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# PROFESSIONAL SERVICES AGREEMENT

(Professional Engineering Services)

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## 1. PARTIES

- 1.1 Parties. The Parties to this Professional Services Agreement (“Agreement”) are **Lockwood, Andrews & Newnam, Inc.** (“Engineer”) and **Harris County** (“County”), on behalf of its Harris County Engineering Department (“HCED”). County and Engineer each may also be referred to individually herein as a “Party,” or collectively as the “Parties.”

## 2. PURPOSE

- 2.1 Project Description. County intends to provide improvements to Will Clayton Parkway Segment 1 from 2,700 feet west of South Houston Avenue to 600 feet east of Wilson Road, located in Harris County, Precinct 3 (“Project”). This Project is identified as UPIN 23103MF2WB01.
- 2.2 Summary of Scope of Work. In addition to any applicable attachments to this Agreement describing the Scope of Work, County desires that Engineer provide Professional Engineering Services in the study, design and bidding phase of the Project, as further described in Exhibit A attached.
- 2.3 Professional Engineering Services. The professional services to be performed under this Agreement are within the scope of professional engineering, as defined by state law, and will be provided in connection with the professional employment or practice of a person who is licensed or registered as a professional engineer. The professional engineering services shall be performed in accordance with Tex. Occ. Code Ann. §§ 1001.001, et. seq, as amended.
- 2.4 Professional Services Procurement Act. The work to be performed under this Agreement cannot be purchased on the basis of competitive bids since it is encompassed within Texas Government Code §2254.002(2).

## 3. ENGINEER’S REPRESENTATIONS

- 3.1 Applicable Expertise. Engineer and the person executing this Agreement on behalf of Engineer certify and represent that Engineer (including Engineer’s agents, employees, volunteers, and subcontractors, as applicable) possesses the skills, qualifications, expertise, experience, education, knowledge, ability, and financial resources to perform all services and/or deliverables contemplated in this Agreement without significant disruption of those deliverables.
- 3.2 Permits and Licensing. Engineer represents that Engineer (including Engineer’s agents, employees, volunteers, and subcontractors, as applicable) possesses all special certifications, licenses, inspections and permits required by law to carry out the Scope of Work contemplated in this Agreement. Engineer’s agents, employees, volunteers, and subcontractors, as applicable, shall maintain appropriate accreditation and licensing, as required, through the State of Texas or other applicable licensing entities. Prior to the performance of any services under this Agreement, Engineer shall, upon written (including electronic) request, provide proof of valid licensure to HCED (including a listing of all licenses and expiration dates).
- 3.3 Authorized to Conduct Business. Engineer represents that Engineer is authorized to conduct the business and carry out the Scope of Work contemplated in this Agreement. Prior to starting performance under this Agreement, Engineer shall, upon written (including electronic) request, provide proof to HCED of the authority to do business in this state or at the location specified in this Agreement.
- 3.4 Ability to Perform. HCED will award contracts only to the most highly qualified available responsible provider/contractor possessing the ability to perform successfully under the terms, conditions, and budget of a proposed procurement. Consideration will be given to such matters as provider integrity, compliance with public policy, record of past performance, and financial and technical resources. Engineer represents

that Engineer has the administrative, managerial, and financial capability to ensure proper planning, management and completion of the Scope of Work described in this Agreement and further has the administrative capacity and capabilities to carry out all duties and responsibilities under this Agreement.

- 3.5 Conflict of Interest Certification. Pursuant to Chapter 176 of the Texas Local Government Code, Engineer certifies that Engineer has completed any required conflict of interest disclosures or questionnaires (see [www.ethics.state.tx.us](http://www.ethics.state.tx.us)). If this certification is materially incomplete or inaccurate, Engineer acknowledges that County shall have the right to terminate this Agreement without prior notice.
- 3.6 Certificate of Interested Parties Form 1295. Engineer certifies that it has accurately completed and submitted a notarized Certificate of Interested Parties Form 1295 ("Form 1295") in accordance with Texas Government Code §2252.908 and the rules adopted thereunder. Engineer acknowledges that it is responsible for making any and all necessary updates and/or corrections to the applicable Form 1295 during the term of this Agreement. Engineer must either (1) mail the completed Form 1295 to the Harris County Engineering Department at 1111 Fannin Street, 11th Floor, Houston, TX 77002, Attn: Administrative Services or (2) submit the form by email to [HCEDAdminSvc@hcpid.org](mailto:HCEDAdminSvc@hcpid.org).
- 3.7 Disbursements to Persons with Outstanding Debt Prohibited. Engineer certifies, by execution of this Agreement, that neither Engineer nor any of Engineer's principals owe any debts as defined in Local Government Code Section 154.045 (including delinquent property taxes). Engineer understands that certain disbursements are prohibited and that County may apply any funds due to Engineer under this Agreement to any outstanding balance of certain debts pursuant to Section 154.045. If this certification is inaccurate, County may also terminate this Agreement. In addition, Engineer hereby assigns any payments under this Agreement to the Harris County Tax Assessor-Collector for the payment of any current or future delinquent taxes.
- 3.8 Internet Access. Engineer shall maintain appropriate internet access, which will enable Engineer to access any secure online invoicing, reporting, or other web-based system designed for more efficient communication with HCED. As requested, Engineer shall submit required reports, invoices and related documents through an applicable secure internet site in a manner required to protect any confidential information submitted. Engineer shall review all instruction materials and/or attend all HCED provided training that is necessary for Engineer to properly utilize applicable web-based information systems.

#### **4. SPECIFIC SCOPE OF WORK/SERVICES AND/OR DELIVERABLES**

- 4.1 Specific work, products, services, licenses and/or deliverables. Engineer shall provide the work, products, services, licenses and/or deliverables required to be provided by Engineer and as set out in this Agreement and in Attachment A and all other referenced attachments incorporated in this Agreement (altogether referred to as the Scope of Work). The provisions in this Agreement labeled 'Scope of Services' or 'Scope of Work' shall take precedence over anything conflicting in any attached Engineer proposal or correspondence. Engineer shall submit any and all project-related documents and invoices through the cloud-based project management software utilized by HCED for planning and management of all projects using real-time project data.
- 4.2 Written Authorization. From time to time during the course of this Agreement, HCED may deliver to Engineer written (including electronic) authorization (sometimes referred to as a notice-to-proceed, task-order, work-order or job-order) for providing certain work, products, services, licenses and/or deliverables contemplated in this Agreement, which Engineer shall then perform in accordance with this Agreement. Engineer shall not begin or proceed to the next design phase of the Scope of Work until Engineer receives from HCED a written (including electronic) authorization to proceed. County shall have no obligation to pay for and Engineer shall have no obligation to provide any work, services, products, or deliverables not rendered in accordance with a prior written authorization as described by this Section. Engineer shall complete the services called for by the calendar days and by the deadlines specified in this Agreement, including exhibits and written authorizations.

## 5. ADDITIONAL AND SPECIAL REQUIREMENTS

- 5.1 Cooperation with Other Service Providers. County may engage the services of other service providers for work related to the work, products, services, licenses and/or deliverables in this Agreement. Engineer shall reasonably cooperate with such other service providers and will not commit or permit any act that may interfere with the performance of work by any other service provider.
- 5.2 Non-Assignability. Unless otherwise authorized in this Agreement, neither party shall assign, in whole or in part, any duty or obligation of performance under this Agreement without the express written permission of the other party, except that the express written permission of HCED shall be considered the permission of County. Such written permission will not be unreasonably withheld, unreasonably conditioned, or unreasonably delayed. However, with notice to HCED, Engineer may assign this Agreement to any affiliate of Engineer that controls, is controlled by, has resulted from a merger with, or is under common control with, Engineer if the assignee is at least as capable and qualified to provide the deliverables contemplated in this Agreement. This provision is not intended to restrict any assignment that is required by Section 9.406 of the Texas Business and Commerce Code.
- 5.3 Independent Contractor/Parties. County expects Engineer to meet the high standards set forth in this Agreement and looks to Engineer for results only. Unless otherwise required by law or regulation, County shall not direct the methods used to obtain those results, and Engineer shall perform the services as an independent contractor under the sole supervision, management, direction, and control of Engineer. As an independent contractor, Engineer will accept directions pertaining to the goals to be attained and the results to be achieved, as applicable, pursuant to this Agreement, but Engineer shall be solely responsible for the manner in which Engineer will perform the services under this Agreement. Any methods that might be discussed in any training sessions given by HCED are not mandatory unless specifically required in writing in this Agreement or by law. Engineer is not obligated to maintain any set, regular hours, nor to perform any set number of hours of service in fulfilling the obligations under this Agreement, unless otherwise specifically set out in this Agreement. This Agreement is not intended to create a joint enterprise, joint venture, business partnership, agency, franchise, or employment relationship, under Texas law. The personnel and staff of Engineer are independent contractors or employees of Engineer and shall not for any purposes be considered employees or agents of County. Engineer assumes full responsibility for the actions of any employees and agents while performing any services incident to this Agreement, and Engineer shall remain solely responsible for the supervision, daily direction, control and payment, if any, of salaries (including withholding of income and social security taxes), workers' compensation or disability benefits and like requirements and obligations.
- 5.4 Employee Retention. Engineer agrees to maintain the organizational and administrative capacity and capabilities to carry out all duties and responsibilities under this Agreement. The personnel Engineer assigns to perform the duties and responsibilities under this Agreement will be properly trained and qualified for the functions they are to perform. If specific qualifications are set forth in job descriptions required by the funding entity and/or in this Agreement, unless a written waiver is granted, Engineer shall only assign personnel with the required qualifications to fulfill those functions. Notwithstanding transfer or turnover of personnel, Engineer remains obligated to perform all duties and responsibilities under this Agreement without degradation and in accordance with the terms of this Agreement.
- 5.5 Significant Organizational Change Notification. Engineer shall notify County immediately and in advance of any significant organizational change that could affect Engineer's ability to carry out all duties and responsibilities under this Agreement, including any change of Engineer's name or identity, ownership or control, or payee identification number. Engineer shall also provide written notice to County within 10 working days of the change. Engineer shall provide ownership information to County immediately upon any such change.

- 5.6 Adverse Actions Reporting. Engineer shall inform HCED, in writing, of any concluded investigation of Engineer (including Engineer's agents, employees, volunteers, and subcontractors, as applicable, providing work, products, services, licenses and/or deliverables under this Agreement) that is conducted by or on behalf of a government entity or other licensing or accreditation entity (including any state board of examiners) and whose outcome included public censure or other public sanction (or any pending investigations, administrative actions, or lawsuits, that relate to the work under this Agreement or that could adversely affect any performance or obligation in this Agreement). If at any time a license of Engineer's agents, employees, volunteers, and subcontractors, as applicable, providing work, products, services, licenses and/or deliverables under this Agreement required to be maintained to fulfill the Commitments in this Agreement is suspended, revoked or is determined to be out of compliance in Texas or any other state, this Agreement may be terminated immediately without prior notice, at the option of HCED, effective the date of the suspension, revocation or non-compliance. Engineer is not entitled to receive payment for services that were performed by Engineer while the required license was suspended or revoked. Engineer agrees to immediately inform HCED, in writing, of any adverse professional review action that is taken by a professional association or society and that is based on the professional competence or professional conduct of Engineer's agents, employees, volunteers, and subcontractors, as applicable, providing work, products, services, licenses and/or deliverables under this Agreement. County may, at its sole option, terminate this Agreement, upon notice of such adverse professional review action.
- 5.7 Subcontracts. Unless otherwise explicitly set out in this Agreement, Engineer shall not enter into any subcontract for the work, products, services, licenses and/or deliverables under this Agreement unless, prior to any written authorization to proceed with work done in part by the subcontractor, Engineer has provided to HCED the qualifications of the subcontractor to perform and meet the standards of this Agreement. Engineer shall comply with all Texas Administrative Code and Texas professional licensing agency requirements for choosing any professionally-licensed subcontractor.
- 5.8 Professional Standards. Where specifically-applicable standards are not explicitly set forth in this Agreement, as someone with expertise in the field, Engineer must provide the work, products, services, licenses and/or deliverables in accordance with generally-accepted standards applicable to Engineer's profession or industry. Engineer and County agree and acknowledge that County is entering into this Agreement in reliance on the Engineer's competence and qualifications, as those were presented to County by Engineer with respect to professional services. Engineer shall at all times utilize the skill and attention to fully, timely, and properly render professional services for the development of The Project to final completion as set out in, or reasonably inferred from, the Scope of Work/Services. This shall be done in a manner utilizing the degree of care ordinarily used by licensed professionals performing similar services on projects of a similar nature and scope within the State of Texas. A professional engineer assigned by Engineer to manage the Scope of Work who is licensed to practice in the State of Texas shall be present and represent Engineer at meetings of any official nature concerning The Project, including, but not limited to, scope meetings, status meetings, pre-bid meetings, any pre-construction meetings and any construction meetings (for construction-related projects) with County staff and/or contractors, unless otherwise set forth in the Scope of Work or approved in writing by HCED.
- 5.9 County Procedures. To effectively perform the services stated above, Engineer must become familiar with various procedures, policies, data collection systems, and other information of County. Engineer shall adhere to all applicable County engineering guidelines, standards, and design criteria (see <http://www.eng.hctx.net>). HCED will assist Engineer in obtaining the information. Unless otherwise required by law, Engineer agrees to keep any sensitive information confidential and not disclose it to outside parties without first obtaining County's written authorization.
- 5.10 Ownership of Work Product. For the purposes of assigning ownership of Engineer work product, the work performed will be deemed, to the extent authorized by law, to have been done on a works-made-for-hire basis, as that term is understood in copyright law. In the event and to the extent that such works are determined not to constitute works-made-for-hire, Engineer hereby irrevocably assigns and transfers to County all right, title, and interest in such works, including, but not limited to, copyrights. County shall be the absolute and unqualified owner of all completed or partially-completed Engineer work product prepared pursuant to this Professional Services Agreement and shall have the same force and effect as if prepared by

County, including mylar reproducible, drawings, preliminary layouts, electronic documents and drawings, record drawings, sketches, plans, cost estimates, inventions, designs, computer input/output information, computer applications, software, firmware, computations, and other documents (including the original electronic file format). Engineer may retain one set of reproducible copies for Engineer's sole use in preparation of studies or reports for County only. Engineer is expressly prohibited from selling, licensing or donating such documents, or using such documents in the preparation of other work for any other client, without the prior express written permission of HCED. Engineer warrants that Engineer's work product will not in any way constitute an infringement or other violation of any copyright, trade secret, trademark, patent, invention, proprietary information, non-disclosure, or any other right of any third party, and Engineer will defend any claim, suit, or proceeding brought against County on the issue of infringement of any copyright by virtue of anything supplied by Engineer to HCED under this Agreement.

- 5.11 Trade Secrets. In connection with the work, products, services, licenses, Scope of Work, and/or deliverables provided under this Agreement, HCED may disclose to Engineer certain documents, data, and/or other information that is proprietary, confidential, or a trade secret (Trade Secrets). Engineer must not divulge or otherwise make unauthorized use of Trade Secrets or other protected information, procedures, or policies of HCED, any former employee, contractor, client, customer, or consultant, in the exercise of duties under this Agreement. Except to the extent authorized by a third party, neither Party shall copy, recreate, or use any proprietary information of a third party in the performance of services under this Agreement.
- 5.12 Nondisclosure and Confidentiality of Information. To the extent permitted by law, Engineer must keep confidential the contents of all discussions with local, state, and federal officials, as well as the contents of all local, state, and federal records and all other information obtained during performance under this Agreement. To fulfill Engineer's obligations under this Agreement, Engineer may be provided access to information, systems, operations, or procedures that are security sensitive or have been identified as confidential. This confidential information may include information from one of the government entity funding sources, such as a Texas or federal agency. Engineer and the person executing this Agreement on behalf of Engineer acknowledge that (a) access to this information (whether electronic, written or oral, formal or informal) is provided solely to Engineer for the purpose of discharging the duties in this Agreement, (b) premature or unauthorized disclosure of this information can irreparably harm the interests of County and may constitute a violation of state and/or federal law, and (c) the information may represent confidential or proprietary information, the release of which may be restricted or prohibited by law. Therefore, Engineer must (1) not access any information without express written authorization of HCED; (2) not copy, recreate, or use any information or document obtained in connection with this Agreement other than for the performance of this Agreement; (3) to the extent permitted by law, keep confidential the contents of all discussions with county, state, and federal officials, as well as the contents of all county, state, and federal records and all other information obtained during performance under this Agreement, unless authorized in writing by appropriate HCED officials; (4) not, except to the extent required by law, or necessary for the performance of this Agreement, release, disclose, reveal, communicate, impart or divulge any information or any summary or synopsis of the information in any manner or any form whatsoever to outside parties without the express written consent of HCED; (5) take all steps necessary to protect confidential information from disclosure to third parties and have a system in effect that must include a method to ensure the confidentiality of records and other information relating to any person according to applicable federal and state law, rules and regulations; (6) not reproduce, copy, or disseminate such confidential information, except to those who need to know such information and are obligated to maintain its confidentiality, including Engineer's partners, principals, representatives or employees as necessary to fulfill obligations under this Agreement; (7) notify HCED immediately of all requests for confidential information; and (8) immediately report to HCED all unauthorized disclosures or uses of confidential information.
- 5.13 Public Comment and Public Information Act. To the extent permitted by law, all contact with the news media, citizens of County, the State of Texas or other governmental agencies concerning the Project will be the responsibility of HCED. In the event Engineer is subject to the Texas Public Information Act, upon receipt of a written request for any information by Engineer developed in the performance of services under this Agreement, Engineer shall provide written notice to HCED of the request along with a copy of the

request, and give HCED the opportunity to respond to the request prior to any release by Engineer. Unless required by law, under no circumstances shall Engineer release any material or information developed in the performance of services under this Agreement without the express prior written permission of HCED.

- 5.14 Applicable Laws. Engineer shall comply (and assure compliance by Engineer's agents, employees, volunteers, and subcontractors, as applicable, providing work, products, services, licenses and/or deliverables under this Agreement) with all applicable state, federal, and local laws, ordinances, regulations, executive orders, rules, directives, standards, guidelines, and instructions relating to the work to be performed. Engineer shall immediately bring to County's attention any conflicts between any applicable state, federal, and local laws, ordinances, regulations, executive orders, rules, directives, standards, guidelines, and instructions relating to the work to be performed. If laws or regulations change and affect any provision of this Agreement, this Agreement shall be deemed amended to conform to those changes in the laws or regulations on the date such laws or regulations become effective. If any such changes (that occur after the effective date of this Agreement and that Engineer should not reasonably have anticipated) require significant changes or additions to the Scope of Work that were not contemplated by the Parties, the Parties shall negotiate in good faith for the purpose of creating reasonable and equitable written modifications to this Agreement.
- 5.15 Records Retention and Management. Engineer shall maintain complete, accurate, and readily accessible records that are necessary to document and support the fulfillment of the obligations in this Agreement, including performance, design, underlying calculations, and financial records, as well as a copy of this Agreement. Engineer shall maintain and make available for inspection the Records for a minimum of four (4) years following either the end of the federal fiscal year in which any obligations were performed under this Agreement or the termination date of this Agreement, whichever is longer (or longer if necessary to resolve any litigation, claims, financial management review, or audit findings).
- 5.16 Authority of Harris County Engineer. The Harris County Engineer ("County Engineer") shall decide any and all questions that may arise as to the interpretation of this Agreement and all questions as to the acceptable fulfillment of this Agreement by Engineer. It is mutually agreed by both Parties that the County Engineer shall act as referee between the Parties in all questions arising under the terms of this Agreement and that the decisions of the County Engineer shall be final and binding alike on all Parties. If agreed to in writing by Engineer and the County Engineer (or designee), Engineer and the County Engineer may make adjustments to the Scope of Work that do not destroy the purposes of this Agreement. In making the aforementioned adjustments to the Scope of Work, Engineer and the County Engineer may adjust any corresponding firm fixed or maximum prices that neither increase the maximum amount of funds that Commissioners Court has authorized to be encumbered nor destroy the purposes of this Agreement. Any of the aforementioned adjustments to the Scope of Work and/or corresponding adjustments to any firm fixed or maximum prices (collectively, "Adjustments") may be reflected by a written Special Amendment to the Scope of Work in this Agreement ("Special Amendment"). Nothing contained in this section shall be construed to authorize the County Engineer to alter, vary, or amend any of the terms or provisions of this Agreement, other than the aforementioned Adjustments. The County Engineer is authorized on behalf of the County to make Adjustments (as defined herein) and execute a corresponding Special Amendment without further action by Commissioners Court. The Harris County Auditor ("County Auditor") is authorized, without further action by Commissioners Court, to certify additional funding for any Adjustments upon execution of a Special Amendment by the County Engineer.
- 5.17. Foreign Terrorists Organizations. In accordance with Tex. Gov't Code Ann. Chapter 2252 Subchapter F, Engineer warrants and represents that, at the time of execution of this Agreement and for the duration of the Term of this Agreement and any Renewal Terms, Engineer does not appear on the Texas State Comptroller's list of companies known to have contracts with or provide supplies or services to a foreign terrorist organization.
- 5.18 Anti-Boycott. In accordance with Tex. Gov't Code Ann. § 2270.002, Engineer warrants and represents that it does not boycott Israel and agrees that it will not boycott Israel during the term of this contract.

## 6. INSURANCE

6.1 Coverage and Limits. During the Term of this Agreement and any extensions thereto, Engineer at its sole cost and expense shall provide insurance of such type and with such terms and limits as may be reasonably associated with this Agreement. As a minimum, Engineer shall provide and maintain the following coverage and limits:

- (a) Workers Compensation, as required by the laws of Texas, and Employers' Liability, as well as All States, United States Longshore & Harbor Workers Compensation Act and other endorsements, if applicable to the Project, and in accordance with state law.

Employers' Liability

(i)	Each Accident	\$1,000,000
(ii)	Disease – Each Employee	\$1,000,000
(iii)	Policy Limit	\$1,000,000

- (b) Commercial General Liability, including but not limited to, the coverage indicated below. This policy will provide coverage for personal and bodily injury, including death, and for property damage, and include an endorsement for contractual liability. Coverage shall not exclude or limit the Products/Completed Operations, Contractual Liability, or Cross Liability. Where exposure exists, County may require coverage for watercraft, blasting, collapse, explosions, blowout, cratering, underground damage, pollution, and other coverage. *County shall be named Additional Insured on primary/non-contributory basis.*

(i)	Each Occurrence	\$1,000,000
(ii)	Personal and Advertising Injury	\$1,000,000
(iii)	Products/Completed Operations	\$1,000,000
(iv)	General Aggregate (per project)	\$1,000,000

- (c) Professional Liability/Errors and Omissions, in an amount not less than One Million Dollars (\$1,000,000) per claim and in the aggregate.
- (d) Umbrella/Excess Liability in an amount not less than One Million Dollars (\$1,000,000) per occurrence and in the aggregate. *County shall be named Additional Insured on primary/non-contributory basis.*
- (e) Automobile Liability insurance to include Engineer's liability for death, bodily injury, and property damage resulting from Engineer's activities covering use of owned, hired, and non-owned vehicles, with combined single limit of not less than One Million Dollars (\$1,000,000) for each accident. *County shall be named Additional Insured on primary/non-contributory basis.*

- (f) Any other coverage required of Engineer pursuant to statute.

6.2 Delivery of Policies. Immediately upon execution of this Agreement and before any Services are commenced by Engineer, Engineer shall provide County evidence of all of the above coverage on forms and with insurers acceptable to County. Engineer must maintain a valid Certificate of Insurance as described herein on file with County at all times during the term of this Agreement. Engineer must either (1) mail the Certificate of Insurance to the Harris County Engineering Department at 1111 Fannin Street, 11th Floor, Houston, TX 77002, Attn: Administrative Services or (2) submit it by email to HCEDAdminSvc@hcpid.org.

6.2.1 Issuers of Policies. Coverage shall be issued by company(s) licensed by the Texas Department of Insurance to do business in Texas, unless said coverage is not available or economically feasible except through an excess or surplus lines company, in which case the company(s) should be registered to do business in Texas. Companies shall have an A.M. Best rating of at least A-VII.

- 6.2.2 Certificates of Insurance. Engineer shall provide unaltered Certificates of Insurance which evidence the required coverage and endorsements and satisfy the following requirements:
- (a) Be less than 12 months old;
  - (b) Include all pertinent identification information for the Insurer, including the company name and address, policy number, NAIC number or AMB number, and an authorized signature;
  - (c) Include the Project name and reference numbers and indicates the name and address of the Project Manager in the Certificate Holder Box; and
  - (d) Be appropriately marked to accurately identify:
    - (i) All coverage and limits of the policy;
    - (ii) Effective and expiration dates;
    - (iii) Waivers of subrogation, endorsement of primary insurance and additional insured language, as described herein.
- 6.2.3 Certified Copies of Policies and Endorsements. Upon request, Engineer shall furnish certified copies of insurance policies and endorsements to County.
- 6.2.4 Renewal Certificates. Renewal certificates are due to County at least thirty (30) days prior to the expiration of the current policies.
- 6.2.5 Subcontractors. If any part of the Agreement is sublet, insurance shall be provided by or on behalf of any subcontractor, and shall be sufficient to cover their portion of the Agreement. Engineer shall furnish evidence of such insurance to County as well.
- 6.3 Additional Insured. Engineer shall include County and its respective officers, directors, agents, and employees as an Additional Insured on the Commercial General Liability, Automobile Liability, and Umbrella/Excess Liability insurance certificates. Engineer's coverage shall be primary insurance to any similar insurance maintained by County and must contain an endorsement stating such. Coverage to County as an Additional Insured on any of Engineer's insurance coverage shall not be subject to any deductible.
- 6.4 Deductibles. Engineer shall be responsible for and pay any claims or losses to the extent of any deductible amounts applicable under all such policies and waives any claim it may have for the same against County, its officers, directors, agents, or employees.
- 6.5 Claims-made Policies. All insurance policies written on a claims-made basis, including Professional Liability/Errors and Omissions, shall be maintained for a minimum of two (2) years following completion of all services under this Agreement ("Extended Reporting Period"). Engineer shall obtain or maintain full prior acts coverage at least to the effective date of this Agreement in the event of a carrier or policy change.
- 6.6 Waiver of Subrogation. Engineer waives any claim or right of subrogation to recover against County, its officers, directors, agents, and employees ("Waiver of Subrogation"). Each policy required under this Agreement must contain a Waiver of Subrogation endorsement.
- 6.7 Notice of Cancellation, Non-Renewal, or Material Change. Engineer shall provide County with thirty (30) days' minimum written notification in the event of cancellation, non-renewal, or material change to any or all of the required coverage.
- 6.8 Remedies for Noncompliance. Failure to comply with any part of this Section is a material breach of this Agreement. Engineer could immediately, and without notice, have all compensation withheld or suspended, be suspended from providing further Services, or be terminated from this Agreement for any lapse in coverage or material change in coverage which causes Engineer to be in noncompliance with the requirements of this Section.



## 7. FUNDING, COMPENSATION AND/OR BASIS FOR PAYMENT, METHOD, AND LIMITATIONS

- 7.1. Payments/Compensation. For and in consideration of the work, products, services, licenses or deliverables provided under this Agreement and during the term of this Agreement, subject to the limitations in this Agreement, County shall pay Engineer in accordance with the fee schedule and rates specified in this Agreement, including in the Attachments up to the total maximum amount specifically appropriated, encumbered, and then certified as available by the County Auditor.
- 7.2. Funding and Appropriations Limit. County shall have no obligation to pay for and Engineer shall have no obligation to provide any work, products, services, licenses and/or deliverables until sufficient funds are certified by the County Auditor. County intends to initially appropriate, encumber, and certify as available by the County Auditor the total maximum sum of **ONE MILLION FOUR HUNDRED THOUSAND THREE HUNDRED FORTY AND 85/100 DOLLARS (\$1,400,340.85)** to pay and discharge any and all liabilities that County may incur arising out of this Agreement. Any other provision notwithstanding, County shall never be liable to pay Engineer any greater amount under this Agreement than is specifically appropriated, encumbered, and then certified as available by the County Auditor.
- 7.3. Auditor's Certification of Funds. The issuance of a purchase order pursuant to this Agreement represents certification by the Harris County Auditor that funds, in the amount of the purchase order total, are available to satisfy all financial obligations of Harris County hereunder.
- 7.4. Funding Out/Non-Appropriation. It is further understood that pursuant to Local Government Code Chapter 111, when and if the work, products, services, licenses and/or deliverables and charges provided for herein are equal to or exceed the amounts certified available, Engineer is authorized to terminate some or all of Engineer's work, products, services, licenses and/or deliverables under this Agreement unless the County Auditor certifies that additional funds are available, in which event Engineer agrees to continue to provide the products, services and/or deliverables to the extent funds are available. When all the funds certified by the County Auditor, together with any additional funds thereafter certified, are expended, County will have no further liability, and the sole and exclusive remedy of Engineer will be to immediately terminate this Agreement unless the County Auditor certifies additional funds.
- 7.5. Billing Statements/Invoices. Unless otherwise indicated in this Agreement, no later than the 10th day after the end of each calendar month within the term of this Agreement, Engineer shall submit to HCED a billing statement or invoice for all unpaid products, services and/or deliverables, along with any applicable rates, including the applicable firm fixed price and any applicable percentage completed for specific tasks/deliverables as specified in this Agreement. The data in the billing statement or invoice must be in a format designated by HCED and the County Auditor, and must include any purchase order number. An authorized agent of Engineer must certify and swear under penalty of perjury that the work was performed, the work was properly authorized in writing by HCED, and all information contained in the statement or invoice is true and correct. All products, services and/or deliverables billed must be rendered during this Agreement term. Engineer shall submit to HCED billing statements or invoices limited to work done and products, services and/or deliverables provided pursuant to this Agreement, and Engineer shall not include in such billing statements or invoices any work, products, services, licenses and/or deliverables provided, required to be performed, or billed under or pursuant to any other agreements with County. HCED will review each statement or invoice and approve it with any modifications HCED deems appropriate after mutual consultation and agreement with Engineer. HCED will then forward the approved statement or invoice to the County Auditor for payment. County will pay Engineer the proper amounts due and owing under this Agreement within thirty (30) calendar days of receipt of the approved statement or invoice to extent allowed by law. Each statement or invoice must include a monthly inventory of work, products, services, licenses and/or deliverables provided during the billing period and any other details HCED reasonably requests for verification purposes, which might include:
- (a) The date(s) work, products, services, licenses and/or deliverables were provided;
  - (b) Meetings and lists of attendees, if applicable;
  - (c) Detailed description of the work, products, services, licenses and/or deliverables provided;

- (d) The total amount billed, and any other details of the work, hours, or services as may be requested by the County Auditor;
  - (e) If applicable, the case number for which services were performed;
- 7.6. Overpayments. Within 10 calendar days after request by HCED, Engineer must reimburse to County all funds paid by County to Engineer that any funding entity or auditor determines have been improperly paid to, or expended by, Engineer. County may withhold, suspend, or reduce any and all payments due to Engineer until any overpayments are reimbursed.
- 7.7. Costs of Substitute Services. If Engineer fails to perform any of its obligations under the Agreement and County procures substitute services upon such terms as are appropriate, County shall deduct the reasonable costs for such services from any payments owed to Engineer under this or other agreements. Engineer must reimburse to County, within thirty (30) calendar days after request by County, any additional costs of such substitute services beyond what has already been deducted by County. County may also withhold, suspend, or reduce payments due to Engineer until the costs of such substitute services are reimbursed to County by Engineer. This provision is not intended to waive or preclude any other remedies the parties may otherwise have in law, equity, or elsewhere in this Agreement and is in addition to and not in lieu of any other remedies.
- 7.8. Billing Audits. County and its designee shall have the right to examine and audit all of Engineer's billings/invoices and all of Engineer's backup and support data for billings/invoices for this Agreement. Upon HCED's request, Engineer agrees to make such data and supporting documentation available to the County Auditor or designee in Harris County, Texas. Engineer shall maintain complete and accurate records necessary to fulfill any obligations in this Agreement, including a copy of this Agreement, including detailed time records identifying each person performing services that were billed on an hourly basis, the corresponding dates of the services, the applicable firm fixed price and the percentage completed for specific tasks as specified in this Agreement, any applicable hourly or cost-plus rates, the total amount billed for each person as applicable, and the total amount billed for all persons as applicable. Engineer shall maintain and make available for inspection (electronically or in Harris County during regular business hours) the Records for a minimum of four (4) years days following either the end of the federal fiscal year in which any obligations were performed under this Agreement or the termination date of this Agreement (or longer if necessary to resolve any litigation, claims, financial management review, or audit findings). All payments made by County are subject to re-evaluation and refund or withholding of future payments conditioned on the results of the audit.
- 7.9. County Auditor to Make Final Decision. The decision of the County Auditor as to the amount owed shall be final if there is any dispute between County and Engineer as to the amount owed to Engineer for any monthly statement or invoice submitted by Engineer. County agrees to notify Engineer of any questionable item and is authorized to withhold payment until all questions are resolved either by final audit or by agreement of the Parties.

## **8. TERM OF THE AGREEMENT**

- 8.1 Time Period. The time period for performance ("Term") of this Agreement shall begin upon execution of all the Parties and end on the later date of (a) Project completion or (b) a year minus a day from execution of all the Parties.

## **9. TERMINATION PROVISIONS**

- 9.1 Determination of Material and Non-Material Breaches. The County Engineer shall determine whether a breach of this Agreement by either Party is material or non-material. The County Engineer's determination shall be final and binding alike on all Parties.
- 9.2 Non-Material Breaches. If either Party refuses or fails to perform any of its non-material obligations in this Agreement, the other Party may give written notice of the failure. If the breaching Party fails or refuses to cure the failure of any non-material obligation in the notice within ten (10) calendar days after notice is

given, the other Party may terminate this Agreement immediately. HCED is authorized to give notice for County.

9.3 Material Breaches.

9.3.1 Suspension. HCED may suspend this Agreement immediately for any material breach by giving a notice of suspension. As soon as the notice of suspension is received, Engineer shall discontinue all services in connection with the performance of this Agreement. HCED is authorized to suspend on behalf of County.

9.3.2 Termination. The County may terminate this Agreement for a material breach at any time by notice in writing to the Engineer.

9.4 No Waiver of Remedies. The provisions in this Section are not intended to waive or preclude any other remedies the parties may otherwise have in law, equity, or elsewhere in this Agreement. The right to terminate for a material and non-material breach is in addition to and not in lieu of any other remedies.

9.5 Termination Statement. As soon as practicable after receiving notice of termination, Engineer must submit a statement or invoice to HCED that complies with the requirements in this Agreement. This statement or invoice must show in detail the unbilled/uninvoiced services performed for County under this Agreement to the date of termination. If the payments were to be made in lump sums and services were rendered after the last lump sum payment, the statement or invoice shall reflect the prorated amount due.

9.6 Return of Documents after Termination. If permitted by law and any established ethical requirements applicable to specific professionals, Engineer shall promptly deliver to HCED all completed or partially completed work product, designs, data, information, and documents prepared under this Agreement on behalf of County. Within 2 business days after the effective date of termination, Engineer shall return to HCED all records, files, documents, notes and other items in Engineer's possession, if any, relating to any assignments or work that Engineer has undertaken or been given under this Agreement, if permitted by law and any established ethical requirements applicable to specific professionals. Engineer shall deliver to HCED all completed or partially-completed designs, drawings and specifications prepared under this Agreement, including the original electronic file format. Nothing in this section is intended to require Engineer to surrender Engineer's own records to HCED after termination.

9.7 Agreement Transition. In the event the Agreement ends by either expiration or termination, Engineer shall, at the request of the County, assist in the transition until such time that a replacement engineer can be named. Engineer acknowledges its responsibility to cooperate fully with the replacement engineer and the County to ensure a smooth and timely transition to the replacement engineer. Such transitional period shall not extend more than ninety (90) days beyond the expiration/termination date of the Agreement, or any extension thereof. During any transition period, all other terms and conditions of the Agreement shall remain in full force and effect as originally written.

## **10. INDEMNIFICATION**

10.1 No Waiver of Governmental Immunity. County does not waive any immunity or defense on behalf of itself, its employees or agents as a result of the execution of this Agreement.

10.2 General Indemnity. To the extent allowed by law, Engineer agrees to indemnify and hold harmless County, HCED, their officers, employees, and agents from liability, losses, expenses, demands, reasonable attorneys' fees, and claims for bodily injury (including death) and property damage to the extent caused by the negligence, intentional tort, intellectual property infringement of Engineer (including Engineer's agents, employees, volunteers, and subcontractors/consultants under contract, or any other entity over which Engineer exercises control, in the performance of the services defined in this Agreement). Engineer shall also save County harmless from and against any and all expenses, including reasonable attorneys' fees that might be incurred by the County, in litigation or otherwise resisting such claims or liabilities.

## 11. MISCELLANEOUS

- 11.1 Notices. Any notice required to be given under this Agreement (“Notice”) may be given by hand delivery or certified United States Mail, postage prepaid, return receipt requested, addressed to the Parties at the following:

ENGINEER: Matt Manges  
Vice President  
Lockwood, Andrews & Newnam, Inc.  
2925 Briarpark Drive, Ste. 400  
Houston, TX 77042-3746  
Email: DMBarton@lan-inc.com

COUNTY: Dr. Milton Rahman, PhD, P.E., PMP, CFM, ENV SP  
Executive Director & County Engineer  
Harris County Engineering Department  
1111 Fannin Street, 11<sup>th</sup> Floor  
Houston, TX 77002  
Email: AgreementInfo@hcpid.org

All other communications may be sent by electronic means or in the same manner as Notices described herein.

- 11.2 Receipt of Notice. Notice shall be considered given and complete upon successful electronic transmission or upon deposit in the United States Mail.
- 11.3 Change of Address. Each Party shall have the right to change its respective address by giving at least ten (10) days’ written notice of such change to the other Party.
- 11.4 Force Majeure. Neither Party will be liable for any failure or delay in performing its obligations under this Agreement if such failure or delay is due to any cause beyond the reasonable control of such Party if such cause is generally recognized under Texas law as constituting impossible conditions. The existence of such causes of delay or failure will extend the period of performance in the exercise of reasonable diligence until after the causes of delay or failure have been removed. Each Party must inform the other in writing with proof of receipt within 10 business days of the existence of such Force Majeure event or otherwise waive this right as a defense.
- 11.5 E-Mail Addresses. Engineer affirmatively consents to the disclosure of e-mail addresses that are provided to County or HCED. This consent is intended to comply with the requirements of the Texas Public Information Act, Texas Government Code § 552.137, and shall survive termination of this Agreement. This consent shall apply to e-mail addresses provided by Engineer and any agents acting on Engineer’s behalf and shall apply to any e-mail address provided in any form for any reason, whether related to this Agreement or otherwise.
- 11.6 Entire Agreement (Merger). This Agreement contains the entire agreement and understanding between the parties relating to the rights granted to and the obligations of the parties. All prior negotiations, discussions, correspondence and previous understandings are superseded by this Agreement. Any oral representation or modification concerning this Agreement shall be of no force or effect.
- 11.7 No Oral Modifications. Unless otherwise explicitly stated in this Agreement, this Agreement cannot be changed except by a written subsequent modification authorized by all parties.
- 11.8 Inducements. In making the award of this contract, County relied on Engineer’s assurances and representations made in this Agreement. Any false assurances and representations by Engineer shall be immediate grounds for termination of this Agreement without prior notice at the option of County.

- 11.9 Contract Construction. The titles assigned to the various Articles of this Agreement are for convenience. Titles shall not be considered restrictive of the subject matter of any Article or other part of this Agreement. Likewise, the provisions of purpose in this Agreement are intended to be a general introduction and are not intended to expand the scope of the Parties' obligations or alter the plain meaning of the terms and conditions in this Agreement.
- 11.10 Ambiguities. Ambiguities, if any, shall not be interpreted against the drafter of this Agreement.
- 11.11 No Waiver of Default. Any waiver by either Party of one or more defaults on the part of the other Party in the performance of obligations under this Agreement is not a waiver of any subsequent defaults.
- 11.12 Remedies Cumulative. Unless otherwise specified elsewhere in this Agreement, the rights and remedies of County are not exclusive, but are cumulative of all rights and remedies that exist now or in the future.
- 11.13 No Third Party Beneficiaries. Unless explicitly provided in this Agreement, there is no intent by either Party to create or establish third party beneficiary status or rights in any third party, and no such third party shall have any right to enforce any right or enjoy any benefit created or established under this Agreement.
- 11.14 Non-Exclusivity. Unless explicitly provided in this Agreement, nothing shall prevent either Party from contracting with other parties for the provision of the same or similar services or deliverables that are contemplated by this Agreement.
- 11.15 Limited Personal Liability. Nothing in this Agreement shall be construed as creating any personal liability on the part of any officer, director, employee, or agent of County.
- 11.16 Dispute Resolution Process. The Parties will meet and confer in good faith to work together to resolve problems or disputes that may arise. In the event a dispute arises between the parties involving the provisions or interpretation of any term or condition of the Agreement, and if both parties desire to attempt to resolve the dispute prior to termination or expiration of the Agreement, or withholding payments, then the parties may refer the issue to a mutually-agreeable dispute resolution process.
- 11.17 Survivability Clause. Any provision, section, subsection, paragraph, sentence, clause or phrase of this Agreement that, by its plain meaning, is intended to survive the expiration or earlier termination of this Agreement, including indemnification provisions, shall survive such expiration or earlier termination. If an ambiguity exists as to survival, the provision shall be deemed to survive.
- 11.18 Savings/Severability Clause. If any provision, section, subsection, paragraph, sentence, clause or phrase of this Agreement, or the application of same to any person or set of circumstances, is held to be invalid, void, or unenforceable by a court of competent jurisdiction, that part of this Agreement shall be reformed, if reasonably possible, to comply with the applicable provisions of law. In any event, the remaining provisions the same shall continue in full force and effect, provided that the unenforceable or invalid provision is not material to the overall purpose and operation of this Agreement. If necessary in order to make this Agreement valid and enforceable, the Parties shall meet to confer upon an amendment or modification.
- 11.19 Time is of the Essence. Time is of the essence with respect to Engineer's performance under this Agreement, and Engineer shall perform all services diligently until completed.
- 11.20 Choice of Law. This Agreement shall be construed according to the laws of the State of Texas without giving effect to its conflict of laws provisions. Venue lies only in Harris County as per Texas Civil Practice and Remedies Code Sec. 15.015, and any alternative dispute resolution, suit, action, claim, or proceeding with respect to or arising out of this Agreement must be brought solely in the courts or locations that are situated in the State of Texas, County of Harris. Both parties irrevocably waive any claim that any proceeding brought in Harris County has been brought in an inconvenient forum.

11.21 Exhibit List. The following attachments are a part of this Agreement:

- Exhibit A. Scope of Services
- Exhibit B. Schedule
- Exhibit C. Compensation for Professional Services
- Exhibit D. Engineer Team Acknowledgments

11.22 Tax Exemption. Pursuant to Texas Tax Code §151.309, as a political subdivision, County claims exemption from sales and use taxes and will provide exemption certificates upon written request. County shall not be liable to reimburse or pay any personal property taxes, charges, or fees assessed against Engineer.

11.23 Electronic or Facsimile Signatures and Duplicate Originals. Pursuant to the requirements of the Uniform Electronic Transactions Act in Chapter 322 of the Texas Business and Commerce Code and the Federal Electronic Signatures in Global and National Commerce Act (beginning at 15 U.S.C. Section 7001), the Parties have agreed that the transactions under this Agreement may be conducted by electronic means. Pursuant to these statutes, this Agreement may not be denied legal effect or enforceability solely because it is in electronic form or because it contains an electronic signature. This Agreement may be executed in duplicate counterparts and with electronic or facsimile signatures with the same effect as if the signatures were on the same document. Each multiple original of this document shall be deemed an original, but all multiple copies together shall constitute one and the same instrument.

11.24 Signatory Authorized to Execute Agreement. The person executing this Agreement on behalf of each Party represents that he or she is duly authorized by the policy of the Party's governing body to legally obligate and execute this Agreement on behalf of the Party.

**HARRIS COUNTY**

By: \_\_\_\_\_  
Lina Hidalgo  
Harris County Judge


**LOCKWOOD, ANDREWS & NEWNAM, INC.**

By:  \_\_\_\_\_  
Matt Manges  
Vice President

APPROVED AS TO FORM:

**CHRISTIAN D. MENEFEE**

Harris County Attorney

By:  \_\_\_\_\_  
Michael James  
Senior Assistant County Attorney  
CAO File Number 23GEN1105

## Will Clayton Parkway Reconstruction

UPIN 23103MF2WB01

EXHIBIT A

### SCOPE OF WORK

Road Name: Will Clayton Parkway

Road Classification: Thoroughfare

Project Limits: **2,700 feet west of South Houston Avenue to approximately 600 feet east of Wilson Road**

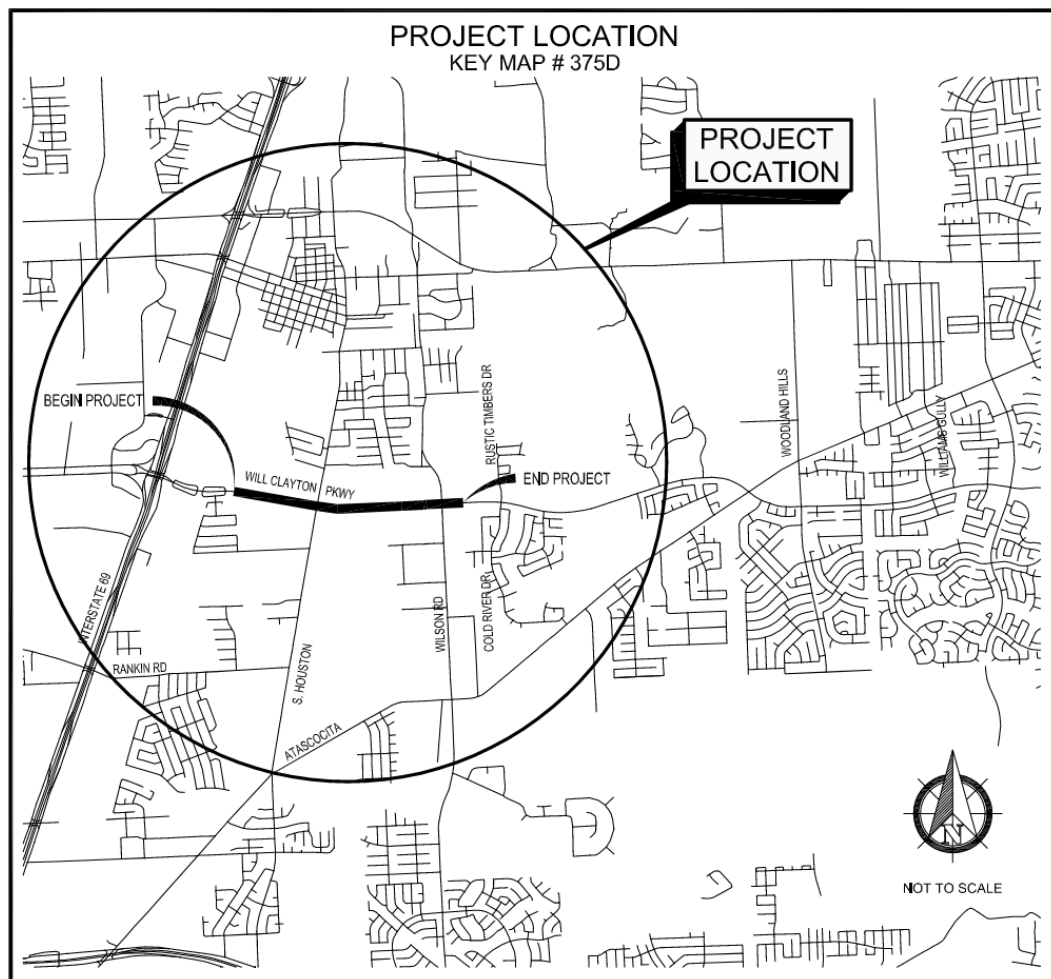
Project Length: Approximately 8,900 linear feet

Precinct Number: 3

Adjacent/Affected Agencies: City of Humble / Harris County Flood Control District

Project Description: **Completely roadway reconstruction Will Clayton Parkway, from approximately 2,700 feet west of South Houston Avenue to approximately 600 feet east of Wilson Road.**

Project Map:



Conditions:

## Will Clayton Parkway Reconstruction

UPIN 23103MF2WB01

## EXHIBIT A

	Existing	Proposed
<b>Roadway Type</b>	Asphalt	Concrete with curb and gutter
<b>ROW Width</b>	100 ft	100 ft
<b>Travel Lanes</b>	5-Lane (includes two-way left turn lane)	4-lane
<b>Median</b>	N/A	32 ft typical
<b>Cross Streets</b>	South Houston Ave. Wilson Road	South Houston Ave. Wilson Road
<b>Drainage System</b>	Open Ditch	Storm Sewer
<b>Outfalls</b>	HCFCU Unit No. P130-07-01	HCFCU Unit No. P130-07-01
<b>Detention Method</b>	Existing Detention Pond	Detention Pond In-line Detention
<b>Bridge</b>	N/A	N/A
<b>Traffic Signals</b>	South Houston Ave. Wilson Road	South Houston Ave. Wilson Road
<b>Left Turn Lanes</b>	EB to NB at South Houston Road WB to SB at South Houston Road NB to WB at South Houston Road SB to EB at South Houston Road EB to NB at Wilson Road WB to SB at Wilson Road NB to WB at Wilson Road SB to EB at Wilson Road	EB to NB at South Houston Road WB to SB at South Houston Road NB to WB at South Houston Road SB to EB at South Houston Road EB to NB at Wilson Road WB to SB at Wilson Road NB to WB at Wilson Road SB to EB at Wilson Road
<b>Right Turn Lanes</b>	NB to EB right turn lane at Wilson Road SB to WB right turn lane at Wilson Road	NB to EB right turn lane at Wilson Road SB to WB right turn lane at Wilson Road
<b>Sidewalks or Trails</b>	N/A	5 ft wide EB & WB from S. Houston Ave to eastern limits. 5-ft wide EB from Regency Inn driveway to S. Houston Ave.
<b>Bike Lanes</b>	N/A	N/A
<b>Impacted Parcels</b>	N/A	TBD
<b>Railroad crossings</b>	N/A	N/A



## Will Clayton Parkway Reconstruction

UPIN 23103MF2WB01

### EXHIBIT A

<b>Pipeline Crossings</b>	1	1
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## PROJECT

Provide professional engineering services for the design and construction of a standard four (4) lane concrete boulevard with curb and gutter, 32-ft raised medians, and underground storm sewer with detention system within 100-ft right of way. Roadside ditches behind back of curb are not preferred. Shallow swales to capture offsite sheet flow, or in instances where the top of curb is higher than the ROW elevation, are allowed. Any exceptions to standards are noted within the information below.

Drainage. Project lies entirely within Greens Bayou watershed, Zone X Unshaded. Conveyance will be via storm sewer to detention basins. Detention for this project must satisfy Atlas 14 requirements.

Utilize record drawings and survey to verify existing drainage and identify additional capacity requirement for this project (conveyance and detention). Evaluate options to increase storm sewer and detention basin capacity, if necessary.

The *Will Clayton Segment B* project included a 5.56-acre detention basin providing 1.4 ac-ft detention (verify 0.2 ac-ft excess capacity), accounting for drainage on the eastern half of the project from the high point at Parkside Apartments to the outfall at Wilson Road. The basin inflow/outfall is via 3'x2' RCB.

The *Will Clayton Segment B* project review sheet references a 3.6-ac detention basin mitigating for outfall along South Houston Ave, accounting for drainage from the western limit to the high point adjacent to Parkside Apartments.

A small segment of Will Clayton Parkway near the western project limit drains towards the UPRR bridge. Specific details will be found in *Will Clayton Segment A* project. Determine whether detention/conveyance capacity exists and provide recommendations if upgrades are necessary.

As an optional service, evaluate cost and impact of converting either detention basin from gravity only if additional capacity is not feasible.

Evaluate conveyance capacity of the existing storm sewer beneath the existing north and south ditches and make appropriate recommendations for either reuse of existing storm sewer or upsizing storm sewer where appropriate.

Evaluate options to remove the 5-ft drop-off hazard where the N-S ditch/cross culvert crosses Will Clayton Parkway near Regency Inn at western project limit. The preference is zero guardrail at this location.

Ensure Safety End Treatments (SETs) are installed when any ditch flow is entering the storm sewer system.

## Will Clayton Parkway Reconstruction

UPIN 23103MF2WB01

### EXHIBIT A

Alignment. Alignment alternatives are not required. Alignment is set within 100-ft right-of-way. At western project limit, flare median from existing width to standard 32-ft median over appropriate distance. Include a transition back to 5 lane undivided roadway on Will Clayton Parkway east of Wilson Road. Utilize the results of HCEd study for S. Houston Ave. northbound dedicated right turn lane and incorporate results into this design.

Intersection - Will Clayton Parkway and Wilson Road. Wilson Road is a City of Humble-managed roadway. Upgrade traffic signal from span-wire to mast-arm. Include all necessary pedestrian appurtenances. Ensure crosswalks and ramps are properly aligned and ADA compliant. Add left turn lanes with 250-ft storage on the eastbound and westbound approaches to the intersection. Improve turn lane widths and radii in all directions.

Intersection - Will Clayton Parkway and South Houston Avenue. South Houston Avenue north of Will Clayton Parkway is a City of Humble-managed roadway. South Houston Avenue south of Will Clayton Parkway is a HC-managed roadway. Upgrade the existing span-wire traffic signal to mast-arm with necessary pedestrian appurtenances. Pending the results of HCEd's intersection study, widen the South Houston Ave northbound approach to include a dedicated northbound right turn lane with 250-ft storage.

Traffic. Include the following:

- S. Houston Ave - Eastbound and westbound, left turn lanes with 250-ft storage. Include HCEd study recommendation from schematic for northbound left and right turn lanes.
- Wilson Road - Eastbound and westbound left turn lanes with 250-ft storage.

Include access management review and recommendations/justification for appropriate median openings and turn lanes during the study phase.

Sidewalks. Include 5-ft sidewalks along the north and south Will Clayton Parkway right-of-way from S. Houston Avenue to the eastern project limit. Include 5-ft sidewalks on the south side of Will Clayton Parkway from S. Houston Avenue to the Regency Inn driveway.

Adjacent Segments. The western project limit ties in with a four-lane divided bridge over UPRR. The roadway was widened from two-lane asphalt to five-lane undivided asphalt with roadside ditch and storm sewer/detention in 2011 (reference 2009 Harris County plan set *Will Clayton Parkway - Segment A*).

The eastern project limit ties in with five-lane undivided asphalt pavement roadway with roadside ditch. The roadway at the eastern limit was widened from two-lane undivided asphalt to four-lane undivided asphalt with westbound left turn lane, transitioning to four-lane undivided, between 1995 and 2002. The eastern project limit closely matches the east project limit of the *2011 Segment B project*.

HCFCD right-of-way for P130-07-00 tributary of Garner's Bayou PO130-00-00 borders Will Clayton Parkway perpendicularly 2,000 ft east of the western project limit.

## RIGHT-OF-WAY

Verify existing right-of-way. Evaluate visibility easements and make appropriate recommendations. Evaluate right-of-way requirements for the addition of a dedicated right turn lane on S. Houston Ave NB, pending the results of HCEd study. Evaluate necessity of TCEs along entire project length and include in the scope as optional services.

## PROJECT COORDINATION

The entire project is a Harris County-maintained roadway through City of Humble jurisdiction. Ensure standard coordination is maintained throughout the study and design phase. The point of contact at City of Humble will be identified during the planning phase.

This project lies within a METRO service area. Ensure construction phasing is coordinated with and approved by METRO during the design phase.

Utility coordination will be required for various gas lines, waterlines, and sanitary sewer lines located beneath the existing north and south ditches.

### A. Project Management

Engineer shall provide the project management of the project from initiation to completion.

#### 1. Coordination with Subconsultants

Coordinate, monitor and manage the project Subconsultants per determined project duration. The Prime shall ensure all components in the Scope of Work are being met by monitoring progress and taking corrective action when necessary.

#### 2. Schedule

Provide a detailed project baseline schedule, indicating milestones, major activities and deliverables for HCED Project Manager to review and comment as part of proposal submittal. The schedule shall reflect assumed review times necessary by the agency/ies involved. During the execution of the project the Engineer shall maintain and update the schedule. Adjustments shall be made, if necessary, due to changing circumstances.

#### 3. Invoices

Engineer shall submit, in a format acceptable to HCED, invoices that detail all project costs based on percentage of completion for each task, and submit to HCED by the end of the month.

#### 4. Status Reports

Prepare status reports of project progress and submit to HCED by the end of the month regardless of invoicing submittals.

#### 5. Permits and Agreements (Interlocal, Utility, Railroad, etc.)

Engineer shall review, comment, and provide Interpose No Objection (INO) concurrence or Agreement documentation as required.

A thorough Quality Assurance/Quality Control (QA/QC) Plan will be implemented to ensure overall project constructability, cost estimate accuracy, and design conformance with industry standards and client-specific requirements and preferences. The QA/QC Plan mandates an extensive review process that will occur at multiple design milestones throughout the duration of the project, and includes the specific procedures to be followed by third-party technical reviewers, itemized review checklists, and guidelines for incorporating reviewer comments. The multi-staged review process will result in the early identification of design concerns and allow the designer ample opportunity to seek resolution and/or clarification from Harris County.

**Deliverables:** Updated Project Schedule; ; Project Status Report, and Invoices; Interpose No Objection letters; Agreement Documents

## 2.P STUDY PHASE

The Study Phase shall consist of a series of Engineering studies and technical reports to support the Study Report. Engineer shall perform all Study Phase outlined tasks in accordance to all adopted Harris County standards, guidelines, and specifications.

The Scope of Work for the Study Phase:

### A. Alignment

Alignment alternatives are not required. Alignment is set within 100' right-of-way (ROW). The proposed alignment will be a standard 4-lane concrete boulevard with concrete curb and gutter, 32-foot raised medians, and underground storm sewer with detention system. 5-foot-wide sidewalks will be constructed along the north and south Will Clayton Parkway ROW, from South Houston Avenue to the eastern project limit. 5-foot-wide sidewalks will be constructed along the south Will Clayton Parkway ROW, from South Houston Avenue to the Regency Inn driveway. At western project limit, the median will flare from existing width to standard 32-ft median over appropriate distance. There will be a transition back to existing 5 lane undivided roadway, beginning at the second driveway, east of Wilson Road. At Will Clayton Parkway and Wilson Road, left turn lanes with 250-ft storage will be added to the eastbound and westbound approaches to the intersection. At Will Clayton Parkway and South Houston Avenue, left turn lanes with 250-ft storage will be added to the eastbound and westbound approaches to the intersection. The South Houston Avenue northbound approach will be widened to include a dedicated northbound right turn lane, with 250-ft storage. Turn lane widths and radii in all directions will be improved to latest Harris County guidelines. Engineer shall optimize their findings by evaluating the alignment impacts to existing structures such as signals, utilities and property, environmental impacts, ROW acquisitions costs, and existing and impacts to existing and proposed drainage. The Engineer shall review specific scoping items for preparation of the Drainage Meeting at the end of the Alignment Meeting.

Once the alignment is approved by the Precinct, the Engineer may proceed with the Sight Triangle Analysis at all cross streets (refer to Traffic section).

### ***Alignment Meeting Deliverables:***

- 34" Wide Roll Plot (Plan View at a 1" = 40' scale) containing the following information:
  - Proposed Alignment with horizontal alignment data
  - Curve data on the schematic
  - Proposed planimetrics (back of curb, medians, median openings, turn lanes, etc.). All subject to change in the design phase.
  - Aerial photography
  - Existing ROW
  - Potential proposed ROW
  - Proposed clearances to structures
  - Outfall structures and channel crossings
  - Typical section(s) of the proposed design
  - Construction and routine maintenance costs
- KMZ of project with the proposed alignment provided to HCED prior to the meeting.
- Meeting agendas, meeting minutes and action items for each meeting in electronic format submitted to HCED prior to distribution.

**B. Drainage Study**

Engineer shall evaluate and optimize various drainage design alternatives following the latest adopted Harris County Flood Control District guidelines and standards. Roadside ditches behind back of curb shall not be included in the design. Shallow swales are allowed to capture either offsite sheet flow or in instances where the top of curb is higher than the ROW elevation. However, swales shall not serve as significant conveyance measures or as detention. Detention Ponds are to be considered as an option. With the selected alignment, a preliminary profile and the location and size of the storm sewer trunkline, if applicable, shall be developed. If the survey has not been authorized, then Engineer shall utilize LiDAR information to develop profiles. The Engineer may request available LiDAR information from HCED for the project limits. The Engineer shall present the Drainage Study during the Drainage Meeting and an option shall be selected at this meeting. The presentation shall include a value analysis/Engineering of the top options (upto 3), estimated construction and routine maintenance costs, ROW impacts, and Public impacts. A drainage report shall be prepared for the selected option.

The Drainage Meeting shall review the following design elements in preparation for the Drainage Report:

- Overall drainage area
- Preliminary trunk line sizing
- Detention requirements (both in-line and offsite)
- Critical utility conflicts
- Preliminary profile review

***Deliverables at Drainage Meeting:***

- Aerial photography
- Existing ROW
- Potential proposed ROW
- Outfall structures
- Location of proposed ditches, as needed
- Location of storm sewer trunkline
- Location(s) of potential detention sites
- Configuration and impacts of cross culvert modifications along P130-07-01
- 
- Provide proposed condition hydraulic grade line (HGL)
- GIS exhibits of project with drainage alternatives provided to HCED prior to the meeting.
- Meeting agendas, meeting minutes and action items for each drainage-related meeting in electronic format submitted to HCED prior to distribution.

**C. Right-of-Way (ROW) Meeting**

The purpose of this meeting is to discuss and agree upon the construction sequencing, overall construction zone and the temporary drainage as needed. The discussion of the high-level traffic control plan (TCP) and the previous decisions made at the alignment and drainage meetings shall support identification of ROW acquisition needs. A parcel by parcel analysis on the needs for ROW acquisition shall follow the construction sequencing discussion. Development of the Metes and Bounds (Proposed ROW Maps) shall be authorized following the conclusion of the meeting.

***TCP Deliverables at ROW Meeting:***

- 34" Wide Roll Plot (Plan View at a 1" = 40' scale) containing the following information:
  - Proposed planimetrics (back of curb, medians, turn lanes, etc.). All subject to change in the design phase.
  - Aerial photography
  - Existing ROW
  - Potential proposed ROW
  - Construction sequencing patterns to illustrate phasing
  - Preliminary TCP typical sections
  - Temporary drainage structures
- Word Narrative of the construction sequencing for the project including temporary drainage and paving.

***ROW Deliverables at ROW Meeting:***

- 34" Wide Roll Plot (Plan View at a 1" = 40' scale) containing the following information:
  - Proposed planimetrics (back of curb, medians, turn lanes, etc.) All subject to change in the design phase.
  - Aerial photography
  - Existing ROW including utility easements
  - Potential proposed ROW
  - Proposed detention pond(s)
  - Outfall structures and other utilities impacted by ROW
  - Temporary construction easements
  - Parcel data
  - Topographical survey data
  - Existing metes & bounds
  - Proposed unobstructed visual easements (UVEs) and corner clips
  - Critical structure impacts
- KMZ of project with TCP and ROW with parcel descriptions, provided to HCED prior to the meeting.
- Meeting Agendas, Meeting Minutes and Action Items for each meeting in electronic format submitted to HCED prior to distribution.

**D. Initial Utility Coordination**

The purpose is to begin the identification of any utility conflicts within the project limits. The surveyor shall contact 811 to locate utilities, record that information, and establish a Utility Conflict Table containing the following information at a minimum:

- Conflict number
- Station and offset
- Name of utility
- Contact information (name, address, phone, email)
- Type of utility
- Utility notification date and type
- Conflict type
- Anticipated date of conflict clearance

The Engineer shall provide the Preliminary Utility Conflict Table for review.

***Utility Deliverables:***

- 34" Wide Roll Plot (Plan View at a 1" = 40' scale) containing the following information:
  - Proposed planimetrics (back of curb, medians, turn lanes, etc.). All subject to change in the design phase.
  - Aerial photography
  - Existing ROW
  - Potential proposed ROW
  - Proposed detention ponds
  - Outfall structures
  - Temporary construction easements
  - Parcel data
  - Topographical survey data
  - Existing metes & bounds
  - Existing utilities with potential conflicts identified
  - Locations of recommended SUE test holes
- Utility Conflict Table
- KMZ of project with utilities on individual levels, provided to HCED prior to the meeting.
- Meeting agendas, meeting minutes and action items for each meeting in electronic format submitted to HCED prior to distribution.

E. Study Report

- a. Pre-Client Presentation: The Engineer shall present a draft of Client presentation to HCED for feedback.

***Deliverables:***

- 34" Wide Roll Plot summarizing all the data gathered in the previous meetings showing both plan and profile
  - KMZ of project, including alignment, ROW, TCP, drainage, utilities, etc.
  - Presentation (i.e. PowerPoint, Presi, Etc.)
  - Handouts of the presentation
- b. Client Presentation: The Engineer shall incorporate feedback received in the Pre-Client Presentation meeting.

***Deliverables:***

- 34" Wide Roll Plot summarizing all the data gathered in the previous meetings showing both plan and profile
  - Presentation (PowerPoint, Presi, Etc.)
  - Handouts of the presentation
- c. Study Report: The Engineer shall document and summarize all project findings and provide the design objectives for the preparation of the Construction Contract Documents. The format should be a concise signed and sealed Study Report (typically 3 – 5 pages) with supporting information in the appendix including overall schematic, cost estimate, drainage report with INO Letter, environmental assessment reports, geotechnical report, traffic analysis, etc. The Engineer shall incorporate feedback received to obtain Commissioner's Court approval of Study Report.

***Deliverables:*** Study Report

### **3.P DESIGN PHASE**

The Engineer shall respond to comments provided by the County and shall prepare design deliverables as outlined below.

**A. First Submittal (90%)**

1. Complete Plans ready to be sealed by a Professional Engineer. The 90% plan set shall include the following:
  - a. **Demolition Plan:** Provide removal layout sheets for the length of the project. The removal layout sheets shall include, but not be limited to, all pavement including curbs, drainage structures, traffic signals, sidewalks, driveways, signs, landscaping, other structures, etc. to be removed
  - b. **Typical Sections:** Provide Typical Sections for proposed and existing roadway. Typical sections shall include width of travel lanes, sidewalks, bike lanes, outer separations, border widths, curbs, and right-of-way (ROW). The typical section shall also include Proposed Grade Line, centerline, pavement design, side slopes, sodding/seeding limits, station limits, etc
  - c. **Roadway Plan and Profile Sheets:** Develop detailed roadway plan profile drawings that consist of a planimetric file of existing features and include the proposed improvements. Existing and proposed ROW lines shall be shown as well.

The plan view shall contain the following design elements:

1. Horizontal alignment for Will Clayton Parkway reconstruction.
2. Indicate pavement edges, sidewalks, travel lanes and pavement widths for all improvements along Will Clayton Parkway including side streets and driveways.
3. Direction of traffic flow arrows.
4. Indicate existing and proposed ROW/Easement lines.
5. Begin/end of cross slope transitions.
6. Existing major utilities and structures.
7. Any necessary callouts to clarify details.
8. Drawings horizontal scale 1"=20' for 22"x34" size sheets (500-ft per sheet).

The profile shall contain the following design elements:

1. The approximate existing profile grade for Will Clayton Parkway.
2. The existing north and south ROW profiles along Will Clayton Parkway.
3. Proposed profile grade for Will Clayton Parkway.
4. The location of intersections (shall include cross sections of any proposed and existing roadway).
- i. Drawing vertical scale 1"=2' for 22"x34" size sheets
- d. **Drainage Plan and Profile Sheets:** Incorporate the proposed drainage design into the roadway plan and profile sheets in accordance with County guidelines

The drainage package will include the following sheets and documents:

- i. Hydrologic Data Sheets



- ii. Hydraulic Data Sheets
  - iii. Incorporate drainage design into Roadway Plan & Profile Sheets including profile grade line of parallel ditches, if applicable.
  - iv. All other relevant sheets
- 2. Identify areas requiring trench protection, excavation, shoring and de-watering.
- 3. Prepare drainage area maps.
- 4. Select any necessary standard details from County's list of standards for items such as inlets, manholes, junction boxes and end treatments.
- 5. Prepare details for non-standard inlets, manholes and junction boxes.
- 6. Prepare drainage details for outlet protection, outlet structures and utility accommodation structures
- 7. Identify pipe strength requirements
- 8. Prepare drainage facility quantity summaries
- 9. Identify potential utility conflicts and, if feasible, design to mitigate or avoid those identified conflicts.
- 10. Consider pedestrian facilities, utility impacts, driveway grades, retaining wall and concrete traffic barrier drainage impacts.
- 11. Identify existing ground elevation profiles at the ROW lines on storm sewer plan and profile sheets.
- 12. Develop layout for Outfall channels within existing ROW.
- e. **Intersection Layouts:** Provide an intersection layout and grading plan detailing the pavement design and drainage design at the intersection of each cross street. The layout shall include the curb returns, geometrics, transition to existing pavement, stationing, pavement and drainage details.
- f. **Driveway Schedule and Details:** Provide a schedule showing the location, width, thickness, slopes, and type of proposed driveways (residential/commercial) to be reconstructed as part of the project. Driveways shall typically be reconstructed to the ROW line using standard County details.
- g. **Cross Sections and Cut and Fill Quantities:** Develop an earthwork analysis to determine cut and fill quantities and provide final design cross sections at 100 feet intervals
- A. **Traffic Control Plan (TCP)**
  - a. The traffic control plan will consist of project-specific and County standard TCPs, appropriate specifications and general notes, and traffic control construction cost estimates.
  - b. The TCP shall show detailed construction sequences and the necessary traffic control phases, complete with all barricades, signing, striping, delineation, detours, temporary traffic signals and any other devices, to protect the traveling public and provide safety to the construction forces.
  - c. Construction Sequencing and TCP shall be in accordance with general traffic engineering principles and practices governing traffic control during construction as

prescribed by the guidelines of the “Texas Manual on Uniform Traffic Control Devices” (TMUTCD) and City guidelines.

- d. During construction, temporary Traffic Signals will be required at the intersections of South Houston Ave. and Wilson Rd. Temporary Traffic signal design drawings will be provided, including required notes, details, and specifications illustrating the temporary traffic signals needed for each phase of construction.
- e. Upon preparation of a draft/preliminary TCP, meet with County PM and TCP staff to discuss TCP plan in detail to gain concurrence before finalizing TCP.

**B. Permanent Signage and Striping**

Prepare drawings, specifications and details for all regulatory signs and pavement striping. All plans shall follow the Texas Manual on Uniform Traffic Control Devices (TMUTCD). A summary signs list will also be provided. The proposed regulatory signs shall be illustrated and numbered on plan sheets. Sign foundation, poles, attachments, and details shall be selected from County standards. Permanent and temporary pavement markings and channelization devices on plan sheets shall be prepared.

The following information will be shown on permanent signage and striping plans:

- 1. Roadway layout.
- 2. Center line with station numbering.
- 3. ROW/Easement lines.
- 4. Existing signs to remain, to be removed, or to be relocated.
- 5. Proposed regulatory signs (illustrated and numbered).
- 6. Proposed markings (illustrated and quantified) which include pavement markings and delineation.
- 7. Any proposed delineators and object markers.
- 8. The number of lanes in each section of proposed road and the location of changes in the numbers of lanes.
- 9. Direction of traffic flow on all roadways.

**C. Storm Water Pollution Prevention Plan (SWPPP)**

The following documents will be prepared in accordance with County Standard Details and Standard Specifications

- a. Pollution Prevention Plan drawings having a minimum scale of 1”=100’ and showing all existing and proposed streets, Project alignments, applicable notes, proposed storm water conveyance systems, overland flow arrows, and pollution prevention measures.
- b. Pollution Prevention Plan specifications.
- c. Pollution Prevention Plan construction quantities.
- d. The EPA Notice of Intent form (if required).

h.

2.

The 90% Submittal Deliverable will include at a minimum:

- Title Sheet (90 percent)
- Index of Sheets (90 percent)
- Typical Sections (90 percent)
- General Notes and Legends plans (90 percent)
- Sequence of Construction (90 percent)
- Plan and Profile Sheets (90 percent) – Submit cross section plots with this submission.
- Intersection Layouts (90 percent)
- Drainage Design (90 percent)
- Submit Final Outfall Drainage Study Report
- Permanent Signing and Striping (90 percent)
- Preliminary Signal Layouts (90 percent)
- Special Provisions unique to the Project
- Survey Control Maps (90 percent)
- Demolition and Protection plans (90 percent)
- Drainage Area Maps (90 percent)
- Hydraulic Computations (90 percent)
- Driveway Schedule Sheets (90 percent)
- Roadway Cross sections (90 percent)
- Construction details, sections and elevations (90 percent)
- Traffic Control and Phasing plans (90 percent)
- Traffic Signal layouts, signal notes, summary and chart sheets for two intersections (S. Houston and Wilson Rd) (90 percent)
- Stormwater pollution prevention (SW3P) layout plans (90 percent)
- Retaining Wall Layouts (if required) (90 percent)
- KMZ of project, including alignment, ROW, TCP, drainage, utilities, etc.
- Cost Estimate
- Attachment L
- Attachment M
- Report File
- Utility Conflict Table
- Online Bidding Sheet

RGP Application

A Construction Field Walk Meeting will be held after the First Submittal.

- B. Second Submittal (100%-Not signed and sealed) and Third Submittal (100%-Signed and sealed):
1. The 100% design phase will commence upon approval of the 90% submittal, from Harris County. The design team will make necessary drawing changes resulting from comments by review agencies during the permitting process. The general objective for this phase of work is to incorporate WD's and City's comments and continue to detail and advance all the elements mentioned in the previous section and the overall construction package. All drawings, details, specifications, coordination, meetings and cost estimates previously listed will be incorporated into this phase of work, but with additional details and information associated with opinion of

probable cost and technical specifications. This phase will be concluded when the 90% plan set is submitted to Harris County.

The 100% - Not Signed and Sealed Submittal Deliverable will include at a minimum:

- Title Sheet (100 percent)
- Index of Sheets (100 percent)
- Typical Sections (100 percent)
- Traffic Control (100 percent)
- Plan and Profile Sheet (100 percent)
- Intersection Layout (100 percent)
- Retaining Wall Layout (if required) (100 percent)
- Intersection Layouts (100 percent)
- Storm Sewer Design (100 percent)
- Permanent Signing and striping (100 percent)
- Traffic Signal layouts, signal notes, summary and chart sheets for two intersections (S. Houston and Wilson Rd) (100 percent)
- Stormwater pollution prevention (SW3P) layout plans (100 percent)
- Complete Plans sealed by a Professional Engineer
- KMZ of project, including alignment, ROW, TCP, drainage, utilities, etc.
- Cost Estimate
- Attachment L
- Attachment M
- Report File
- Utility Conflict Table
- Online Bidding Sheet
- RGP Application

C. Utility Signatures & Agency Approvals

During Final Design the Engineer shall include utility notes and signature blocks on the plans and obtain signatures. The TCP shall be in accordance with engineering best practices, the guidelines of the TMUTCD, and HCED requirements

D. TCP Meeting

The purpose of this meeting is to discuss and agree upon the final construction sequencing, overall construction zone and the temporary drainage as needed.

**Deliverables:**

- 34" Wide Roll Plots (Plan View at a 1" = 40' scale) for each construction phase containing the following information:
  - Updated information from the TCP Deliverable at the ROW Meeting Proposed detention pond(s) (Optional Additional Services)
  - Outfall structures and emergency spillway design for proposed detention ponds, if any (Optional Additional Services)
  - Utilities
  - 
  - Temporary construction easements

- Callouts for major businesses, schools, churches, and other places of interest
- Temporary pavement, channelization, and signage
- Legend
- KMZs of each TCP phase provided to HCED prior to the meeting.
- Meeting Agendas, Meeting Minutes and Action Items for each meeting in electronic format submitted to HCED prior to distribution.

HCED shall continue coordination with other jurisdictional agencies including Harris County Flood Control District in order to obtain approvals or required permitting. The third submittal (100%) will commence upon approval of the 100% Non sealed and signed submittal by Harris County. The team will make necessary drawing changes resulting from comments by review agencies during the permitting process. The intent is to have a 100% complete set with all redlines resolved and all drawings completely coordinated, and work items listed. Once completed, the plans will be sealed by all appropriate team members and forwarded to the County. All drawings, details, specifications, coordination, meetings and opinion of probable cost previously listed will be incorporated into this phase.

#### **4.P BID PHASE**

The Engineer shall support Harris County during the bidding of the Project. Tasks include:

- A. Attend the Pre-Bid Conference
- B. Answer Bidder Questions
- C. Issue addenda for clarifications to the plans and specifications
- D. Attend bid opening
- E. Evaluate bids and prepare a Recommendation of Award

##### Guidelines and Specifications

- *Regulations of Harris County, Texas for the Approval and Acceptance of Infrastructure, September 29, 2020 (or later version if applicable)*  
[https://www.eng.hctx.net/Portals/23/Publications/Appr\\_Mods\\_HC\\_Infra\\_Subdiv\\_Reg.pdf](https://www.eng.hctx.net/Portals/23/Publications/Appr_Mods_HC_Infra_Subdiv_Reg.pdf)
- *Guidelines for Engineers having Engineering Contracts with Harris County, Texas for the Design of Roads and Bridges and the Preparation of Plans and Specifications, August 23, 1988. (or later version if applicable)* <http://www.eng.hctx.net/Portals/22/Publications/capital-improvements/guidelines/1988-Guidelines-repro-PDG.pdf>
- *The Texas Manual on Uniform Traffic Control Devices*  
<http://www.txdot.gov/government/enforcement/signage/tmutcd.html>
- *Harris County Flood Control District Technical Manuals.* <https://www.hcfcfd.org/Technical-Manuals/all-documents?folderId=8625&view=gridview&pageSize=10>
- *Harris County Public Infrastructure Department Storm Water Quality Guidance Document for New Development/Redevelopment Projects, April 4, 2004 (or later version if applicable)*  
[http://www.eng.hctx.net/Portals/23/Publications/SWQ\\_manual\\_residential\\_devel.pdf](http://www.eng.hctx.net/Portals/23/Publications/SWQ_manual_residential_devel.pdf)
- *Harris County Storm Water Management Handbook for Construction Activities*  
[http://www.cleanwaterways.org/downloads/professional/construction\\_handbook\\_full.pdf](http://www.cleanwaterways.org/downloads/professional/construction_handbook_full.pdf)
- *Harris County Storm Water Quality Management Regulations 2004 (or later version if applicable)* [http://www.hcpid.org/permits/docs/swq\\_regs.pdf](http://www.hcpid.org/permits/docs/swq_regs.pdf)

- *Right-of-Way Description and Alignment Map Guideline, October 1990 (or later version if applicable)* [http://www.eng.hctx.net/Portals/22/Publications/capital-improvements/guidelines/row\\_description\\_and\\_alignment\\_map\\_guidelines.pdf](http://www.eng.hctx.net/Portals/22/Publications/capital-improvements/guidelines/row_description_and_alignment_map_guidelines.pdf)
- *Harris County Public Infrastructure Department Traffic Control Guidelines* [http://www.eng.hctx.net/Portals/22/Publications/professional-services/standard-traffic/tcp\\_guidelines.PDF](http://www.eng.hctx.net/Portals/22/Publications/professional-services/standard-traffic/tcp_guidelines.PDF)
- *Rules of Harris County, Including the Harris County Toll Road Authority, A Division of Harris County, and the Harris County Flood Control District for the Construction of Facilities Within Harris County and the Harris County Flood Control District Rights-of Way, October 1, 2020 (or later version if applicable)* <https://www.eng.hctx.net/Portals/23/Publications/Construction-in-HC-or-HCFCD-ROW-Regs.pdf>

## DRAINAGE

The drainage design shall be completed under the latest approved version of the guidelines of the HCFCFCD Policy Criteria & Procedure Manual.

### Guidelines and Specifications

- *Harris County Flood Control District (HCFCFCD) Policy, Criteria and Procedures Manual (PCPM) Interim Guidelines and Criteria for Atlas 14 Implementation, July 2019 (or later version if applicable)*
- *HCFCFCD PCPM (July 2019 Interim Version), Appendix A-10 - Roadway Impacts and Mitigation Example*
- *HCFCFCD Memorandum dated October 21, 2019 – Roadway Detention Estimates with Atlas 14 Rainfall Updates, PCPM Appendix A, Example A.10.*
- *HCFCFCD Memorandum dated March 19, 2020 – Review of Conditional letters of Map Revision (CLOMRs) for Harris County Bridge Projects*
- *HCFCFCD Hydrology & Hydraulics Guidance Manual (HHGM), December 2009 (or later version if applicable).*
- *Other local references as applicable.*

### **2D.400 Drainage Report**

All work shall be in accordance with Atlas 14 Data.

#### **A. Data Collection and Coordination**

1. Collect and review pertinent and available information on the project, any previous analyses and models, the project site, and the surrounding region. Obtain and review LIDAR topographic data from Houston-Galveston Area Council. Obtain and review as-built construction drawings of the project area. Review topographic survey and wetland data and obtain M3 Models of the watershed and available models of HCFCFCD Unit **P130-00-00**).
2. Field Scoping Meeting – Visit the project site to observe and document the condition of drainage facilities and existing drainage infrastructure.

EXHIBIT A

3. Coordinate as necessary with team members or other agencies including HCFCD Watershed Management Department to understand and address any additional or special requirements based on the project location.
4. Collect digital files of the hydrologic and hydraulic models, and any available previous study in the vicinity of project site. Obtain and review as built plans for the existing roadways in the vicinity of project site.
5. Determine the proper methodology to use for the project based on the complexity of the project and location in the watershed. Typical methodologies include the Rational Method, the Optional Project Routing Method, or the Watershed Modeling Method.

B. Pre-Project Conditions Analysis

1. Develop pre-project conditions drainage area map. Ensure offsite areas affecting the project are included in the analysis.
2. Calculate pre-project conditions impervious cover for drainage areas serving the project as well as offsite drainage areas that may affect the project.
3. Calculate pre-project time of concentration using velocity-based methods appropriate for the types of sheet flow and conveyance systems present in the pre-project condition.
4. Calculate peak flows for the 2-, 10-, and 100-year storm events and the 500-year storm event if applicable (see HCFCD PCPM for when the 500-year calculation is necessary) at existing outfalls of the project site utilizing methodology appropriate for project scope and drainage area size.
5. Create a pre-project conditions hydrograph for each storm event at each outfall included in the analysis.

C. Post-Project Conditions Analysis

1. Modify pre-project drainage area map as necessary to reflect post-project conditions.
2. Calculate post-project conditions impervious cover for drainage areas serving the project offsite drainage areas that may affect the project. Treat the full ROW width as impervious cover for the drainage calculations.
3. Calculate post-project time of concentration using velocity-based methods appropriate for the types of sheet flow and conveyance systems present in the post-project condition.
4. Calculate peak flows for the post-project condition at the outfalls of the project site utilizing the same methodology and approach as the pre-project condition.
5. Create a post-project conditions hydrograph at each outfall included in the analysis for each storm event included in the analysis.
6. .

D. Mitigation Alternatives

1. Estimate detention storage necessary at project outfall(s) by comparing pre- and post-condition hydrographs.

2. Prepare a schematic layout of upto three (3) distinct alternatives to provide the required detention storage to mitigate project impacts. Typical information includes mitigation footprint (basin, upsized pipes, LID, etc.), outfall size, total volume provided (minus freeboard requirement) and estimated right-of-way.
3. Prepare a draft Detention Alternatives client presentation (PPT) for review by HCED PM. Respond to comments and prepare final presentation.
4. Present alternatives in meeting and respond to Client comments.

E. Selected Alternative Analysis and Report

1. Based on Client selection, refine the mitigation estimate for the selected alternative by verifying assumptions included in the preliminary mitigation estimate, incorporating offsite sheet flow (if applicable), the proposed roadway profile, proposed conveyance (trunkline sewers/ditches, etc.), , and any other project condition in the analysis.
2. Route the post-project flows through the basin to fully design the basin outfall for the required storm events. Ensure that the analysis and layout of the basin meets HCFCF requirements and ensures no adverse impact from the project.
3. Prepare a preliminary drainage report for HCFCF review in accordance with HCFCF PCPM Section 19. Format report and all models and other attachments for electronic submittal via e-permits.
4. Respond to HCED and HCFCF comments and resubmit report as necessary to obtain report approval ("interpose no objection") from HCFCF.

***Deliverable:*** Approved Drainage Report

**2D.400 Additional Services**

A. Culvert Modifications or Replacement on non-FEMA Studied Stream

1. Obtain topographic survey cross-sections of the pre-project conditions in the vicinity of the culvert as well as a sufficient distance downstream and upstream of the culvert to adequately describe conditions in the vicinity of the proposed project. Survey sections can extend from bank-to-bank with LiDAR or other topographic data extending the sections in the overbanks. A sufficient number of cross-sections must be obtained downstream of the culvert so that backwater effects of downstream conditions on the culvert locations can be included in the model. Upstream sections must also be included to identify any upstream impacts of the revised or new culvert structure. Coordinate with HCFCF to verify the extent and spacing of cross-sections necessary to fully model the proposed culvert.
2. Develop Atlas 14 flows for the 2- 10-, and 100-year storm events to insert into the hydraulic model at key locations upstream and downstream of the culvert as necessary to develop an accurate estimate of peak flows affecting the proposed project. Depending on the nature of the channel, Site Runoff Curves, HEC-HMS, or other methods may be used to calculate these flows.
3. Create an existing pre-project conditions HEC-RAS model using the cross sections and flows calculated.
4. Create a post-project HEC-RAS model using preliminary culvert layouts provided by the engineer. Ensure that minimum low chord requirements are met by the proposed culvert per HCFCF PCPM Section 7.2.1 or that exceptions to these requirements are warranted.



5. If impacts are noted in the post-project condition, create a mitigated post-project conditions model with appropriate mitigation requirements such as channel improvements that fully mitigate the culvert in the effective (non-Atlas 14) 10-year, 100-year and 500-year effective storm events.
6. Provide a hydraulic analysis report detailing pre-project and post-project conditions and any necessary mitigation with preliminary culvert layouts included. This report can be incorporated into drainage report or as a stand-alone report).

#### **2D.400C – 454C Drainage Coordination**

Engineer shall coordinate with the drainage provider for the completion of the Drainage Report.

## **ENVIRONMENTAL**

#### **2E.500 Phase I Environmental Site Assessment (ESA)**

Environmental Professionals shall conduct a Phase I ESA for the existing and proposed ROW, including detention pond sites and outfalls, in accordance with the specifications listed in the latest American Society for Testing and Materials (ASTM) Standard Practice E1527-21. HCED requested a Phase I ESA be completed to identify if historical records or physical evidence of contamination exists on or near the project area. The environmental professionals will draft a Phase I ESA report, which will include the following:

- Field visit to the project area and surrounding areas
- Review of the project area and surrounding areas
- Visual inspection of building facilities on site according to ASTM standards
- Photo-documentation of the project area
- Review of federal and state environmental databases for the project area and surrounding properties using a database report
- Review of reasonably available historical topographic maps, aerial photographs, Federal Emergency Management Agency (FEMA) National Flood Hazard Layer (NFHL) maps, and other publicly available resource documents
- Interviews with individuals who may have knowledge of current and historic activities on the project area (e.g., existing landowners, city officials, state agencies, and/or other person)
- Identification of habitat areas of potential concern within the project area (i.e., potential wetland areas identified in the Waters of the United States [WOTUS] Report)
- Identification of any immediate risk to public health, safety, or the environment
- Identification of the presence or likely presence of a recognized environmental condition (REC) that may trigger an environmental liability on, restrict the use of, or affect the project area
- Recommendation of the potential need for additional testing (such as a Phase II ESA) to confirm and evaluate any potential contaminant

Once fieldwork and file reviews are complete, the environmental professionals will prepare one Phase I ESA report that includes a discussion of the results of the historic records review, interviews, and site inspection with recommendations for further investigation, if needed. The environmental professionals will submit a draft Phase I ESA for review. Following review, the environmental professionals will address revisions and resubmit the final report.

It is assumed that chain-of-title and/or current property ownership research is not required for this project. If chain-of-title and/or current property ownership research is required, the environmental professionals can provide this service at additional cost through a separate cost proposal.

***Deliverable:*** Phase I ESA Report

## **2E.501 Wetland Delineation and Approved Jurisdictional Determination (AJD)**

In order to determine if any potentially jurisdictional WOTUS exist on the project area, environmental professionals will delineate the boundaries of all aquatic features and determine their potential jurisdictional status through records and literature review, intensive field surveys, and coordination with the United States Army Corps of Engineers (USACE) and the Environmental Protection Agency (EPA). The environmental professionals will identify and delineate the following within the Project Area:

- All potentially jurisdictional WOTUS, including wetlands
- All potentially non-jurisdictional wetlands
- All potentially non-jurisdictional watercourses

All wetlands will be delineated in accordance with the procedures mandated in the USACE 1987 Wetland Delineation Manual (Manual) and November 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain (Version 2.0). The Ordinary High-Water Mark (OHWM) of all waterbodies will be delineated in accordance with standard procedures set forth by the USACE. The delineation will adhere to industry standards utilized on similar projects in similar areas by qualified wetland scientists. All boundaries shall be surveyed with sub-meter global positioning system (GPS) technologies that are consistent with the methodologies generally accepted by the USACE. Should the client require a registered survey of the delineated areas to be performed by a licensed surveyor, this survey must be contracted separately under an additional cost proposal.

The environmental professional will draft a report discussing the natural resources found on the project area, including vegetation, hydrology, and soils, along with the results of the field investigation for jurisdictional wetlands and waters.

The report will include:

- USACE Atlantic and Gulf Coastal Plain Wetland Determination Data Forms
- USACE JD Form
- Project area map indicating the size and location of wetlands based on GPS measurements
- Minimum of 10 project area photographs
- Vicinity map
- Historical United States Geological Survey (USGS) topographic maps
- Historical aerial photographs
- LiDAR map
- FEMA NFHL map
- Map with United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) and USGS National Hydrography Dataset (NHD)
- Natural Resources Conservation Service (NRCS) soils map
- Infrared imagery

- Table listing physical characteristics of all waterbodies

Following review, the environmental professional will submit the final report. It is assumed that the report will be submitted to the USACE by HCED.

The USACE and/or EPA will verify the boundaries of those areas delineated that may be within their jurisdiction utilizing the draft WOTUS Report. This verification may be conducted from their offices (desk audit) or performed in the field at the project area. The environmental professionals assume that the verification will consist of a field inspection for this project.

An environmental professional will accompany a USACE representative in the field during the verification process. It is assumed that one USACE verification meeting will be required that will last no longer than one nine-hour day. Additional verification meetings can be performed at additional cost through a separate cost proposal.

**Assumptions:**

- The environmental professionals will be granted right-of-entry (ROE) to the project area prior to beginning fieldwork.
- Should project designs be revised during or after fieldwork is complete, a change order will be required to conduct additional field surveys, reassess any new impacts and incorporate findings into the reports.
- It is assumed that the proposed project will not require a registered survey of the delineated areas to be performed by a licensed surveyor.
- Field survey(s) will be conducted during reasonable working hours, daylight hours, and only during safe weather conditions.
- It is assumed that the project is not federally funded, and National Environmental Policy Act (NEPA) documentation is not required.
- It is assumed that Tasks 2E.500, 2E.501, 2E.502, and 2E.503 will be approved concurrently, with one field mobilization.

**Deliverables:** Wetland Delineation Report; AJD Forms; Shape Files,

**2E.502 Threatened & Endangered Species Habitat Survey**

A Memorandum of Agreement (MOA) between USFWS, EPA, and National Oceanic and Atmospheric Administration (NOAA) requires an assessment of potential affect to state and federally listed species protected under the Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), Bald and Golden Eagle Protection Act (BGEPA), and the Clean Water Act (CWA). To comply with federal and state regulations and to support the USACE permitting process environmental professionals will conduct a protected species and habitat assessment.

Qualified biologists will perform a pedestrian survey to verify the presence or absence of suitable habitat for state or federally listed T&E species, freshwater mussel, MBTA, and/or BGEPA species on or adjacent to the project area. Habitat types and current land use will be documented and photographed. The T&E Species Habitat Assessment Report will identify the presence or absence of suitable habitat for

listed species and provide recommendations for best management practices (BMPs), if needed. As part of this task, Hollaway will perform the following:

- A Texas Parks and Wildlife Department (TPWD) Natural Diversity Database (NDD) and literature review to determine the state and federally listed species that potentially occur on or adjacent to the Project Area
- Review of species lists for Harris County available through the USFWS and the TPWD
- Review of USFWS Information Planning and Conservation (IPaC) Official Species List
- USGS topographic maps
- Aerial photographs
- NRCS soils map
- Photographs of the habitat types present within the project area
- A species impact and potential to affect/impact assessment
- An investigation of the project area to determine the presence/absence of listed species and/or their critical habitat

It is anticipated that the project will not need to complete a Biological Assessment (BA) or obtain a USFWS Biological Opinion (BO) at this time. Should it be determined through coordination with the USFWS that either a BA or BO is required, this work can be performed at additional cost through a separate cost proposal.

**Deliverables:** Threatened/Endangered Species Habitat Assessment Report

### **2E.503 Cultural Resources Desktop Analysis**

Professional Archeologists shall perform a desktop analysis and literature review, which is required for permitting. The goals of the desktop review will be to gather all available information regarding previously conducted cultural resources surveys; previously documented cultural resources including archeological sites, cemeteries, and above ground historical resources; identify the potential for these resources to affect the current development and determine management recommendations to satisfy all applicable federal or state cultural resource laws.

For this research, the qualified archeologist will review the corresponding USGS 7.5-minute topographic quadrangle map on the Texas Historic Sites Atlas (TASA), a restricted on-line database maintained by the Texas Historical Commission (THC). The TASA provides information on the nature and location of previously recorded archaeological sites, locations of National Register of Historic Places (NRHP) properties, State Antiquities Landmarks (SALs), Official Texas Historical Markers (OTHM), Registered Texas Historic Landmarks (RTHLs), cemeteries, and other historic properties located in or near the project area. Additional sources of information utilized will include historical aerial photographs and topographic maps, the Texas Historic Overlay, and the Houston Potential Archeological Liability Map (PALM). A THC approved geoarchaeologist will also review the constraints analysis.

Listings in TASA are limited to projects under purview of the Antiquities Code of Texas or the National Historic Preservation Act (NHPA) of 1966; therefore, all previous work conducted in an area may not be available. Additionally, there is often some delay between the time sites are identified and when they are submitted to and/or included in TASA. As such, more recently identified site data may not be available at the time of the review.

Once the background literature and records review is complete, the qualified archeologist will prepare a report detailing the analysis. This report will document the methodology used in the review, the presence and condition of any previously recorded sites and/or surveys revealed in the literature review and provide estimates on the level of future archaeological work, if any, that may be necessary to satisfy potentially applicable federal or state cultural resources laws.

A draft of the report will be submitted for planning purposes. If desired, the report can be submitted to the THC and/or other relevant agencies to aid in establishing the required level of effort for archeological compliance.

It is assumed that THC and/or agency concurrence for the Cultural Desktop Report will be granted in a timely manner. Generally, a 30-business-day timeframe is assumed for THC review.

***Deliverables:*** Cultural Resources Desktop Analysis; Constraints Map

#### **E.550 Phase II Environmental Site Assessment**

Should the Phase I ESA identify any RECs on or adjacent to the project area, the environmental professionals will work with a Professional Geoscientist (PG) to perform a Limited Phase II ESA investigation to analyze risks to health and human safety associated with the potentially contaminated soil according to Texas Commission on Environmental Quality (TCEQ) standards. All field activities will be conducted under the supervision of a State of Texas licensed PG.

This task assumes two strategically located soil borings will be sampled within the project area during one, eight-hour field day. Three soil samples will be collected from each boring; one from surface soils (0 to 5 feet below grade), one from sub-surface soils (5 to 10 feet below grade), and one at the capillary fringe (above the groundwater stratum if encountered) or the terminal depth of the boring. The boring locations will be at least 100 to 150 feet apart. If additional soil boring locations, greater depth of excavation, groundwater sampling, or more samples per boring are required, this can be provided for an additional costing.

The soil cores will be screened for volatile vapors using a calibrated photoionization detector (PID) and logged in accordance with the Unified Soil Classification System (USCS). Soil samples will be collected based on field conditions and PID readings. PID and USCS data will be included on the boring log to be completed for each location. This task assumes that no groundwater sampling would be necessary. If groundwater sampling and monitoring wells are needed, then a separate cost estimate will be provided.

Investigation-derived waste (IDW), including decontamination/purge water and excess soil cores will be placed in 55-gallon drums. The IDW will be characterized based on the analytical results for the investigation-related samples described herein. The IDW will be disposed at a TCEQ-permitted landfill and permitted liquids disposal facility.

Soil samples will be placed in laboratory-supplied containers (soil samples will be placed in Terra-Core sample vials) with test method-specific preservatives, uniquely labeled, and packed on ice according to accepted protocols and ASTM E1903-11 guidelines. Each sample will be analyzed for Total Petroleum Hydrocarbons (TPH, TX Method 1005), Volatile Organic Compounds (VOCs, Method SW846-8260C), and

Total Resource Conservation and Recovery Act (RCRA) 8 Metals (Method SW6010B/7470A). Soil samples will also be analyzed for antimony, beryllium and nickel (SW 6010B), and solids (Method SM 2540G).

The samples will be submitted to an independent laboratory which participates in the TCEQ's - Texas Laboratory Accreditation Program (TLAP) and that is accredited with the National Environmental Laboratory Accreditation Conference (NELAC) standard for matrices, methods, and parameters of analysis. Chain-of-custody documentation will be maintained from the field through laboratory analyses. Soil samples will be analyzed on a standard 8 to 12 business day turnaround timeframe. The laboratory does have "rush order" available for an additional charge, if needed. The laboratory data will be compared to TCEQ Texas Risk Reduction Program (TRRP) Tier 1 Residential Protective Concentration Levels (PCLs) and Texas-Specific Soil Background Concentrations (for metals in soil). The report will include site and sample location diagrams, boring logs, photographs, and TRRP-quality laboratory reports. A sample summary report will be provided to the client that will include sample locations, sample results, and conclusion.

It is assumed that no more than two borings will be completed for each REC site during the Phase II ESA. If additional soil boring locations, greater depth of excavation, groundwater sampling, or more samples per boring are required, this can be provided for an additional cost.

The Phase II ESA scope included herein is based on prior proposals provided to and approved by HCED at the early project scoping stage. It does not consider findings/conclusions from an ASTM-compliant Phase I ESA findings or any other knowledge of site history, subsurface conditions, or other information. It is subject to change upon review by a PG, as needed.

If roadway permits are required for the soil boring activities, that task can be performed at additional cost through a separate cost proposal.

***Deliverables:*** Soil and Groundwater Sampling and Analysis Plan; Limited Site Investigation Report

#### **E.551 Archeology Pedestrian Survey**

As the project is sponsored by Harris County, a political subdivision of the state, a Texas Antiquities Permit will be required prior to the onset of any field investigation. The environmental professional will coordinate with a qualified archeologist to prepare the requisite permit application and accompanying scope of work document, obtain the necessary signatures, and submit the permit package to the THC. Agency coordination will be primarily conducted by the archeological Principal Investigator (PI) and will include determining the level of regulatory compliance with the THC and fulfilling all project requirements for methods and reporting for the project.

Once the background review is completed and a Texas Antiquities Permit is obtained, the qualified archeologist will conduct an intensive archeological survey of the Project Area. The survey will be of sufficient intensity to determine the nature, extent, and, if possible, significance of any cultural resources located within the investigated project area. The survey will meet all THC/Council of Texas Archeologists (CTA) minimum archeological survey standards for such projects with any exceptions thoroughly documented.

### **Pedestrian Survey and Shovel Testing**

Based on a preliminary review of the project area, approximately 16.73 acres will require systematic pedestrian survey and shovel testing. It is possible that after a review of the Houston PALM data, portions of the survey area may be excluded from survey.

The field survey will consist of one team of qualified archeologists systematically walking the entire project area. During the survey, the archeologists will be examining the ground surface and erosional profiles for cultural resources. Subsurface explorations to be utilized during the survey include shovel tests. The utilization of shovel tests will be keyed to the level of disturbance of the proposed project and the nature of the soils, geology, and topography. Where performed, shovel tests will be systematically excavated and additional shovel tests may be required to define site boundaries.

Shovel tests will be 30 cm in diameter and excavated in 20-cm arbitrary levels to 80 cm in depth or to subsoil or bedrock, whichever comes first. The matrix will be screened through ¼-inch hardware mesh and backfilled upon completion. The location of each shovel test will be plotted using a tablet with a submeter accurate GPS unit, and each test will be recorded on appropriate project field forms on the tablet. Soils will be described following Schoeneberger et al. (2012) and the Wetland Training Institute (2017) guidance. Based on current THC/CTA guidelines, the qualified archeologist estimates a maximum of 44 shovel tests will be required for the Project Area.

The qualified archeologist is proposing a non-collection survey. Artifacts will be tabulated, analyzed, and documented in the field, but not collected. Temporally diagnostic artifacts will be described in detail and photographed in the field. Only especially rare artifacts or discoveries may be collected for further analysis.

### **Site Documentation**

If sites are encountered, additional funding of \$3,500.00 for each site located will be required to delineate each site within the survey corridor. No archeological sites will be delineated without prior approval for the additional funding. If an archeological site is encountered in the proposed Project Area during the investigation, it will be explored as much as possible with consideration to land access constraints. Any discovered sites will be assessed in regard to potential significance so that recommendations can be made for proper management (avoidance, non-avoidance, or further work).

Shovel tests will be placed at 15-m intervals along a single cruciform. At least two negative shovel tests will be excavated past the last positive shovel test to define the site boundaries. For sites extending more than 90 m in any direction from the initial cruciform, an additional lateral transect will be added to provide additional site definition. All sites will be minimally delineated with nine shovel tests and will be fully recorded. During reporting, sites with fewer than four artifacts within a 30-m radius will typically be considered Isolated Finds and a trinomial will not be sought for the site. Appropriate State site forms will be filled out for each site discovered during the investigations. The goal of the survey will be to identify, delineate, and design around significant archeological deposits to avoid further cost-prohibitive testing (i.e., backhoe trenching or Phase II significance testing).



A detailed plan map of each site will be produced, and site locations will be plotted on USGS 7.5-minute topographic maps and relevant project maps. The archeologist will utilize submeter accuracy GPS units to map sites and spatially relate them to the project corridor.

### **Reporting**

Once the archeological survey has been completed, the archeologist will analyze the field data and produce a report of the investigation. The report will conform to all National Historic Preservation Act (NHPA) and Antiquities Code of Texas report guidelines. Analysis of field data will include mapping, the production of appropriate site forms for all documented sites, analysis and tabulation of artifacts, and the review, organization, and assessment of field notes. Once this is complete, the archeologist will prepare a report of the investigation.

The report will document previous investigations in the area, background cultural and environmental settings, the methodology used in the investigation, the general nature and extent of cultural resources encountered during the archaeological survey, recommendations on the need for further work (if any), and the potential significance of the cultural resources in regard to future development and eligibility for the NRHP or designation as a SAL.

Draft copies of the report will be submitted for review and comment. Upon receiving comments, the archeologist will revise and submit a draft report to the THC for review. Following THC review and approval, the archeologist will produce a final report and satisfy all requisite Texas Antiquities Permit obligations.

### **Curation of Records**

The Antiquities Code of Texas mandates that records of the investigation be curated at an approved repository irrespective of whether artifacts are recovered. As such, cost and fees are assumed for the preparation and curation of records resulting from the investigation to be curated at the Texas State University-Center for Archaeological Studies in San Marcos, Texas.

### **Assumptions:**

- The proposed archeological survey methodology is dependent on review and approval of the THC and authorization of a Texas Antiquities Permit. If the THC requires a more intensive survey than presented in this proposal, the provided cost estimate will no longer be valid.
- It is assumed 1 week for Texas Antiquities Permit, up to 30 days for THC review and permit assignment, and single day to complete fieldwork to be scheduled within 1 week of permit receipt. After fieldwork is completed, the professional archeologist assumes that report production and THC submittal will be completed within 4 weeks.
- No viewshed or other indirect effect studies are proposed for historic era aboveground resources.
- Specialized studies, such as detailed archival research for historic era aboveground resources, significance testing, or data recovery/mitigation, are not included in this proposal.
- No tribal consultation is included in this proposal.
- It is assumed that no archeological sites will be documented. If an historic era site identified, full chain-of-title and archival research will be required, which is not included in this proposal.



- Should any sites or historic era structures be identified, a change order would be necessary to conduct appropriate site delineations and reporting.
- This scope of work is a non-collection survey. In the event that especially rare artifacts or discoveries are identified, these may be collected for further analysis. Curation of artifacts is not included in this proposal.

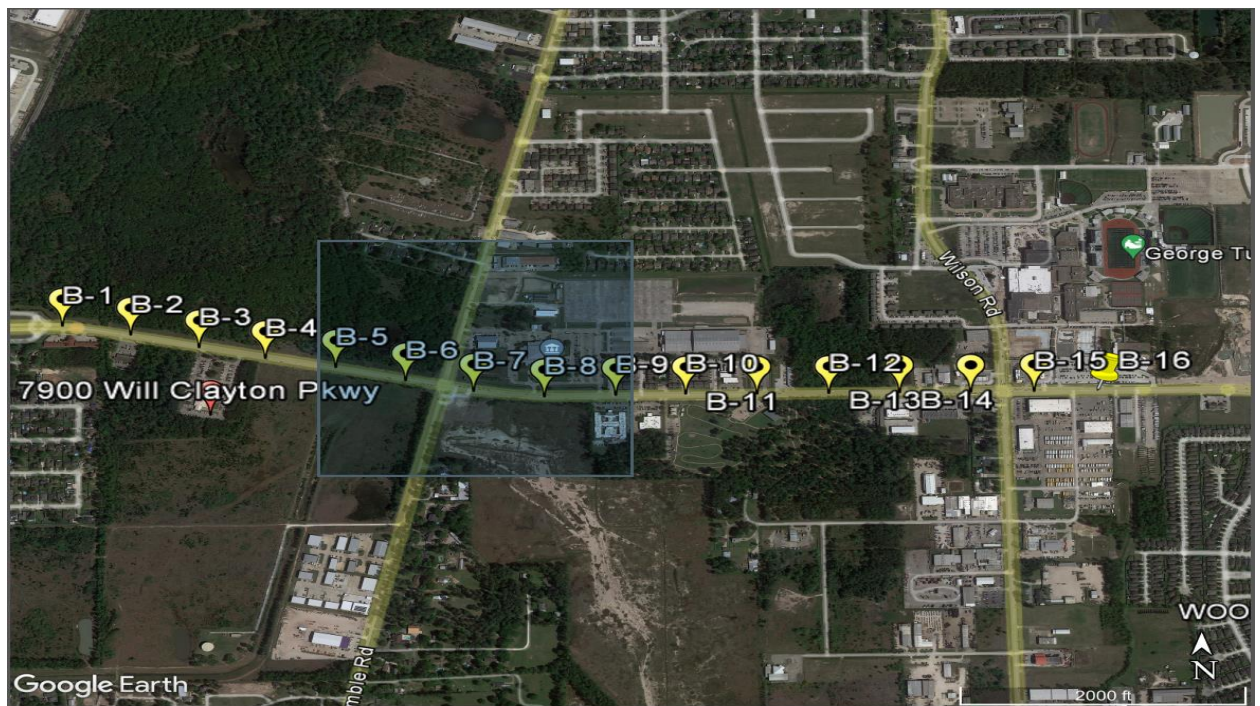
**Deliverables:** Antiquities Permit; Archeology Survey; Shape Files

## GEOTECHNICAL

### 2G.600 Roadway – Report

#### A. Field Investigation

1. Submit soil boring layout for approval. Shown below is the boring layout for approval.



2. Obtain utilities clearance for all the boring locations.

Prior to mobilizing geotechnical drilling equipment, we will coordinate the Texas One-Calls and review the available underground line information. Each test boring location requires coring with a coring machine and prior to soil sampling the boring location will be hand probed to a depth of 5 ft prior to drilling.

EXHIBIT A

3. Provide all traffic control, labor, and equipment for the Traffic Control Plan (TCP) while performing field services in compliance with the regulations of the most recent edition of the "Texas Manual on Uniform Traffic Control Devices" and HCED Standards.  
ATL will provide traffic control (Peace Officer & Flagmen) including traffic signs, barrel and cones in compliance with "Texas Manual on Uniform Traffic Control Devices" and HCED Standards.
  4. Prior to drilling and sampling soil borings, the predetermined locations on existing pavement will be cored with coring machine in order to determine existing pavement thickness.
  5. Drill and sample:
    - i. ATL proposes a total of 16 soil borings each to a depth of 20 feet for the proposed road improvements, with curb and gutter, 32-ft raised median, and underground storm sewer
  6. Grout all borehole borings, using non-shrink cement bentonite grout after completion of drilling and water level measurements. The use of cement bentonite grout shall eliminate the potential problems and safety hazards associated with surface settlements that might occur if boreholes are backfilled with soil cuttings.
    - i. All cored asphalt pavement will be patch with cold asphalt patch (sackrete), and concrete pavement cored will be patched with lean cement concrete after grouting boreholes.
- B. Laboratory Testing
1. Laboratory testing should be conducted in general accordance with the corresponding ASTM standards.
  2. Perform laboratory tests on selected representative soil samples to determine Engineering properties of the soils and to select design soil parameters.
  3. Perform Engineering analyses to develop geotechnical recommendations including pavement recommendations including subgrade stabilization requirements, and for utilities replacement, including excavation stability, bedding and backfill, groundwater control, and construction considerations.
- C. Desktop Geological Fault Study
1. Review of available existing fault maps and a field visit to identify any significant visual fault activity along the project alignment or at the specific project site that may have an impact on the design of the project.
- D. Report
1. Submit a final geotechnical report in accordance with HCED Guidelines.

**Deliverables:** Geotechnical Report

**G.650 Detention Pond – Report**

**G.650 Detention Pond – Report**

Borings drilled for channels should be drilled at a maximum spacing of 750 feet unless otherwise approved by HCFCD. A minimum of two (2) @ 25-ft borings should be drilled for the improvements of a detention basin site. Detention basin sites smaller than five (5) acres in area shall have one (1) boring per acre with a minimum of two (2) borings. It shall not be necessary to perform a Geotechnical Investigation for channels or basins that are less than five feet deep.

**Deliverables:** Updated Geotechnical Report

### **G.600C – 653C Geotechnical Coordination**

Engineer shall coordinate with the geotechnical provider for the completion of the Geotechnical Report, which shall be included in the Study Phase Report or Design Plans.

## **SURVEY**

All surveying activities and deliverables performed by and or for Harris County Engineering Department (HCED) shall be performed in accordance with the most current laws and minimum standards of practice as promulgated by the Texas Board of Professional Engineers and Land Surveyors (TBPELS). This document shall not reduce or minimize state laws in any way. TBPELS minimum standards of practice shall be applicable wherein this document does not cover scoped work.

The Texas Society of Professional Surveyors (TSPS) developed the Manual of Practice for Land Surveying in the State of Texas, which has long been identified and accepted as the standard level of care for Land Surveying in the State of Texas. Furthermore, the TSPS Manual has developed various categories of Land Surveying, identifying standards and specifications for each. The TSPS manual can be found here: <https://www.tsp.org/page/eManualofPractice>.

### **2S.700 Existing Right-of-Way Maps (Cat. 1B, Cond. 3)**

- A. Provide deed research to determine existing rights-of-ways throughout the project routes.
- B. Tie in property corners and block corners to define the existing rights-of-ways.
- C. Prepare right-of-way map of the existing right-of-way in accordance with TSPS Category 1B, Condition **(II or III)** standards and conform to Harris County Standards.

**Deliverables:** Signed, sealed, and dated right-of-way map of the existing rights-of-ways; Title reports

### **2S.701 Topographic Survey (Cat. 6, Cond. 1)**

- A. Perform topographic survey for **8,448** linear feet with all intersections along this route, and for additional side streets as noted:
  - i. ***South Houston Avenue (500' in each direction)***
  - ii. ***Wilson Road (500' in each direction)***
- B. Survey to include 25 feet outside of the right-of-way and up to 60 feet outside right-of-way for objects (obstructions and improvements), except those that are behind brick walls and buildings.
- C. Establish elevations and locations of physical features including buildings, structures, signs, power poles, curbs, driveways, water meters, manholes, pedestals, ponds, light poles, etc. within the proposed and existing right-of-way. Overhead crossing utilities shall be limited to the low chord elevation.
- D. Provide pipe flow line elevations, size, material and directions of all sanitary sewer lines, storm sewer lines and driveway culverts. Top of rim or top of grate and flow line elevations shall be recorded on all inlets, manholes and drainage structures.
- E. Locate Ornamental trees or Landscape trees with a diameter of 4" and larger shall be located. Wooded/brushed areas shall be limited to an outlined area only. No Individual Trees shall be located on natural vegetation areas.
- F. Provide SUE Level C per ASCE SUE Guidelines
  - i. Perform Texas One Call for underground utility locations to mark utilities within the existing right-of-way and existing easements within the take area.

- ii. Locate markings provided by One-Call and "visible" utilities within 25 feet of the proposed and or existing right-of-way.
- iii. Include locations of electrical risers as a CAD callout and layer in the survey deliverable.
- G. Provide SUE Level D per ASCE SUE Guidelines
  - i. Obtain utility maps from Comcast, CenterPoint Energy, and AT&T.
  - ii. Obtain utility maps from other utilities not limited to waterline, sewer, MUD, pipelines
- H. Locate utility markings or test holes provided by SUE providers.
- I. Locate soil borings.
- J. Provide all traffic control, labor, and equipment for the Traffic Control Plan (TCP) while performing field services in compliance with the regulations of the most recent edition of the "Texas Manual on Uniform Traffic Control Devices" and HCED Standards.
- K. Prepare utility conflict table, to include risers.
- L. Attend Field Topo Verification Meeting to visibly check that all topo items are currently located as per the field notes. Objectives to be achieved during the field topo verification meeting include impacts that could affect the alignment alternatives have on the Right of Way, existing structures such as signals, utilities, and property, environmental impacts and impacts to existing and proposed improvements.
- M. Provide/meet all railroad survey requirements needed for the railroad review of the project.

**Deliverables:** CAD file (AutoCAD .dwg format) along with ASCII point file, DTM with 1-foot contours and TIN file and XML file with break lines; 22"x34" 1" = 20' plan sheets for the topo field walk (6 copies)

#### **2S.702 Control**

- A. Horizontal Survey Control shall be referenced to the Texas State Plane Coordinate System, South Central Zone, NAD83.
- B. Vertical Control shall be based on the nearest existing Harris Reference Marker, NAVD 1988, 2001 Adj.
- C. Provide adequate number of control points that are set and recoverable.
- D. Request information from HCED for directions on tying controls to adjacent projects.

**Deliverables:** Survey Control Map and three-point sketches, signed and sealed by a Texas RPLS.

#### **S.750 Proposed ROW Maps (Cat. 1A, Cond. 2) (2,496/parcel**

Prepare parcel map exhibits and metes and bounds descriptions

**Deliverables:** Signed, sealed, and dated Parcel Map and Metes and Bounds; Signed, sealed, and dated revised Right-of-Way Map.

#### **S.752 Topographic Survey – Detention Pond (Cat. 6, Cond. 2)**

- A. Cross sections shall be obtained at 100 feet intervals along the detention pond and shall extend 25 feet beyond the existing right-of-way lines and 60 feet for Structures as applicable.
- B. Survey to include 25 feet outside of the right-of-way and up to 60 feet outside right-of-way for objects (obstructions), except those that are behind brick walls and buildings.

- C. Establish elevations and locations of physical features including buildings, structures, signs, power poles, curbs, driveways, water meters, manholes, pedestals, ponds, light poles, etc. within the proposed and existing right-of-way. Overhead crossing utilities shall be limited to the low chord elevation.
- D. Perform Texas One Call for underground utility locations to mark utilities within the existing right-of-way and existing easements within the take area.
- E. Obtain utility maps from CenterPoint Energy and AT&T.
- F. Locate markings provided by One-Call and “visible” utilities within 25 feet of the proposed and or existing right-of-way.
- G. Provide pipe flow line elevations, size, material and directions of all sanitary sewer lines, storm sewer lines and driveway culverts. Top of rim or top of grate and flow line elevations shall be recorded on all inlets, manholes and drainage structures.
- H. Locate Ornamental trees or Landscape trees with a diameter of 4” and larger shall be located. Wooded/brushed areas shall be limited to an outlined area only. No Individual Trees shall be located on natural vegetation areas.
- I. Locate soil borings.
- J. Horizontal control shall be referenced to the Texas Coordinate System, South Central Zone, North American Datum 1983 (2011 Adjustment) as processed against NGS CORS and Leica Smartnet Network.
- K. Vertical control shall be established and referenced to the North American Vertical Datum (NAVD) 1988 (2001 adjustment) as established by local Harris County Reference Marks.
- L. Establish survey baselines and temporary benchmarks.

**Deliverables:** CAD file (AutoCAD .dwg format) along with ASCII point file, DTM with 1-foot contours and TIN file and XML file with break lines; 22”x34” 1” = 20’ plan sheets for the topo field walk; signed, sealed, and dated Control Maps with three-point reference drawings.

#### **S.700C – D760C Survey Coordination**

Consultant shall coordinate with the survey provider for the completion of the Surveying tasks, which shall be included in the Study Phase Report or Design Plans.

## **TRAFFIC**

### **T.802 Signal Rebuild Design**

#### **A. Flashing Yellow Analysis Memo**

Based upon the results of the Traffic Warrant Study, prepare an analysis for installation of yellow flashing arrow for turning movements at the intersections where traffic signals are warranted. The Engineering study should be conducted to determine the appropriate left-turn signal control mode for signalized intersections. The study shall consider left-turn and right-turn volumes, crash history, 85th percentile (posted) speed, sight distance, number of left-turn lanes, number of opposing through lanes, pedestrian volumes, opposing through volumes, and intersection geometry. The results and recommendations shall be summarized in a memo to be included as an addendum to the Traffic Warrant Study.



**B. Design Plans**

- Basis of Estimate
- Existing Conditions Layout
- Proposed Traffic Signal Layout including Wiring Chart
- Proposed Traffic Signal Elevations
- Permanent Signing & Pavement Markings
- Standard Drawing Details with design tables to be complete
  - Mast Arm Assembly Details (100 mph Wind Zone)
  - Mast Arm Foundation (100 mph Wind Zone)
  - Luminaire Arm Details (100 mph Wind Zone)
  - Pedestrian Signal and Pole Installation Details
  - Traffic Control Plan sheet with table filled out for the posted speed limit.

C. SOLS from electrical provider

D. Field meeting at the 50% level. Provide Preliminary Signal Layout and signal pole calculations prior to meeting. Controller cabinet location to be finalized at 50% meeting.

***Deliverables:*** Flashing Yellow Analysis Memo, Signal Plans, SOLS

**T.805 Sight Distance Triangle Evaluation and Exhibits**

Engineer shall evaluate all street (private and public) intersections in project limits and create exhibits that depict both 15' and 25' setbacks to evaluate need and area required for Unobstructed Visibility Easements (UVEs) or for Road ROW/corner clips. At signals, sight triangles are to evaluate for right turn on red.

***Deliverables:*** Sight Distance Triangle Exhibits

**T.8XX – Temporary Signal Layouts**

Engineer shall prepare temporary signal layouts for the intersections of Will Clayton Parkway at Wilson Road and Will Clayton Parkway at South Houston Avenue. It is assumed that the TCP will consist of two phases and approximately two steps in each phase. The temporary signal layouts will be prepared such that the existing traffic signal at the intersections of Will Clayton Parkway at Wilson Road and Will Clayton Parkway at South Houston Avenue are operational during all phases of construction. Engineer will coordinate with TCP designer as necessary to develop the temporary signal layouts. These layouts will be included as part of the TCP sheets/package.

***Deliverables:*** Temporary Signal Layouts

**T.800C – 810C Traffic Coordination**

Engineer shall coordinate with the traffic provider for the completion of the Traffic tasks, which shall be included in the Study Phase Report or Design Plans.

**VARIOUS**

**3V.903 TDLR**

Texas Accessibility Group (TAG) will provide Texas accessibility review services: a single plan review upon issuance of the Construction Documents and a single site inspection upon Substantial Completion of the full build-out.

Separate plan reviews, revised plan reviews, and/or re-inspections are excluded, but can be provided for an additional fee.

**Deliverables:** TDLR Project Number and review comments. Provide inspection prior to substantial completion.

### **3V.903C Various Coordination**

Engineer shall coordinate with the TDLR provider for the completion of the tasks.

#### **V.910 Level A SUE (\$3,170.00/pothole)**

- A. Provide exhibit of proposed location(s).
- B. Contact 811 prior to performing work.
- C. Perform work according to HCED guidelines and *ASCE SUE Guidelines* - <https://www.fhwa.dot.gov/programadmin/asce.cfm>
- D. Provide all traffic control, labor, and equipment for the Traffic Control Plan (TCP) while performing field services in compliance with the regulations of the most recent edition of the "Texas Manual on Uniform Traffic Control Devices" and HCED Standards.

**Deliverables:** Signed, sealed, and dated Level A SUE Exhibit and layout; CAD Files (AutoCAD .dwg format)

### **V.910C Various Coordination**

Engineer shall coordinate with the SUE Level A provider for the completion of the tasks.

#### **V.911 Level B SUE**

- A. Provide utility designation, which is collected using geophysical equipment operated from the surface to designate the locations of underground utilities.
- B. Provide all traffic control, labor, and equipment for the Traffic Control Plan (TCP) while performing field services in compliance with the regulations of the most recent edition of the "Texas Manual on Uniform Traffic Control Devices" and HCED Standards.
- C. Perform work according to HCED guidelines and *ASCE SUE Guidelines* - <https://www.fhwa.dot.gov/programadmin/asce.cfm>
- D. Review Level 'C' and 'D' subsurface utility information, including public and private utility record drawings provided by others.
- E. Perform additional utility coordination with private and public utility companies as needed based on review of level 'C' & 'D' SUE information provided by the surveyor.
- F. Perform Level B SUE following ASCE 38-02 standards. Designate the underground utilities using electromagnetic locating devices and survey all markings that indicate the presence/approximate location of a subsurface utility. Metallic/traceable utilities (including telecommunication cables, fiber optic, gas lines, and petroleum pipelines) are designated by geophysical methods. Non-metallic, especially PVC water lines, will be shown based on the available record drawings in conjunction with the surface features (valves) found in the field. See Exhibit 1 for SUE limits. Total

length of the project is approximately 7,700 LF along Will Clayton Parkway from 2,700 ft west of South Houston Avenue to 600 ft east of Wilson Road.

- G. Prepare color coded utility plan view drawing in AutoCAD Civil3D format using the background (topographic survey) information provided by the project surveyor and the information obtained by SUE Levels D and B.

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**EXCLUSIONS:**

- Route topographic survey.
- SUE services shall be performed based on the available record information (based on coordination with public and private utility companies, and information provided by Tx811 One Call Service) and the above ground utility features – valves, markers, vaults, pedestals, risers, etc. Utilities that have no access points and are not metallic (and do not have tracer wire) might not be located. Location information of these non-locatable utilities will be coordinated with respective companies and if possible, depicted in an approximate way.
- SUE Level B markings shall be surveyed by Western Group Consultants.
- Base plan and profile drawings shall be prepared by Western Group Consultants.
- Identifying utility conflicts
- Utility coordination for conflict resolution and permits

H.

**Deliverables:** CAD Files (AutoCAD .dwg format); Signed, sealed, and dated Level B SUE layouts. The facilities should be marked out and recorded on the map and included with plan documents.

**V.911C Various Coordination**

Engineer shall coordinate with the SUE Level B provider for the completion of the tasks.



## EXHIBIT B

WILL CLAYTON PKWY SEGMENT 1

ID	Task Name	Duration	Start	Finish	Predecessors	May '23	Jun '23	Jul '23	Aug '23	Sep '23	Oct '23	Nov '23	Dec '23	Jan '24	Feb '24	Mar '24	Apr '24	May '24	Jun '24	Jul '24	Aug '24	Sep '24	Oct '24
1	STUDY PHASE (PRE-DESIGN PHASE)	211 d	Wed 5/17/23	Wed 12/13/23																			
2	Notice to Proceed	1 d	Wed 5/17/23	Wed 5/17/23																			
3	Pre-Design Kick-Off Meeting	1 d	Thu 5/18/23	Thu 5/18/23	2																		
4	PROJECT STUDY	174 d	Fri 5/19/23	Wed 11/8/23																			
5	Right of Entry Request	10 d	Fri 5/19/23	Sun 5/28/23	3																		
6	Alignment Roll Plot	14 d	Mon 5/29/23	Sun 6/11/23	5																		
7	*Alignment Options Review/Updates	21 d	Mon 6/12/23	Sun 7/2/23	6																		
8	Alignment Meeting	1 d	Mon 7/3/23	Mon 7/3/23	7																		
9	Drainage Options	30 d	Tue 8/1/23	Wed 8/30/23	42																		
10	Drainage Meeting	1 d	Thu 8/31/23	Thu 8/31/23	9																		
11	Right-of-Way Meeting	1 d	Mon 7/3/23	Mon 7/3/23	7																		
12	Utility Coordination Meeting	1 d	Tue 8/8/23	Tue 8/8/23	42FS+7 d																		
13	Pre-Client Meeting	1 d	Tue 10/31/23	Tue 10/31/23	56FS+7 d																		
14	Client Presentation Meeting	1 d	Wed 11/8/23	Wed 11/8/23	13FS+7 d																		
15	STUDY REPORT	35 d	Thu 11/9/23	Wed 12/13/23																			
16	Study Report Preparation	14 d	Thu 11/9/23	Wed 11/22/23	14																		
17	*Study Report Review/Approval	14 d	Thu 11/23/23	Wed 12/6/23	16																		
18	Study Report CC Approval	7 d	Thu 12/7/23	Wed 12/13/23	17																		
19	DRAINAGE	46 d	Fri 9/1/23	Mon 10/16/23																			
20	Drainage Report	46 d	Fri 9/1/23	Mon 10/16/23																			
21	Drainage Report Preparation	32 d	Fri 9/1/23	Mon 10/2/23	10																		
22	*Drainage Report Review/Approval	14 d	Tue 10/3/23	Mon 10/16/23	21																		
23	ENVIRONMENTAL	74 d	Mon 5/29/23	Thu 8/10/23																			
24	Phase 1 ESA	60 d	Mon 5/29/23	Thu 7/27/23	5																		
25	*Phase 1 ESA Review/Approval	14 d	Fri 7/28/23	Thu 8/10/23	24																		
26	Wetland Delineation and Approved Jurisdictional Determination	60 d	Mon 5/29/23	Thu 7/27/23	5																		
27	*W.D. & A.J.D. Review/Approval	14 d	Fri 7/28/23	Thu 8/10/23	26																		
28	Threatened and Endangered Species Habitat Survey	60 d	Mon 5/29/23	Thu 7/27/23	5																		
29	*T&E Review/Approval	14 d	Fri 7/28/23	Thu 8/10/23	28																		
30	Cultural Resources Desktop Survey	60 d	Mon 5/29/23	Thu 7/27/23	5																		
31	*C.R.D.S. Review/Approval	14 d	Fri 7/28/23	Thu 8/10/23	30																		
32	GEOTECHNICAL	62 d	Fri 5/19/23	Wed 7/19/23																			
33	Geotech Field Exploration	10 d	Fri 5/19/23	Sun 5/28/23	3																		
34	Geotech Report Preparation	45 d	Mon 5/29/23	Wed 7/12/23	33																		
35	*Roadway - Report Review/Approval	7 d	Thu 7/13/23	Wed 7/19/23	34																		
36	SURVEY	39 d	Fri 5/19/23	Mon 6/26/23																			
37	Existing Right of Way Maps	39 d	Fri 5/19/23	Mon 6/26/23																			
38	Boundary Survey (Ex ROW)	22 d	Fri 5/19/23	Fri 6/9/23	3																		
39	Ex ROW Maps Preparation	7 d	Sat 6/10/23	Fri 6/16/23	38																		
40	*Ex ROW Maps Revisions/Approval	10 d	Sat 6/17/23	Mon 6/26/23	39																		
41	TOPOGRAPHIC SURVEY	85 d	Fri 5/19/23	Fri 8/11/23																			
42	Field Survey (Topo) + Controlled Survey	74 d	Fri 5/19/23	Mon 7/31/23	3																		
43	Topographic Survey Field Walk Meeting	1 d	Tue 8/1/23	Tue 8/1/23	42																		
44	*Topographic Survey Review/Approval	10 d	Wed 8/2/23	Fri 8/11/23	43																		
45	UTILITIES	32 d	Fri 5/19/23	Mon 6/19/23																			
46	One Call	10 d	Fri 5/19/23	Sun 5/28/23	3																		
47	Level B SUE	14 d	Fri 5/19/23	Thu 6/1/23	3																		
48	Level A SUE	22 d	Mon 5/29/23	Mon 6/19/23	5																		
49	PROPOSED RIGHT OF WAY MAPS	88 d	Tue 7/4/23	Fri 9/29/23																			
50	Boundary Survey (Prop ROW)	30 d	Tue 7/4/23	Wed 8/2/23	8																		
51	Proposed ROW Maps Preparation	30 d	Thu 8/3/23	Fri 9/1/23	50																		
52	*Proposed ROW Maps Review/Approval	14 d	Sat 9/2/23	Fri 9/15/23	51																		
53	Authorization of Metes & Bounds	14 d	Sat 9/16/23	Fri 9/29/23	52																		
54	TRAFFIC	112 d	Tue 7/4/23	Mon 10/23/23																			
55	Traffic Signal Warrant Analysis	32 d	Fri 9/1/23	Mon 10/2/23																			
56	*T.S.W.A. Review/Approval	21 d	Tue 10/3/23	Mon 10/23/23	55																		
57	Sight Distance Triangle Evaluation and Exhib	14 d	Tue 7/4/23	Mon 7/17/23	8																		
58	*Sight Distance Triangle Exhibits Review/Approval	21 d	Tue 7/18/23	Mon 8/7/23	57																		
59	Pre-Design Phase Completion	1 d	Tue 8/8/23	Tue 8/8/23	58																		
60	DESIGN PHASE	365 d	Thu 12/14/23	Thu 12/12/24																			
61	DESIGN KICK-OFF MEETING	1 d	Thu 12/14/23	Thu 12/14/23	1																		
62	TRAFFIC CONTROL PLAN MEETING	1 d	Fri 12/29/23	Fri 12/29/23	61FS+14 d																		
63	PREPARATION OF CONSTRUCTION DRAWINGS & TRAFFIC CONT. PLAN	143 d	Fri 12/15/23	Sun 5/5/24	61																		
64	1ST DESIGN SUBMITTAL	1 d	Mon 5/6/24	Mon 5/6/24	63																		
65	REVIEW BY COUNTY	30 d	Tue 5/7/24	Wed 6/5/24	64																		
66	ADDRESS COUNTY COMMENTS	84 d	Thu 6/6/24	Wed 8/28/24	65																		
67	2ND DESIGN SUBMITTAL	1 d	Thu 8/29/24	Thu 8/29/24	66																		
68	REVIEW BY COUNTY	30 d	Fri 8/30/24	Sat 9/28/24	67																		
69	ADDRESS COUNTY COMMENTS	74 d	Sun 9/29/24	Wed 12/11/24	68																		
70	FINAL SUBMITTAL	1 d	Thu 12/12/24	Thu 12/12/24	69																		
71	BIDDING PHASE	137 d	Fri 12/13/24	Mon 4/28/25																			
72	ADVERTISE BY HARRIS COUNTY	60 d	Fri 12/13/24	Mon 2/10/25	60																		
73	PREPARE AGENDA FOR PRE-BID CONFERENCE	2 d	Tue 2/11/25	Wed 2/12/25	72																		
74	PRE-BID CONFERENCE	1 d	Thu 2/13/25	Thu 2/13/25	73																		
75	PREPARE MEETING MINUTES	2 d	Fri 2/14/25	Sat 2/15/25	74																		
76	PREPARATION OF ADDENDUM	7 d	Sun 2/16/25	Sat 2/22/25	75																		
77	BID OPENING	1 d	Sun 2/23/25	Sun 2/23/25	76																		
78	COMPLETE BID TABULATION, EVALUATE & MAKE RECOMMENDATIONS	4 d	Mon 2/24/25	Thu 2/27/25	77																		
79	OBTAIN COURT APPROVAL	60 d	Fri 2/28/25	Mon 4/28/25	78																		

Task

Split

Milestone

Summary

Project Summary

External Tasks

External Milestone

Inactive Task

Inactive Milestone

Inactive Summary

Manual Task

Duration-only

Manual Summary Rollup

Manual Summary

Start-only

Finish-only

Deadline

Progress

Manual Progress

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EXHIBIT C - Compensation for Professional Services  
Harris County Engineering Department  
Will Clayton Pkwy Segment 1 - from 2,700-ft West of South Houston Ave to 600-ft East of Wilson Rd  
Precinct 3, UPIN 23103MF2WB01  
Construction Cost Estimate: \$11,500,000.00

<b>2.P</b>	<b>Pre-Design Phase</b>		\$ 182,520.00
<b>3.P</b>	<b>Design Phase</b>		\$ 551,640.00
<b>4.P</b>	<b>Bid Phase</b>		\$ 11,610.00
	<b>TAS</b>		
		Plan Review	\$ 600.00
		Plan Review Coordination	\$ 60.00
		Inspection	\$ 637.50
		Inspection Coordination	\$ 63.75
			\$ 1,361.25
	<b>Drainage</b>		
<b>2D.400</b>		Drainage Report	\$ 93,690.00
<b>2D.400C</b>		Drainage Coordination	\$ 9,369.00
			\$ 103,059.00
	<b>Environmental</b>		
<b>2E.500</b>		Phase I Environmental Site Assessment (ESA) per ASTM Standards	\$ 6,990.00
<b>2E.500C</b>		Phase I Environmental Site Assessment (ESA) Coordination	\$ 699.00
<b>2E.501</b>		Wetland Delineation and Approved Jurisdictional Determination	\$ 10,250.00
<b>2E.501C</b>		Wetland Delineation and Approved Jurisdictional Determination Coordination	\$ 1,025.00
<b>2E.502</b>		Threatened & Endangered Species Habitat Survey	\$ 5,855.00
<b>2E.502C</b>		Threatened & Endangered Species Habitat Survey Coordination	\$ 585.50
<b>2E.503</b>		Cultural Resources Desktop Survey	\$ 4,950.00
<b>2E.503C</b>		Cultural Resources Desktop Survey Coordination	\$ 495.00
			\$ 30,849.50
	<b>Geotechnical</b>		
<b>2G.600</b>		Geotechnical Report	\$ 46,880.00
<b>2G.600C</b>		Geotechnical Coordination	\$ 4,688.00
			\$ 51,568.00
	<b>Survey</b>		
<b>2S.700</b>		Existing Right-of-Way Maps (Cat. 1B, Cond. 3)	\$ 35,792.00
<b>2S.700C</b>		Survey Coordination	\$ 3,579.20
<b>2S.701</b>		Topographic Survey (Cat. 6, Cond. 1)	\$ 89,440.00
<b>2S.701C</b>		Survey Coordination	\$ 8,944.00
<b>2S.702</b>		Survey Control	\$ 15,116.00
<b>2S.702C</b>		Survey Control Coordination	\$ 1,511.60
			\$ 154,382.80
	<b>Traffic</b>		
<b>T.802</b>		Signal Rebuild Design (Will Clayton Parkway at Wilson Road)	\$ 50,710.00
<b>T.802C</b>		Traffic Coordination	\$ 5,071.00
<b>T.802</b>		Signal Rebuild Design (Will Clayton Parkway at South Houston Avenue)	\$ 50,710.00
<b>T.802C</b>		Traffic Coordination	\$ 5,071.00
<b>T.805</b>		Sight Distance Evaluation & Exhibits (Will Clayton Parkway at Wilson Road)	\$ 4,665.00
<b>T.805C</b>		Traffic Coordination	\$ 466.50
<b>T.805</b>		Sight Distance Evaluation & Exhibits (Will Clayton Parkway at South Houston Avenue)	\$ 4,665.00
<b>T.805C</b>		Traffic Coordination	\$ 466.50
<b>T.8XX</b>		Temporary Signal Layouts	\$ 31,260.00
<b>T.8XXC</b>		Traffic Coordination	\$ 3,126.00
			\$ 156,211.00

EXHIBIT C - Compensation for Professional Services  
Harris County Engineering Department  
Will Clayton Pkwy Segment 1 - from 2,700-ft West of South Houston Ave to 600-ft East of Wilson Rd  
Precinct 3, UPIN 23103MF2WB01  
Construction Cost Estimate: \$11,500,000.00

**SUE**

Level A SUE (\$3,170/pothole)	\$ 31,280.00
Level A SUE Coordination	\$ 3,128.00
Level B SUE	\$ 14,120.00
Level B SUE Coordination	\$ 1,412.00

\$ 49,940.00

**Subtotal Basic Services \$ 1,293,141.55**

**Optional Additional Services including, but not limited to:**

	Change Drawings	\$ 10,000.00
	Detention Pond Design	\$ 11,400.00
	Detention Pond Design Coordination	\$ 1,140.00
<b>G.650</b>	Detention Pond Geotechnical Report	\$ 16,395.00
<b>G.650C</b>	Detention Pond Geotechnical Report Coordination	\$ 1,639.50
<b>S.750</b>	Proposed ROW Maps (Cat. 1A, Cond. II.) (\$2496/parcel)	\$ 19,968.00
<b>S.750C</b>	Proposed ROW Maps Coordination	\$ 1,996.80
<b>E.550</b>	Phase II Environmental Site Assessment	\$ 20,150.00
<b>E.550C</b>	Phase II Environmental Site Assessment Coordination	\$ 2,015.00
<b>E.551C</b>	Archeology Pedestrian Survey	\$ 20,450.00
<b>E.551C</b>	Archeology Pedestrian Survey Coordination	\$ 2,045.00
<b>Subtotal Optional Additional Services</b>		<b>\$ 107,199.30</b>

**TOTAL SERVICES (BASIC & OPTIONAL ADDITIONAL) \$ 1,400,340.85**



## **EXHIBIT D: ENGINEER TEAM ACKNOWLEDGMENTS**

1. The following is the group of providers selected to perform the obligations described in the Agreement.
2. If any firm listed below actively holds certification in any of the following categories, that information shall be identified in the table under "Special Designation" Box:
  - ☐ MWBE (Minority and Women Owned Business Enterprise)
  - ☐ HUB (Historically Underutilized Business)
  - ☐ DBE (Disadvantaged Business Enterprise)
3. Also, all contract values must be identified in the table under "Contract Value".

Responsibility	Firm	Special Designation	Contract Value (M/WBE)	Contract Value (Non M/WBE)
<b>Prime</b>	Lockwood, Andrews & Newnam, Inc.			\$814,367.35
<b>Surveying</b>	Western Group Consulting	<b>DBE, MBE</b>	\$160,316.00	
<b>Environmental</b>	Hollaway Environmental	<b>MWBE, DBE, HUB</b>	\$68,645.00	
<b>Traffic Engineering</b>	Traf-IQ	<b>MBE, DBE, HUB</b>	\$142,010.00	
<b>Geotechnical</b>	Associated Testing Laboratories, Inc.	<b>MBE, DBE, HUB</b>	\$63,275.00	
<b>Drainage</b>	Isani Consultants	<b>MBE, DBE, HUB, SBE</b>	\$105,090.00	
<b>SUE (Level A&amp;B)</b>	Amani Engineering	<b>MBE, HUB</b>	\$45,400.00	
<b>TDLR</b>	Texas Accessibility Check			\$1,237.50
<b>Total</b>			<b>\$584,736.00</b>	<b>\$815,604.85</b>

**Total Contract Value in dollars:**

**\$1,400,340.85**

**Percent of contract in dollars allocated to (MWBE, HUB, or DBE) Consultants:**

**41.76%**

☐ The Engineer understands that it is solely responsible and liable to the County for the completion of all obligations under the Agreement.

☐ A proposed decrease in the contract value for any MWBE, HUB, or DBE listed on this Exhibit must be approved by the Department of Economic Equity and Opportunity (DEEO).

## ORDER OF COMMISSIONERS COURT

The Commissioners Court of Harris County, Texas, met in regular session at its regular term at the Harris County Administration Building in the City of Houston, Texas, on \_\_\_\_\_, with all members present except \_\_\_\_\_.

A quorum was present. Among other business, the following was transacted:

### ORDER AUTHORIZING AGREEMENT BETWEEN HARRIS COUNTY AND LOCKWOOD, ANDREWS & NEWNAM, INC. FOR PROFESSIONAL ENGINEERING SERVICES

Commissioner \_\_\_\_\_ introduced an order and moved that Commissioners Court adopt the order. Commissioner \_\_\_\_\_ seconded the motion for adoption of the order. The motion, carrying with it the adoption of the order, prevailed by the following vote:

	Yes	No	Abstain
Judge Lina Hidalgo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comm. Rodney Ellis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comm. Adrian Garcia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comm. Tom S. Ramsey, P.E.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comm. Lesley Briones	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The meeting chair announced that the motion had duly and lawfully carried, and this order was duly and lawfully adopted. The order adopted follows:

#### **IT IS ORDERED** that:

1. The Harris County Judge is authorized to execute the attached Agreement between **Harris County** and **Lockwood, Andrews & Newnam, Inc.** for Professional Engineering Services. The attached Agreement, including any addendums, may be executed with an electronic or facsimile signature. The Harris County Engineering Department is authorized to request the Harris County Purchasing Agent to expend up to **\$1,400,340.85** in consideration of the work, products, services, licenses and/or deliverables provided under this Agreement.
2. The Harris County Engineering Department and all other Harris County officials and employees are authorized to do any and all things necessary or convenient to accomplish the purpose of this Order.