of being exceeded in any given year per 23 CFR 650.115. Further design flood classifications and standards are specified in the Roadway Design Manual.

The hydraulic studies shall include a preliminary submittal for incorporation into the Field Inspection Plans as well as a final submittal. The preliminary submittal shall be completed prior to the Field Inspection, and the final submittal shall be completed after the Field Inspection. The CONSULTANT shall provide the preliminary and final submittal in accordance with the LPA'S format. The final submittal shall include as a minimum one hard copy of reports spiral bound, all pertinent digital files on a CD placed in the back of the report, including a color PDF of the hydraulic report.

The CONSULTANT shall prepare and submit Highway Hydraulic Design and Recommendations in accordance with the MDOT's format to the MDOT for review and comment.

The Highway Hydraulic Design submittal shall include Structure recommendations, all hydraulic computations, supporting data and documentation, including but not limited to:

- A. STRUCTURE RECOMMENDATIONS: The Hydraulic Structure Recommendations shall be completed in accordance with MDOT Roadway Design Manual, MDOT Design Memos, and other guidance as applicable. Recommendations shall be provided in the appropriate format as required.
 - a. Design data for culverts and cross drains shall be recorded and provided on the Culvert Hydraulic Design Summary Table as stated in the MDOT Roadway Design Manual, Drainage Chapter. The table shall be included with the plans.
 - b. Drainage details shall be provided in a Microstation file including hydraulic structure recommendations placed accordingly on the roadway Plan & Profile sheets for reference into the plans and any additional items indicated in the Work Assignment. The following shall be provided as a minimum:
 - i. Plan view shall show all structures in the proper location, and include corresponding labels as to size and type.
 - ii. Profile view shall show the structures in the proper location.
 - iii. Drainage Details Note box including information to be placed by Roadway Design or the CONSULTANT in the profile for each structure (pipe or box culvert).
 - 1. Structure information shall include location including station, type, size, length, drainage area, flow lines, skew, and any other accompanying structures (end sections, junction boxes, collars, etc). The accompanying structures shall also include flowlines and dimensions where applicable.
 - 2. Details of flat bottom ditches including grades, bottom widths, side slopes, location, and any additional items indicated in the Work Assignment.
 - c. All structures shall be drawn to proper flowlines, dimensions and labeled in the cross section file provided by Roadway Design

- B. STORM SEWER DESIGN: Storm sewer design shall be prepared according to the MDOT Roadway Design Manual and FHWA Publication *Urban Drainage Design Manual*, Hydraulic

Engineering Circular No. 22 (HEC-22). Recommendations shall be provided in the appropriate format as required.

- a. Design data for structures shall be recorded and provided in a separate network flow diagram or chart showing every structure with drainage area and flow rate into each inlet and pipe.
 - b. Drainage details shall be provided in a CAD file including hydraulic structure recommendations placed accordingly on the roadway 1"=20' Plan & Profile sheets (left and right) for reference into the plans and any additional items indicated. The following shall be provided as a minimum:
 - i. Plan view shall show all structures in the proper location, and include corresponding labels as to size and type. Pipes shall also be labeled including a direction of flow.
 - ii. Profile view shall show the structures in the proper location, and drawn to proper flow lines and dimensions. Pipe slopes shall be labeled. Profile view shall also include the existing and proposed roadway profile provided by Roadway Design.
 - iii. Drainage Details Note box including information to be placed by Roadway Design or the CONSULTANT in the profile for each structure (pipe or box culvert).
 1. Structure information shall include location including station, type, size, length, top, height, width, drainage area, flowlines, skew, inverts, openings with pipe size and any other accompanying structures (end sections, junction boxes, collars, etc), and any additional items indicated in the Work Assignment. The accompanying structures shall also include flowlines and dimensions where applicable.
 - c. All structures shall be drawn to proper flowlines, dimensions and labeled in the cross section file provided by Roadway Design
- C. TEMPORARY DRAINAGE DESIGN: The temporary hydraulic design recommendations shall be completed in accordance with MDOT Roadway Design Manual, MDOT Design Memos, and any other guidance as applicable. Temporary recommendations shall be in the appropriate format as required.
- D. SEDIMENT BASIN DESIGN: The sediment basin design recommendations shall be completed in accordance with MDOT Roadway Design Manual, MDOT Design Memos, and any other guidance as applicable. Sediment basin recommendations shall be in the appropriate format as required. Sediment basin design shall include all items as applicable as stated for Final Structure Recommendations.
- E. HYDRAULIC MODELS AND CALCULATIONS: Hydraulic models shall be provided when required. Input and output from software and any other calculations used in hydraulic design shall be provided.
- F. HYDRAULIC REPORT: Hydraulic reports shall be provided when required, and shall be signed and sealed by the CONSULTANT's engineer.

The CONSULTANT shall submit the hydraulic studies and recommendations to the Department for review.

The CONSULTANT will allow approximately three (3) weeks for review by the MDOT in their progress schedule unless indicated otherwise. Upon completion of the review by the MDOT, comments shall be provided to the CONSULTANT. The CONSULTANT shall address the comments and provide updated studies and recommendations for subsequent review. Any changes or revisions required as a result of the above reviews shall be considered as part of the covered work.

If changes result from the field inspection or the MDOT'S review, the CONSULTANT shall provide revised hydraulic studies and recommendations, amended hydraulic analysis and revised drawings as appropriate.

The CONSULTANT shall prepare and submit Final Hydraulic Studies and Recommendations in accordance with the MDOT's format and shall account for any changes from the field inspection to the MDOT for review and approval. **Documentation from the field inspection shall be added to the report including to statements for any revisions** and any additional items indicated.

One (1) complete set of the Final Hydraulic studies, design/analysis computations, supporting data and reports shall be submitted to the MDOT after all changes from the field inspection and COMMISSION's review have been made. This submittal shall include: 1) Computer input and output (electronic); 2) Computations; 3); 4) Supporting drawings; 5) All correspondence with governmental and regulatory agencies regarding levees and water crossings; and 6) any additional items indicated in the Work Assignment. In the event a FEMA regulatory floodway is involved, the CONSULTANT shall also submit a copy of the following as appropriate: 1)FEMA flood study data; 2) Topographic maps showing revised floodway and floodplain boundaries (when directed by the COMMISSION); 3) No-Rise/No-Impact certification; 4) CLOMR application (when directed by the MDOT); 5) LOMR (when directed by the MDOT); and 6) All correspondence with FEMA and the Community Floodplain Administrator.

The CONSULTANT shall submit one (1) FINAL hard copy, bound hydraulic report when required including a CD/DVD of all pertinent digital files including a color PDF of the report. The CD/DVD shall be located in the back of the report.

All structures shall be drawn to proper flowlines, dimensions and labeled in the cross section file.

Part 4 - FIELD INSPECTION PLANS

After the field survey has been completed, the CONSULTANT will participate in a meeting in order to make a recommendation on which improvements will be included in plan development.

The CONSULTANT shall then prepare and submit field inspection plans in accordance with the LPA'S format. The field inspection plans shall contain, as a minimum:

- A. ROADWAY PLANS: Title sheet, typical sections, preliminary listing of pay items, plan and profile sheets showing all geometrics, profile grades, construction limits, cross-sections, preliminary earthwork quantities, preliminary pavement marking sheets, size and location of all drainage structures, as well as any traffic control that will be required during construction. Cross drain structures shall be plotted on the cross sections.

The field review plans will include Professional Engineering and Technical Services in connection with the design of Water and Sewer Line Replacement. The project consists of the replacement of the water and sanitary sewer utilities that are affected by the roadway project. Preliminary Design Phase Services include preliminary design and layout of the water and sewer utilities. Specific items include, but are not limited to:

- 1.1 Preliminary Design Engineering Phase – The work in the Preliminary Design Engineering Phase will be initiated upon receipt of the Authorization to Proceed and shall be completed in the following steps.
 - 1.1.1 Consult with the OWNER and CLIENT to clarify and define the requirements for the Project and review available data.
 - 1.1.2 Assemble and review available data which may be pertinent to the design of the project.
 - 1.1.3 Review topographic survey and subsurface investigation information provided by the Client.
 - 1.1.4 Internal television (TV) inspection of sewers and clean sewer lines as necessary for design purposes.
 - 1.1.5 Prepare preliminary design of water and sewer line improvements to include replacement or renovation as needed. Consult with OWNER to confirm preferences to water and sewer utility improvements following preliminary design.

After the field review is conducted, the CONSULTANT shall provide the LPA with written updated construction cost estimate. These estimates shall be based on historical cost data from similar MDOT projects.

The CONSULTANT will provide plans for and participate in up to two public meeting which will be facilitated by the LPA.

Any other incidental drawings needed to show pertinent topographical features or special treatments shall be included with these field inspection plans. Any remedial measures required by the LPA's S.O.P. TMD-20-14-00-000, Standard Procedures for Construction of Roadways Through High Volume Change Soils, must be identified and incorporated into the design of right-of-way plans. The CONSULTANT shall submit four (4) sets of plans for review by the LPA prior to requesting the Field Inspection. The LPA shall mark on these copies of the plans all revisions or changes required and return same to the CONSULTANT. Allow approximately three (3) weeks for review by the LPA. After completing any revisions, the CONSULTANT shall submit to the LPA one (1) set of Field Inspection plans for a Field Inspection with representatives of the LPA and the CONSULTANT at a date mutually agreed upon by both parties. Allow approximately three (3) weeks from the submittal date of the reproducibles for scheduling and completing the Field Inspection.

OFFICE REVIEW PLANS:

Work shall consist of all services required for the production of final contract plans.

Unless stated otherwise in the CONTRACT, the following specific requirements are typical for this phase:

Part 1 - OFFICE REVIEW PLANS

After the Office Review plans (100% plan development, pending final review) are complete, the CONSULTANT shall submit one (1) set of reproducible plans and quantity calculations in 8.5"x11" format for review by the LPA. A pdf file of the quantity calculations shall also be submitted. A final Office Review will be required and the CONSULTANT shall be required to attend. Allow approximately three (3) weeks from the submittal date of the reproducibles for scheduling and completing the Office Review. In the office review, the LPA shall review and mark the plans with all required revisions.

The office review plans will include Professional Engineering and Technical Services in connection with the design of Water and Sewer Line Replacement. The project consists of the replacement of water and sanitary sewer utilities that are affected by the roadway project. Preliminary Design Phase Services include preliminary design and layout of the water and sewer utilities. Specific items in the scope of work include, but are not limited to:

- 1.2 Perform detailed design and prepare construction drawings for improvements.
 - 1.2.1 Prepare set of contract documents and specifications for bidding.
 - 1.2.2 Prepare recap of quantities and Opinion of Probable Construction Cost estimate.
 - 1.2.3 Submit one set of the above 100% design documents to the OWNER for review and approval. Submit one set of the above 100% design documents to the Mississippi Department of Environmental Quality (MDEQ) and Mississippi State Department of Health (MSDH) for review and approval.

After the Office Review is conducted, the CONSULTANT shall provide the LPA with a written updated construction cost estimate. This estimate shall be based on the plan quantities and historical cost data for the pay items.

Part 2 - FINAL CONTRACT PLANS

The final contract plans shall include information such as, but not limited to:

- A. ROADWAY PLANS: Title sheet; detailed index; general notes; typical sections; summary of quantities; estimated quantities; plan-profile sheets; special design sheets; traffic control plan; complete form grades for and channelized intersections (in accordance with current Design Manual, at 25 feet intervals); and estimated quantities; detailed pavement marking sheets, final cross-sections; water/sewer replacement plans, and all notes and data used to develop the plans.

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- B. Submittal: Unless otherwise specified in the CONTRACT, after all revisions have been made, the CONSULTANT shall submit the final contract plans including all survey notes, design, special provisions, estimates of cost and revised quantity computations (2 sets), Two (2) complete sets of structural design computations, and all notes or other data used in development of the plans including Raw Data and ASCII coordinate files. The design computations shall be legible, neat and orderly, and properly identified and referenced. All analysis computations and pertinent sketches are understood to be part of the design computations.

The final contract plans shall be accompanied by a written certification and completed checklist from the CONSULTANT that a detailed check of the plans, including quantity computations, has been made prior to submission. This review is to include a detailed check of the earthwork quantities for any amount of earthwork, unless otherwise approved by the LPA. The CONSULTANT shall submit a list of all comments, the resolution to the comments, and one (1) PDF scan of the marked-up plans used to complete the CONSULTANT's internal quality control review to confirm that a detailed review has been performed by the CONSULTANT prior to final contract plans submittal. The plans may not be accepted without this written certification and completed checklist.

Final contract plans shall be submitted as original drawings.

All related electronic files shall be submitted with original drawings on CD/DVD with a project description (including Project Number, Route, and County) and the words "Final Plans," and the date written on the exterior of the disk. In lieu of CD/DVD, the CONSULTANT may transmit the files by FTP or e-mail. The electronic CADD files may be in a compressed (zipped) format.

The CONSULTANT shall prepare all special provisions pertinent to the intent of the plans unless the LPA has on hand suitable special provisions that will be used.

The CONSULTANT will be responsible for updating the PS&E for routine changes and updates to policies and standards one time after the final PS&E is submitted, at the direction of the LPA.

TRAFFIC ENGINEERING:

A. TRAFFIC SIGNAL DESIGN:

1. Traffic Signal Plans:

Design of traffic signal plans will include layout of traffic signal poles and controllers, type of poles to be used, geometric roadway changes if necessary, surveys, equipment and component design and recapitulation of quantities, and design of interconnected traffic signal systems and design/ method of interconnection.

2. Signal Timing Plans:

Signal system phase times, cycle lengths and intersection offsets will be developed using approved timing analyses software at the direction of the Roadway Design Division

Engineer, while in consultation with the Traffic Engineering Division. Timing information will be reduced to spreadsheet format to facilitate data entry by, or under the direction of, the Traffic Engineering Division.

B. PERMANENT SIGNING PLANS AND DETAILS:

Permanent signing plans and details for new construction projects shall be developed in accordance with the requirements of the MUTCD, MDOT signing policies and practices and at the direction of the Roadway Design Division Engineer, while in consultation with the Traffic Engineering Division.

C. OTHER RELATED TRAFFIC/DESIGN SERVICES:

Examples of other related traffic engineering services may include the following:

1. Preparation of Special Provisions to the 2004 Standard Specifications for Road and Bridge Construction and Supplemental Specifications (or later version); accident collision diagrams; attendance at MDOT meetings to consult on traffic engineering matters; preparation of construction estimates and opinions of probable costs; review plans and contract documents prepared by other departments/districts or CONSULTANTS.

RIGHT-OF-WAY MAPS AND DEEDS

The LPA may opt to negotiate a fee with the CONSULTANT for preparation of the following: deed research, location of property lines, preparation of acquisition (appraisal) maps and preparation of plats for conveyance and legal descriptions prepared in accordance with the Standards of Practice for Surveying in the State of Mississippi. Field staking of proposed Right-of-Way limits and easements is to be included. Not included are a title search, property acquisition and closing.

The Right-of-Way Acquisition Map is a composite mosaic of the individual parcels which are to be acquired on the project. This map is used by the appraisers and negotiators to present the information to the landowners during the acquisition phase of the Right-of-Way process. The map includes a layout sheet which locates the project on the highway, showing a Point of Beginning and an End of Project, or Work Sites in the case of bridges or intersection projects. The following sheets are generally at a scale of 1"= 100', 1"= 200', or 1"= 400' (depending on the amount of information presented and the size of the project). Each parcel to be acquired is identified by parcel number, owner name, and area of take. The remaining area is shown for the parent parcel of each take area. Also, each instrument needed to acquire the properties is identified on the maps. Instruments include Warranty Deeds (W-deeds), Quitclaim Deeds (Q-deeds), Temporary Easements (T-deeds), Permanent Easements (E-deeds) and Access Rights Deeds (G-Deeds). The maps are printed out on E-size sheets on reproducible film media when finalized to preserve the information.

The Right-of-Way Division of MDOT has Standard Operating Procedures and a Right-of-Way Manual. The CONSULTANT shall adhere to the Standard Operating Procedures and the requirements set forth in the Right-of-Way Manual in the preparation of Maps and Deeds. The Right-of-Way Division may review any or all parts of the Maps and Deeds in order to check compliance with the Standard Operating Procedures and the Right-of-Way Manual.

The CONSULTANT acknowledges that revisions to plans and to Maps and Deeds shall be given high priority treatment, especially after the release of a complete set of Maps and Deeds. The CONSULTANT shall complete revisions to Maps and Deeds in a timely manner that will not impede the progress of the appraisal and acquisition phases of the Right-of-Way process.

UTILITIES:

The Consultant will locate approximate locations of telephone, electricity, gas, water, cable, sewer and other utilities which will affect the PROJECT from information provided by the LPA and private utility companies and from CONSULTANT'S surveys.

The CONSULTANT will coordinate with the LPA and representatives of utility companies to mitigate the relocation or adjustment of utility conflicts.

The CONSULTANT will schedule progress meetings as required to effectively coordinate with the LPA. The CONSULTANT will be responsible for preparing the minutes of these progress meetings.

PS&E ASSEMBLY:

Submittal and authorization of the PS&E Assembly is the final stage of project development. The LPA must obtain authorization of the PS&E Assembly prior to advertising the project.

The CONSULTANT shall submit to MDOT all necessary documentation as set forth in the latest edition of the Project Development Manual for Local Public Agencies.

BID DOCUMENT PREPARATION:

The CONSULTANT shall prepare all special provisions pertinent to the intent of the plans. Once the PS&E Assembly has been approved by MDOT and the authorization to advertise for bids has been obtained, the CONSULTANT shall be notified to advise the LPA that the legal notice for advertising for bids can be submitted for publication. The CONSULTANT shall issue plans and proposals to prospective bidders during the advertising period and shall attend the letting and assist in tabulation and evaluation of bids.

EXHIBIT D

PAYMENTS TO ENGINEER

1.1 Payments to Engineer

Owner will pay **ENGINEER** for Services rendered under Section 1, as supplemented by Exhibit B, "Scope of Services", the following amounts:

- 1.1.1 OWNER shall pay ENGINEER on the basis of ENGINEER's Direct Labor Cost times a factor of 2.65 times a fixed fee of 12%. Reimbursable Expenses shall be billed to the OWNER at direct cost to the ENGINEER. The total cost for Engineering Services under this contract shall not exceed \$469,500 unless Additional Services are requested by and authorized in writing by the OWNER.
- 1.1.2 For Additional Services. *OWNER shall pay ENGINEER for Additional Services rendered under Section 2 of this Agreement on the basis of ENGINEER's Direct Labor Costs times a factor of 2.52 times a fee equal to 12% plus Reimbursable Expenses. Payments to ENGINEER for Additional Services shall be made in accordance with paragraph 5.2 of this Agreement.*
- 1.1.3 Payments to **ENGINEER** by **OWNER** are not contingent on any factor except **ENGINEER's** ability to provide services in a manner consistent with that standard of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions.

Payments to **ENGINEER** by **OWNER** specifically are not contingent on **OWNER's** receipt of grants for the **Project** or **OWNER's** decision to suspend or cancel the **Project**.