AUTHORIZATION FOR PROFESSIONAL SERVICES
April 4, 2022

PROJECT NAME: Coppell Royal Lane Roadway Reconstruction

CLIENT:
City of Coppell
Attn: Ms. Jamie Brierton
265 E. Parkway Blvd.
Coppell, TX 75019
MGarza@coppelltx.gov
P 972.304.3681

CONSULTANT:
Matt Atkins, PE
Teague Nall and Perkins, Inc.
825 Watters Creek Boulevard, Suite M300
Allen, Texas 75013
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The City of Coppell (the "CLIENT") hereby requests and authorizes Teague Nall & Perkins, Inc., (TNP, the "CONSULTANT") to perform the following services:

ARTICLE I

PROJECT DESCRIPTION: The CONSULTANT shall provide roadway reconstruction engineering design services for approximately 10,400 linear feet of S Royal Lane between the Highway 635 Service Road and W Sandy Lake Road in Coppell, Texas. The project also includes the design of a new traffic signal at the intersection of S Royal Lane and Northpoint Drive, structural analysis of the Cottonwood Creek bridge structure and bridge class culvert at the intersection of S Royal Lane and W Bethel Road, and subsurface utility engineering services within the S Royal Lane right-of-way. An exhibit showing the project location and limits is provided as Attachment 'E'.

SCOPE: TNP appreciates this opportunity to be of service. A detailed description of the above scope is presented in Attachment 'A' and fees for these services are presented herein.

ARTICLE II

COMPENSATION to be on a basis of the following:

Basic Services

A.	Boundary Verification and Topographic Survey (fixed fee):	$115,500.00
B.	60% Preliminary Engineering Design (fixed fee):	$455,000.00
C.	90% Pre-Final Engineering Design (fixed fee):	$208,000.00
D.	100% Final Engineering Design (fixed fee):	$ 80,000.00
E.	Bidding Services (fixed fee):	$ 12,000.00
F.	Construction Administration (fixed fee):	$ 23,000.00
G.	Reimbursable Expenses (fixed fee):	$ 40,900.00
	Total Basic Services:	**$934,400.00**

Special Services

A.	Water Design (fixed fee):	$ 35,000.00
B.	Sanitary Sewer Design (fixed fee):	$ 30,000.00
C.	Storm Sewer Design (fixed fee):	$ 90,000.00
D.	Traffic Signal Design (fixed fee):	$ 33,400.00
E.	TAS Plan Review and Inspection (fixed fee):	$ 2,000.00
F.	Structural Engineering Analysis Services (fixed fee):	$ 8,700.00
G.	Landscape Architecture Design (fixed fee):	$125,000.00
H.	Geotechnical Engineering Services (fixed fee):	$ 16,000.00
I.	Quality Level B/C/D SUE (fixed fee):	$101,500.00
J.	Quality Level A SUE Test Holes (reimbursable):	$ 27,000.00
	Total Special Services:	**$468,600.00**
	Total:	**$1,403,000.00**

1. **Direct Cost Reimbursables:** A fee equal to 3% of labor billings shall be included on each monthly invoice for prints, plots, photocopies, plans or documents on CD, DVD or memory devices, and mileage. No individual or separate accounting of these items will be performed by TNP. Item "G" under Basic Services shows the total amount that will be billed for reimbursable expenses for Basic and Special Services. Any permit fees, filing fees, or other fees related to the project and paid on behalf of the client by TNP to other entities shall be invoiced at 1.10 times actual cost.

2. **Work Outsourced to Others:** For work done by others, shall be billed at the actual cost to the CONSULTANT of such services plus 10%.

3. **Additional Services:** Services requested by the CLIENT and provided the CONSULTANT which are not specifically included in the scope of services outlined above and defined in Attachment 'A' shall be reimbursed on an hourly basis at the CONSULTANT's standard hourly rates.

4. **Payment Terms:** CLIENT shall be billed monthly for services rendered and pay promptly upon receipt of invoice. Delays of transmitting payments to CONSULTANT more than 30 days from invoice date may result in cessation of services until payment is received.

ARTICLE III

SCHEDULE: The services under this agreement will commence immediately upon scheduling with City officials.

ARTICLE IV

CONTRACT PROVISIONS: Contract provisions are attached hereto and made a part hereof.

Please execute and return a signed copy for our files. Receipt of an executed copy of this contract will serve as notice to proceed. No work shall commence on the project until CONSULTANT receives an executed copy of this contract. By signing below, the signer warrants that he or she is authorized to execute binding contracts for the CLIENT.

Approved by CLIENT:	Accepted by CONSULTANT:
City of Coppell, Texas	**Teague Nall and Perkins Inc.**
By: _____	By: _____
_____	Michael DeMotte, P.E.
Title:	Title: Director of Engineering Services
_____	Allen Office
Date: _____	Date: April 4, 2022*

* This service agreement is void if not executed and returned to the CONSULTANT within 30 days of this date.

ATTACHMENT A

BASIC SERVICES:

A. BOUNDARY VERIFICATION AND TOPOGRAPHIC SURVEY

1. Establish horizontal control points as needed throughout the project. The basis of bearings will be the Texas Coordinate System of 1983 (North Central Zone; NAD83 (2011) Epoch 2010).

2. Title research and deeds obtained of the subject property and the adjoining property owners.

3. A thorough investigation of boundary markers/corners will be made on the subject property and the adjoining property.

4. A boundary analysis of the property will be made by a Registered Professional Land Surveyor to establish the existing right-of-way.

5. Existing easements, including pedestrian and utility easements, within the project area and directly adjacent to the project limits shall be identified and incorporated into the topo.

6. A Property base will be prepared.

7. Establish vertical benchmarks as needed throughout the project.

8. The visible improvements such as curbs, walks, fences, buildings, signs, etc. will be located and shown on the survey.

9. Visible utilities such as power poles, manholes, valves, handholes, and markers will be located.

10. The property lines identified by the Boundary Verification will be incorporated into the topo.

11. Invert information will be collected for Storm Utilities and Sanitary Sewer Utilities if present on site.

12. Locate trees 6" and larger per City of Coppell's Tree Ordinance.

13. Data will be delivered in Texas Coordinate System of 1983 North Central Zone (4202) scaled to Surface with a combined scale factor supplied. Vertical control will be based on City survey monumentation.

14. Deliverable: Existing Property Base and Topographic drawing in digital format showing 1foot contour intervals and the items listed above for design purposes.

B. 60% PRELIMINARY ENGINEERING DESIGN

1. Project Meetings and Coordination

   i. The CONSULTANT will conduct / attend one (1) project kickoff meeting with the CLIENT to clarify responsibilities, coordinate the project schedule, and identify information needed from the CLIENT. The purpose of this meeting will be to identify and discuss key design elements and the CLIENT's critical success factors.
   ii. At the beginning of the project, the CONSULTANT will establish a work plan and schedule for the various tasks (survey, design, etc.). The CONSULTANT will be responsible for the coordination, supervision, review, and implementation of work performed.
   iii. CONSULTANT will provide periodic Project Status Reports to the CLIENT with updates on the design status and any schedule updates.
   iv. CONSULTANT will conduct a Preliminary QC Workshop with CLIENT staff to review key design concepts (proposed roadway grades, proposed cross-sections, drainage approach, constructability, utility issues,

etc.).

v. CONSULTANT will perform internal QA/QC reviews of plans, cost estimate, and bid book as needed.
vi. CONSULTANT will coordinate with franchise utilities within the project area early in the design process and will provide them with 60% construction plans. CONSULTANT will coordinate with franchise utilities regarding any necessary relocations.
vii. CONSULTANT will attend up to two (2) coordination meetings with DART to discuss DART's upcoming plans to add a track crossing S Royal Lane. Scope does not include additional meetings with DART, and it is assumed that no permitting or permissions will be required by DART for the proposed work. CONSULTANT can provide services to support DART permitting as an Additional Service for an additional fee, if requested by CLIENT.

2. The CONSULTANT will collect, compile, and evaluate available record drawings and other pertinent data from the CLIENT and other entities that provide existing information related to the design of the project.

3. Develop a Design Criteria Matrix of all applicable design components and submit with each construction plans submittal for CLIENT review and confirmation.

4. Develop complete and accurate base map in AutoCAD Civil 3D showing all existing Right-of-Way (ROW), easements, and utilities (based on available record information).

5. Develop paving/roadway design, including the following:

   i. Confirm typical section, City specifications, and City construction details
   ii. Evaluate sidewalks/curb ramps for ADA Accessibility issues
   iii. Evaluate visibility at intersections
   iv. Develop horizontal alignment and vertical profile of roadway
   v. Cut cross sections along the road centerline to evaluate grading at minimum 50' intervals and at additional critical locations (such as intersecting cross-street and driveway locations)
   vi. Specify streetlight and conduit locations in accordance with City ordinances to be included on construction plans
   vii. Review and finalize proposed vertical profile, checking for critical points
   viii. Review and finalize paving cross sections

6. Develop drainage analysis and inlet design, including the following:

   i. Review and confirm City standard specifications and details
   ii. Incorporate LIDAR contours into base map as necessary to delineate offsite drainage basins draining towards the project area
   iii. Delineate drainage basins/sub-basins
   iv. Analyze street and inlet capacities
   v. Prepare drainage area map plan sheet
   vi. Prepare inlet calculations in spreadsheet format

7. Prepare 60% construction plans including the following sheets:

   i. Cover Sheet: This sheet will include basic construction plan information including contact information, title, sheet index, vicinity map, and various other items included within TNP's template. This project assumes TNP's Cover Sheet and Title block will be used for the construction plans.

   ii. General Construction Notes Sheet(s): This sheet will include the CONSULTANT's best practices general notes that are applicable to this particular project. Additional sheets will be included for the standard notes required by the City.

iii. Horizontal and Vertical Control Sheet(s): This sheet will contain original topographic and boundary survey information and will be shown void of all proposed improvements. Horizontal and vertical control points and information will be provided for reference purposes only.

iv. Demolition Plan Sheet(s): This plan will be prepared showing the extents of demolition and abandonment that will be required for the proposed improvements. The necessary concrete pavement, trees, pavement markings, water lines, vaults, etc. that are required to be relocated, demolished, or abandoned will be included if needed.

v. Roadway Paving Plan & Profile Sheet(s): This sheet will be prepared in accordance with the CONSULTANT's best practices approach and the CLIENT's requirements. This plan sheet will generally include existing ground centerline, existing curb on both sides, proposed grade of the roadway and/or drives, roadway slopes, vertical and horizontal curve geometry, proposed grade elevations, grade breaks, street light locations, and other pertinent data as warranted by the specific project.

The CONSULTANT understands that the proposed layout will match the existing road widths and number of lanes and proposed sidewalk will be added to one side of the road only. Design will include driveway connections up to the curb returns or to match existing grades.

vi. Cross Section Sheet(s): This sheet will show cross sections along the road centerline at a minimum of 50' intervals. Cross sections will also be added at additional critical locations such as intersecting cross-street and driveway locations.

vii. Drainage Area Map Sheet(s): This sheet will contain original topographic and boundary survey information as well as supplemental information in the form of GIS, LIDAR, or alternative information concerning areas that are external to the site. The map will be produced analyzing the existing conditions of the site. This will include the necessary area calculations, analysis of C-Factors, discharge points, and flow rates of storm water per the governing authority requirements.

viii. Inlet Calculations and Design Sheet(s): This sheet will contain the locations, calculations, and sizes of proposed inlets. It is assumed that proposed inlets will be installed to replace the existing inlets, and additional inlet locations are not included in this scope.

ix. Traffic Control and Construction Sequence Plan Sheet(s): These sheets will illustrate the construction sequencing required to maintain access while constructing the proposed improvements. Phases of construction will be developed along with suggested work zone traffic control devices based upon the Manual on Uniform Traffic Control Devices (MUTCD).

x. Construction Detail Sheet(s): These sheets will be prepared to include project specific construction details utilizing the City of Coppell Standard Construction Details. These details will include elements of the project for paving, curbs, and erosion control.

xi. Landscape and Irrigation Plan Sheet(s): See Special Services "G" for details.

xii. Traffic Signal Plan Sheet(s): See Special Services "D" for details.

8. Utility design is not included as a Basic Service under this scope. If it is determined that design of storm sewer, water, or sanitary sewer will be added to this project, the corresponding Special Service will be added to the project scope. Additional plan sheets for added utility design(s) will be incorporated into 60% construction plans as needed.

9. CONSULTANT will provide CLIENT with preliminary 60% construction plans in PDF format and will provide hard copies at CLIENT's request.

10. Prepare an estimate of construction quantities and develop preliminary statement of probable construction

cost.

11. Prepare preliminary draft of bid documents using City provided templates.

    i. For front-end specifications including the Construction Contract, Bid Form, Bonds, and General and Supplementary Conditions of the Construction Contract, the CONSULTANT shall utilize forms provided by the CLIENT.
    ii. The October 2004 version of the North Central Texas Council of Government (NCTCOG) Standard Specifications for Public Works Construction will be used for technical specifications and will be incorporated by reference.
    iii. Special applicable technical specifications will be prepared (if necessary) for any items that deviate from the NCTCOG specifications.
    iv. Contents of bid documents will generally include the following:
        1. Cover
        2. Table of Contents
        3. Invitation to Bidders
        4. Instructions to Bidders
        5. Bid Form
        6. Bid Bond
        7. Construction Contract
        8. General Conditions
        9. Supplementary Conditions
        10. Technical Specifications (NCTCOG to be incorporated by reference)
        11. Bid Item Descriptions

C. 90% PRE-FINAL ENGINEERING DESIGN

1. Provide project management activities as necessary to properly manage the project, including periodic internal project progress meetings and providing periodic Project Status Reports (including schedule updates) to CLIENT.

2. CONSULTANT will continue coordination with franchise utilities regarding any necessary relocations.

3. Revise construction plans to incorporate CLIENT feedback from Preliminary QC Workshop and 60% City review comments.

4. Add the following sheets to construction plans:

    i. Erosion Control Plan Sheet(s): This sheet will be prepared in accordance with City guidelines. A formal SWPPP is not included in this scope as it is assumed that the contractor will supply this document. We can provide this document as an additional service if requested. This plan will include the required information for managing erosive forces during construction utilizing silt fence, stabilized construction entrance(s), check dams, and other control structures. This effort assumes a catch basin will not be required for this project. Should this effort be required, it can be provided at an additional fee.

    ii. Striping & Signage Plan Sheet(s): This sheet will contain the layout of the roadway in relation to the necessary striping and signage for traffic control. The design will be based on CLIENT criteria as well as the Manual on Uniform Traffic Control Devices (MUTCD).

5. Utility design is not included as a Basic Service under this scope. If it is determined that design of storm sewer, water, or sanitary sewer will be added to this project, the corresponding Special Service will be added to the project scope. Additional plan sheets for added utility design(s) will be incorporated into 90% construction plans as needed.

6. CONSULTANT will provide CLIENT with pre-final construction plans in PDF format and will provide hard

copies at CLIENT's request.

7. Update estimate of construction quantities and develop pre-final statement of probable construction cost.

8. Update draft of bid documents as needed.

9. After the City completes its review of the pre-final plans, the CONSULTANT shall schedule a meeting to discuss the City's review comments.

D. 100% FINAL ENGINEERING DESIGN

1. Provide project management activities as necessary to properly manage the project, including periodic internal project progress meetings and providing periodic Project Status Reports (including schedule updates) to CLIENT.

2. CONSULTANT will continue coordination with franchise utilities regarding any necessary relocations and will provide them with 100% construction plans.

3. Revise construction plans to incorporate 90% City review comments.

4. Utility design is not included as a Basic Service under this scope. If it is determined that design of storm sewer, water, or sanitary sewer will be added to this project, the corresponding Special Service will be added to the project scope. Additional plan sheets for added utility design(s) will be incorporated into 100% construction plans as needed.

5. CONSULTANT will provide CLIENT with final construction plans in PDF and CAD formats and will provide hard copies at CLIENT's request.

6. Update estimate of construction quantities and develop final statement of probable construction cost.

    i. Note that this estimate is made on the basis of the CONSULTANT's experience and judgement as a design professional. It must be recognized that any evaluation of work to be performed to construct this project must be by necessity and speculative in nature until completion of its actual detailed design. In addition, the CONSULTANT has no control over the cost of labor, materials or services to be furnished by others or over market conditions. Accordingly, the CONSULTANT cannot guarantee that actual costs will not vary from the opinions expressed.

7. Prepare final bid documents to be used for bidding. Documents related to the front-end specifications and technical specifications shall be reviewed and approved by the CLIENT prior to distribution to potential contractors, as provided herein.

E. BIDDING SERVICES

1. Assist the City staff in advertising for bids.

2. CONSULTANT will post the plans and bid documents to Civcast (or similar online plan room) for access by potential bidders, vendors, and suppliers. It is anticipated that Civcast will be the primary means of prospective bidders accessing the plans and specifications.

3. Prepare up to fifteen (15) sets of plans and specifications for distribution to prospective bidders and City staff. A non-refundable deposit will be required of prospective bidders for the plans and specifications. Production of additional sets of bidding documents shall be provided as an Additional Service and billed to the City at TNP's standard reproduction rates.

4. Prepare for and conduct Pre-Bid Meeting.

5. Assist City by responding to Contractor questions during bidding.

6. Issue addenda to bid documents as necessary.

7. Attend and assist City staff at the Bid Opening.

8. Provide bid tabulation (Excel) to the City within four (4) working days of the bid opening.

9. Evaluate the low and second low bidders. The review and evaluation will include such factors as work previously completed, equipment that is available for the work, publicly available financial resources, technical experience, and responses from references. Prepare a letter of recommendation to the City for awarding a contract to the lowest responsible bidder within four (4) working days of the bid opening.

F. CONSTRUCTION ADMINISTRATION SERVICES

1. The CONSULTANT will assist City staff in a Pre-Construction Conference prior to commencement of work at the site.

2. The CONSULTANT will prepare exhibits and presentation for one (1) public meeting to present the project and proposed improvements.

3. The CONSULTANT will provide limited on-site construction observation services during construction phase, but the CONSULTANT will visit the site as directed by the City. Regular site visits shall be provided during active construction periods in order to observe the progress of the work. Such visits and observations are not intended to be exhaustive or to extend to every aspect of the Contractor's work in progress. Observations are to be limited to confirming general conformance with the plans and specifications. Detailed daily construction inspection will be performed by the City.

4. The CONSULTANT will recommend to the CLIENT that the Contractor's work be disapproved and rejected while it is in progress if, on the basis of observations noted above, the CONSULTANT believes that such work will not produce a completed project that conforms generally to the Contract Documents.

5. The CONSULTANT will respond to reasonable Contractor requests for information and issue necessary clarifications and interpretations of the Contract Documents. Any orders authorizing variations from the Contract Documents will be made by the CLIENT.

6. The CONSULTANT may recommend Change Orders to the CLIENT and will review and make recommendations related to Change Orders submitted or proposed by the Contractor.

7. The CONSULTANT will review and approve/comment on all submittals submitted by the Contractor. The review will only be for general conformance with the information given in the Contract Documents.

8. The CONSULTANT will evaluate and determine acceptability of substitute or "or-equal" materials and equipment proposed by Contractor in accordance with the Contract Documents.

9. The CONSULTANT shall review the Contractor's applications for payment and accompanying supporting documentation. The CONSULTANT will issue a recommendation for payment in writing to the CLIENT.

10. The CONSULTANT will, upon notice and invitation from the CLIENT, perform a site visit to determine if the work is substantially complete. Work will be considered substantially complete following satisfactory completion of all items in the Contract Documents apart from items identified on a final punch list.

11. The CONSULTANT will participate in a final site visit with the CLIENT and Contractor to determine if the completed work is generally in accordance with the Contract Documents and punch list so that the

CONSULTANT can recommend, in writing, final payment to the Contractor.

12. Upon receipt of comments from the City's Inspector and the Contractor, the CONSULTANT will prepare the Record Drawings. Record Drawings will be revisions to the construction drawings that reflect changes during the construction process reported to the CONSULTANT. One (1) set of Record Drawings will be delivered to the CLIENT. The CONSULTANT will also provide an electronic file of Record Drawings as PDF's and an AutoCAD base file of the Project.

SPECIAL SERVICES:

A. WATER DESIGN

1. If the CLIENT decides to include water utility design, this Special Service will be provided. The decision to add water utility design to the project scope must be conveyed to the CONSULTANT by the CLIENT prior to the 60% City submittal to avoid additional fees for redesign effort. A maximum of 5,200 linear feet of water utility design improvements and/or replacements is included in this scope. Design for water utilities beyond this maximum length will require an additional fee.

2. Develop potable water system design, including the following:

   i. Review and confirm City standard specifications and details
   ii. Establish/Revise horizontal alignment as necessary
   iii. Create alignment in AutoCAD Civil3D
   iv. Create water line profile(s)
   v. Evaluate potential conflicts
   vi. Locate, verify, and address all water services and water meter locations
   vii. Check valve spacing and address as necessary
   viii. Check hydrant spacing and address as necessary

3. The following sheets will be added to construction plans for 60%, 90%, and 100% design levels:

   i. Water Plan Sheet(s): This sheet will be prepared showing water utility services only. Design will be based on the City criteria or standard practice as well as applicable governing agencies (TCEQ). We have assumed that adequate water service to the project area is available.

   ii. Water Profile Sheet(s): This sheet will be prepared showing water profiles for all lines 12-Inch and greater. This sheet will generally include the existing ground, proposed grade, pipe size and slope, vertical bend information, valve callouts and locations, utility crossing data, and other pertinent data should it be warranted to the specific project.

   Please note, lines smaller than 12-Inch will not be profiled, including fire hydrant leads and service connections, unless specifically requested by the CLIENT. Additional fees may apply for the production effort associated with this work.

B. SANITARY SEWER DESIGN

1. If the CLIENT decides to include sanitary sewer utility design, this Special Service will be provided. The decision to add sanitary sewer utility design to the project scope must be conveyed to the CONSULTANT by the CLIENT prior to the 60% City submittal to avoid additional fees for redesign effort. A maximum of 5,200 linear feet of sanitary sewer utility design improvements and/or replacements is included in this scope. Design for sanitary sewer utilities beyond this maximum length will require an additional fee.

2. Develop sanitary sewer system design, including the following:

i. Review and confirm City standard specifications and details
ii. Consider replacement options including pipe bursting
iii. Establish location of new alignment
iv. Verify and confirm pipe size with City
v. Create alignment in AutoCAD Civil3D and vertical profile. Establish vertical elevations and address any potential conflicts with the storm sewer system, potable water, and franchise utilities
vi. Locate and verify manhole spacing
vii. Locate, verify, and address all services using record drawings

3. The following sheets will be added to construction plans for 60%, 90%, and 100% design levels:

   i. Sanitary Sewer Plan Sheet(s): This sheet will be prepared showing sanitary sewer utility services only. Design will be based on the City criteria or standard practice as well as applicable governing agencies (TCEQ).

   ii. Sanitary Sewer Profile Sheet(s): This sheet will be prepared showing on-site sanitary sewer profiles for all lines 6-Inch and greater. This sheet will generally include the existing ground, proposed grade, pipe size and slope, structure callouts and locations, utility crossing data, and other pertinent data should it be warranted to the specific project.

   Please note, lines smaller than 6-Inch will not be profiled, including service connections, unless specifically requested by the CLIENT. Additional fees may apply for the production effort associated with this work. Flow calculations and downstream capacity analysis are additional services.

C. STORM SEWER DESIGN

1. If the CLIENT decides to include storm sewer utility design, this Special Service will be provided. The decision to add storm sewer utility design to the project scope must be conveyed to the CONSULTANT by the CLIENT prior to the 60% City submittal to avoid additional fees for redesign effort. A maximum of 5,200 linear feet of storm sewer utility design improvements and/or replacements is included in this scope. Design for storm sewer utilities beyond this maximum length will require an additional fee.

2. Develop drainage analysis and storm sewer design, including the following:

   i. Determine starting HGL based on record documents or to match current City Criteria (assumed HGL)
   ii. Size storm sewer system to comply with the City drainage criteria.
   iii. Analyze storm sewer pipe sizes
   iv. Prepare HGL calculations in spreadsheet format
   v. Prepare calculation sheets
   vi. Prepare plan and profile sheets for storm sewer trunk lines, culverts, and lateral lines

3. The following sheets will be added to construction plans for 60%, 90%, and 100% design levels:

   i. Storm Drainage Plan Sheet(s): This sheet will be prepared showing drainage structures and conduit for conveyance of storm water to the proposed outfall and/or downstream system. This plan will include the required information from the reviewing authority including HGL computations utilizing StormCAD or other acceptable means of computation.

   ii. Storm Drainage Profile Sheet(s): This sheet will be prepared showing the profile views of each applicable storm drain conduit include truck lines and culverts. This sheet will generally include the existing ground, proposed grade, pipe size and slope, hydraulic data, connection callouts, structure callouts, and the 100-Year HGL line. Additional pertinent data will be included should it be warranted to the specific project.

   Please note, private storm drain laterals will not be profiled unless requested by the CLIENT. Additional fees may apply for the production effort associated with this work.

D. TRAFFIC SIGNAL DESIGN

1. Design Management: CONSULTANT will gather data on the proposed/existing roadway sections at the intersection (electronic CAD format). This data will include existing survey files, existing or proposed roadway files including paving, cross sections, plans and profiles and bridge layouts, and existing and proposed right-of-way and utility files. CONSULTANT will also gather information from the City on signal design format and preferences. Based on the information provided, CONSULTANT will prepare signalization plans.

2. 60% Preliminary Traffic Signal Plans: CONSULTANT shall prepare and incorporate traffic signal plans into 60% Preliminary Design Plans submittal to the City. Preliminary Design Plans must be approved by the City prior to commencing with the preparation of Pre-Final Design Plans. Preliminary Design Plans will be prepared by following the steps described below:

   i. Develop plan sheets for permanent traffic signal.
   ii. The 60% traffic signal design plans will detail location of poles and foundations, signal cabinet, power source, signal heads, vehicle detectors, and emergency vehicle pre-emption.
   iii. Prepare the following plan sheets for the preliminary (60%) design plans:
      1. General notes
      2. Summary of estimated quantities
      3. Existing conditions and removals plan sheet
      4. Traffic signal design plan sheet
      5. Signal design summary tables and charts
      6. City and/or TxDOT standard detail sheets

3. 90% Pre-Final Traffic Signal Plans: CONSULTANT shall prepare and incorporate traffic signal plans into 90% Pre-Final Design Plans submittal to the City. At the time of submittal of the Pre-Final Design Plans, any supporting studies and/or calculations shall be submitted for review by the City. Pre-Final Design Plans must be approved by the City prior to the CONSULTANT commencing with the preparation of Final Design Plans. Pre-Final Design Plans will be prepared by following the steps described below:

   i. Attend one virtual design review meeting with City/TxDOT staff.
   ii. Receive and incorporate review comments from the City/TxDOT on the preliminary 60% plans.
   iii. Prepare the following plan sheets for the pre-final (90%) design plans:
      1. General notes
      2. Summary of estimated quantities
      3. Existing conditions and removals plan sheet
      4. Traffic signal design plan sheet
      5. Signal design summary tables and charts
      6. City and/or TxDOT standard detail sheets
   iv. Assemble standard construction contract documents and modify special technical specifications, if needed, for the project (if any).
   v. Prepare an estimate of construction quantities and develop the pre-final opinion of probable construction costs for permanent traffic signal elements.

4. 100% Final Traffic Signal Plans: CONSULTANT shall prepare and incorporate traffic signal plans into 100% Final Design Plans submittal to the City. At the time of submittal of the Final Design Plans, any supporting studies and/or calculations shall be submitted. Final Design Plans will be prepared by following the steps described below:

   i. Attend one virtual comment review meeting with City staff.
   ii. Receive comments from the City/TxDOT on the 90% plans.
   iii. Incorporate review comments from 90% plans.
   iv. Finalize construction contract documents including special technical specifications and special conditions (if any).

v. Prepare estimates of final construction quantities and final opinions of construction costs for permanent traffic signal elements.

E. TAS PLAN REVIEW AND INSPECTION (TO BE CONDUCTED BY SUBCONSULTANT)

1. The CONSULTANT will perform one (1) review of all plan documents in accordance with the rules of the Texas Department of Licensing and Regulation (TDLR). Review will be completed by a Registered Accessibility Specialist.

2. A final inspection of new construction or altered space will be performed within one year of completion to verify the requirements of the Texas Accessibility Standards have been met.

3. The CONSULTANT will register the project with TDLR.

F. STRUCTURAL ENGINEERING ANALYSIS SERVICES

1. Structural evaluation of two (2) structures are included in this scope: the Cottonwood Creek bridge structure on S Royal Lane and the bridge class culvert at the intersection of S Royal Lane and W Bethel Road. The evaluation will assess the severity of any structural deficiencies requiring structural repairs, evaluate traffic/public safety deficiency repairs and channel erosion/scour repairs and recommend, and prioritize repairs to be addressed. The CONSULTANT will perform the following:

   i. Data Collection
      1. CONSULTANT shall collect all available TxDOT bridge and culvert inspection reports, location maps, as-built drawings, site photos and documents that pertain to each structure to assist in identifying potential deficiencies.

   ii. Data Evaluation
      1. Review all available data, TxDOT inspection reports and Bridge Division PonTex Detail Bridge Report and Coding Guide for each bridge and culvert to identify structural element ratings and level of distress. Coordinate with TxDOT BRINSAP Inspection Staff.
      2. Perform field inspections and field verify critical deficiencies and assess specific structural bridge elements, approach roadway and traffic safety elements of each bridge that require repair or replacement in a prioritized order based upon severity of deficiency and critical structural component ratings.

   iii. Deliverables
      1. Prepare a report that summarizes our review process and findings and provides observations and repair recommendations for critical deficiency items.
      2. Prepare a spreadsheet log that covers all structures, lists their critical deficiencies, and prioritizes them in a sequential order of deficiency severity or urgency of repairs.
      3. Prepare bridge and culvert structure estimate of probable construction costs for each critical deficiency identified as needing repairs.

2. If structural evaluation determines that work needs to be done on the structures, modifications to scope of this work will be added. Additional services that are not included in this scope but may be added as an additional service include the following:

   i. Preparation of structural repair plans, details, and specifications;
   ii. Bidding and/or construction phase services;
   iii. Bridge structure as-built survey, upstream and downstream channel and rip rap field survey;
   iv. Subsurface Utility research services and Hydraulic/Hydrologic modeling;
   v. Geotechnical investigation for foundations and structural design.

G. LANDSCAPE ARCHITECTURE DESIGN

1. Landscape and irrigation plans will be prepared and incorporated into construction plans for 60%, 90%, and 100% design levels.

2. Coordinate with the City to incorporate the City's landscape standards and streetscape guidelines.

3. Develop an appropriate plant palette for the medians which addresses vehicular safety, sight distances, and maintenance needs. Plant palettes shall include turf, ground cover, ornamental grasses, accent plants, perennials, annuals, shrubs, ornamental trees, shade trees and screening plants as desired by City. It is understood that the City's intent is to match the style of the medians on Sandy Lake Road.

4. Coordinate with the City on irrigation standards.

5. Determine and recommend irrigation types for trees, shrub beds, and turf.

6. Coordinate with City to determine locations for meters, controllers, and service connections.

7. Coordinate with the City to determine locations for enhanced pavement (e.g. stamped concrete) for elements such as crosswalks, median noses, etc.

8. Coordinate with the City to determine locations for enhanced entry monuments.

9. Develop plans for the proposed curvilinear sidewalks and hike/bike trail.

H. GEOTECHNICAL ENGINEERING SERVICES (TO BE CONDUCTED BY SUBCONSULTANT)

1. Field Investigation: Eleven (11) drilling test borings will be drilled within the roadway alignment at approximately 1,000-foot intervals to depths of ten (10) feet below the top of roadway.

    i. Subsurface soil samples will be secured with thin-walled tube and/or split spoon samples depending on soil type and consistency. Rock encountered in the borings will be evaluated using the Texas Department of Transportation Penetrometer (TxDOT Cone). All samples will be properly logged, packaged, sealed, and placed in a core box for transportation to the laboratory. The test borings will be backfilled with soil cuttings upon drilling completion.
    ii. The pavement will be cored prior to drilling the test borings. The pavement will be measured for thickness and recorded.
    iii. Subconsultant assumes that the client has the right-of-entry to the property and that the boring locations will be accessible to their drilling equipment during normal working hours. Should unusual soil conditions be encountered, subconsultant will call with a recommendation and cost estimate to explore these unusual conditions.
    iv. Traffic control consisting of safety cones, signs and possibly arrow board have been included in this proposal for these borings. Traffic control consisting of crash truck, flag men, etc is not included in this proposal. These traffic control items can be quoted upon request if required.
    v. Subconsultant will contact Texas 811 and the City of Coppell's Water Department to have them locate underground utilities. However, subconsultant is not responsible for damage to underground utilities that are not identified prior to drilling.

2. Laboratory Investigation: Laboratory tests will be conducted to classify the soil and to evaluate the volume change potential and strength of the soil present at the site. Soil classification tests will consist of Atterberg limits (plasticity index), moisture content and dry unit weight. The volume change potential of the soils will be evaluated by swell tests. The strength of the soil will be estimated using hand penetrometer test. In addition, lime / PI series test and soluble sulfate test will also be performed on selected clay samples.

3. Engineering Analyses: Results of field and laboratory work will be presented in an engineering report. The

report will include recommendations to guide design and construction of the foundations and will include the following:

i. Plan of borings, boring logs, water level observations, and laboratory test results.
ii. Measurements of pavement core thicknesses.
iii. Pavement thickness recommendations based upon design traffic data provided by CLIENT.
iv. Pavement subgrade stabilization recommendations.
v. Comments on the presence and effect of expansive soils on pavement construction will be provided. Alternative methods of reducing any anticipated shrink/swell movements associated with expansive clays will be included for pavement construction, if required.
vi. Recommendation of site grading and compaction of earthwork will be presented.

I. QUALITY LEVEL B/C/D SUBSURFACE UTILITY ENGINEERING (SUE) SERVICES

1. General Understanding: The following represents the general understanding between the CLIENT and CONSULTANT regarding the basis and/or limitations under which these subsurface utility designating and/or locating services are provided:
    a. These services will be conducted and provided in general compliance with CI/ASCE 38-02 (Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data). This standard establishes and defines four quality levels for data collection that are briefly described as:
        i. Quality Level D (QL-"D") – Generally QL-"D" indicates information collected or derived from research of existing records and/or oral discussions.

        ii. Quality Level C (QL-"C") - Generally QL-"C" indicates information obtained by surveying and plotting visible above-ground utility features and by using professional judgment in correlating this information to QL-"D" information. Incorporates QL-"D" information. (Limited in this scope, this scope is to cover underground utility crossings)

        iii. Quality Level B (QL-"B") – Generally QL-"B", also known as "designating" indicates information obtained through the application of appropriate surface geophysical methods to determine the existence and approximate horizontal position of subsurface utilities. Quality level B data should be reproducible by surface geophysics at any point of their depiction. This information is surveyed to applicable tolerances defined by the project and reduced onto plan documents. Incorporates QL-"D" & QL-"C" information.

        iv. Quality Level A (QL-"A") - Generally QL-"A", also known as "locating", indicates the precise horizontal and vertical location of utilities obtained by the actual exposure (or verification of previously exposed and surveyed utilities) and subsequent measurement of subsurface utilities, at a specific point. Incorporates QL-"D" QL-"C" & QL-"B" information.
    b. These services are for the purpose of aiding the design of the subject project by providing information related to subsurface utilities in order to allow potential utility conflicts to be minimized or eliminated.
    c. The CONSULTANT will provide services that meet the standard of care for existing subsurface utility location and mapping as established in CI/ASCE 38-02 by exercising due diligence with regard to records research and acquisition of utility information, including visually inspecting the work area for evidence of utilities and reviewing the available utility record information from the various utility owners. However, the CONSULTANT makes no guarantee that all utilities can or will be identified and shown as there still may be utilities within the project area that are undetectable or unknown.
    d. Facilities that are discovered through field investigative efforts by the CONSULTANT but no plan records or ownership data can be identified will be hereafter referred to as "unknown" utilities. As part of these services, the CONSULTANT will provide QL-C information in the project deliverables for all unknown utilities that may be identified in the field investigation of the

project. Designating and/or locating unknown utilities will typically not be part of the initial scope of work but depending on the CLIENT's needs can be added as additional work to address concerns of the project impacts of "unknown" facilities.

e. Ground penetrating radar will not be used as a part of the field investigation of the project site unless that use has been specifically addressed with the scope of services described herein.
f. Test holes are very limited in size or diameter (typically 12 inches by 12 inches, or approximately 144 square inches). Given this limited size, some subsurface conditions may prevent the completion of test holes, including rock(s), groundwater, large roots, other utilities & structures, etc. Test hole attempts which cannot be completed due to site conditions will be documented and noted on the plans.
g. When test holes are used to locate utilities, the nominal pipe sizes of the targeted utility will be documented and reported by using field measurements of the outside diameter (OD) of the pipe (to the nearest inch). Based upon this field measured OD, the nominal pipe size will be determined using typical pipe wall thickness data and other available data including record information. Pipe diameters that are too large for measurement, encased or non-encased conduit duct banks and other concrete encased systems which cannot be adequately measured will be reported based upon the best available information.
h. The documented results produced by these services represent a professional opinion and interpretation based upon record information and/or field evidence. These results may be affected by a variety of existing site conditions, including soil content, depth of the utility, density of utility clusters, and electro-magnetic characteristics of the targeted utilities. Also, the lack of and/or poor condition of a trace wire for non-conductive materials such as PVC, HDPE, etc. in most cases will make the successful detection and location of the utility unlikely.
i. The CONSULTANT will apply professional judgment to determine which utilities require additional field effort and/or methods to properly designate and/or locate, most commonly when record drawings are not available. In such cases, the CONSULTANT will provide a recommendation or request for additional services to the CLIENT. Among other methods, a detectable duct rodder or other conductor may be introduced into the line to enable the designation of the utility. This method is dependent upon approval by the utility owner, as well as access to, size and condition of the utility.
j. None of these services are intended to and should not be understood to relieve the CLIENT or others from the responsibility to comply with the statutory requirements related to notifying the proper one-call system(s) in advance of any and all excavation, grading and/or construction within the project site.
k. Overhead utilities will not be surveyed nor mapped as part of the SUE scope.

2. CONSULTANT will provide utility information up to QL-"B" within the right-of-way for the approximately 10,400 linear feet of S Royal Lane from IH 635 North Frontage Road to Sandy Lake Road. It is estimated that there are six (6) utilities giving a total length of 62,100 linear feet of utilities. This investigation will not include water, sanitary sewer, and/or storm sewer and these utilities are not included in the total utilities length shown above.

3. This work includes:
   i. Requesting utility records on all crossing utilities from the CLIENT, public utilities and private utility companies known to provide service within the project area, as well as other sources, in an effort to develop a comprehensive inventory of utility systems likely to be encountered. Record documents may include construction plans, system diagrams, distribution maps, transmission maps, geographic information system data, as well as oral descriptions of the existing systems. The depiction of utilities from records (QL-"C" or "D") will be based on thorough field and office activities and shall be based on the most reliable indication of position available.

ii. Visible surface features and appurtenances of subsurface utilities found within the project site will also be evaluated. Using appropriate surface geophysical methods, CONSULTANT will search for detectible indications of the location of anticipated subsurface utilities.

iii. Marking all locations that can be validated, using paint, flags, or other devices.

iv. Preparing documentation of the utilities encountered and marked, including their general location, orientation, type and size, if known.

v. Level B/C/D- based on ASCE Standard 38-02 and shall include a 2d CADD file depicting the subsurface utilities designated.

J. QUALITY LEVEL A SUBSURFACE UTILITY ENGINEERING (SUE) TEST HOLES

1. CONSULTANT will excavate by air-vacuum or other minimally invasive methods up to ten (10) test holes, at locations yet to be determined within the project limits in order to identify the exact horizontal and vertical locations of crucial utility. Services will be provided on a per each basis, at a fee of $2,700 per test hole. If locating the end of casing is requested the cost will be based on an hourly charge based on the fee schedule attached. This work includes:
   i. Providing all necessary personnel, equipment, supplies, management, and supervision needed for the test hole excavation, backfill, and restoration.

   ii. Coordinating with CLIENT as needed to confirm right-of-entry has been secured by the CLIENT.

   iii. Contacting the appropriate one-call system to request utilities to be marked on-the-ground prior to beginning excavation of test hole.

   iv. Providing and utilizing appropriate traffic control devices, as necessary, in conformance with the MUTCD, including any state or locally adopted supplements. (If closures or additional traffic control equipment is needed other than signs and cones, then additional direct expenses will be charged.)

   v. Preparing documentation for each test hole attempted. This documentation will include the horizontal and vertical position of the targeted utility or structure, a general description of the target utility, with condition, material and general orientation noted, a generalized description of the material encountered in the test hole, and any other field observations noted during the excavation.

ATTACHMENT B

ASSUMPTIONS, EXCLUSIONS, AND ADDITIONAL SERVICES

The intent of this scope of services is to include only the services specifically listed herein. Services specifically excluded from this scope of services include, but are not necessarily limited to the following:

a.) Marketing exhibits;
b.) Public meetings in addition to those specifically outlined in Attachment 'A';
c.) Meetings in addition to those specifically outlined in Attachment 'A';
d.) Resident Construction Representation Services are not included in this scope;
e.) Work related to acquiring easements or right-of-way;
f.) Proposed TxDOT right-of-way takings, which result in significant redesign efforts;
g.) DART coordination meetings in additional to those specifically outlined in Attachment 'A';
h.) Preparation of documents for proposed easements is excluded from this scope;
i.) Construction Staking; it can be provided upon request;
j.) The CLIENT is responsible for securing ROE for the pedestrian survey for all portions of the project area prior to giving notice-to-proceed (NTP) with fieldwork;
k.) Subcontract charges that are not defined specifically within this scope;
l.) Storm Water Pollution Prevention Plan, unless approved as an additional service;
m.) FEMA Flood Plain Studies, assessments, amendments;
n.) It is assumed that there are no wetlands, waters of the US, or other jurisdictional waters applicable to this site requiring Corps of Engineers permitting;
o.) Any off-site studies and design: drainage, water, sanitary sewer, etc. that are not defined specifically within this scope;
p.) Wastewater shall be designed as a gravity system; design of grinder pumps and/or lift stations are not included within this scope;
q.) Water and/or Sewer Studies and modeling;
r.) Gas and franchise utility design;
s.) Correspondence and work requests related to Franchise Utility Design;
t.) Environmental services;
u.) No Texas Historical Commission submittals or other related services are included in this scope;
v.) Traffic Studies or counts and traffic analysis;
w.) No traffic signal design at other intersections not specifically outlined in Attachment 'A';
x.) Photometric plan is not included in this scope;
y.) Illumination study is not included in this scope;
z.) Design will match existing number of lanes and existing road width(s);
aa.) No additional lanes or median openings will be designed;
bb.) Median landscaping will match style of Sandy Lake Road;
cc.) Tree mitigation plan is not included in this scope;
dd.) Structural design of screening walls, retaining walls, foundations, etc. are not included within this scope;
ee.) Relocation Services;
ff.) City templates will be provided by CLIENT and used for preparation of bid documents;
gg.) CCTV services;
hh.) Bridge design for rehabilitation and/or replacement is not included in this scope;
ii.) CLIENT will provide TxDOT Inspection Reports for the bridge structure and bridge class culvert to be used for structural evaluations;

ATTACHMENT C

Teague Nall and Perkins, Inc.
2022 Standard Hourly Rates (vers 121622)
Effective January 1, 2022 to December 31, 2022

Engineering/Landscape Architecture/ROW	Hourly Billing Rate
Principal or Director	270.00
Team Leader	260.00
Senior Project Manager	250.00
Project Manager	200.00
Senior Engineer	260.00
Project Engineer	170.00
Engineer III/IV	140.00
Engineer I/II	130.00
Senior Landscape Architect/Planner	200.00
Landscape Architect / Planner	180.00
Landscape Designer	125.00
Senior Designer	165.00
Designer	150.00
Senior CAD Technician	135.00
CAD Technician	120.00
IT Technician	180.00
Clerical	85.00
ROW Manager	220.00
Senior ROW Agent	175.00
ROW Agent	135.00
Relocation Agent	170.00
ROW Admin	90.00
Intern	80.00

Surveying	Hourly Billing Rate
Survey Manager	245.00
Registered Professional Land Surveyor (RPLS)	210.00
Field Coordinator	145.00
S.I.T. or Senior Survey Technician	145.00
Survey Technician	120.00
1-Person Field Crew w/Equipment**	155.00
2-Person Field Crew w/Equipment**	185.00
3-Person Field Crew w/Equipment**	210.00
4-Person Field Crew w/Equipment**	230.00
Flagger	55.00
Abstractor (Property Deed Research)	95.00

Small Unmanned Aerial Systems (sUAS) Equipment & Crew	420.00	
Terrestrial Scanning Equipment & Crew	265.00	

Utility Management, Utility Coordination, and SUE	**Hourly Billing Rate**	
Senior Utility Coordinator	175.00	
Utility Coordinator	160.00	
Sr. Utility Location Specialist	165.00	
Utility Location Specialist	100.00	
1-Person Designator Crew w/Equipment***	155.00	
2-Person Designator Crew w/Equipment***	180.00	
2-Person Vac Excavator Crew w/Equip (Exposing Utility Only)	300.00	(4 hr. min.)
Core Drill (equipment only)	790.00	per day
SUE QL-A Test Hole (0 < 8 ft)****	2,200.00	each
SUE QL-A Test Hole (> 8 < 15 ft)****	2,700.00	each

Construction Management, Construction Engineering and Inspection (CEI)	**Hourly Billing Rate**
Construction Inspector I/II	110.00
Construction Inspector III	120.00
Senior Construction Inspector	140.00
Construction Superintendent	185.00
Senior Project Manager	250.00
Construction Manager	200.00
Senior Construction Manager	250.00
Construction Records Keeper	120.00

Direct Cost Reimbursables

A fee equal to 3% of labor billings shall be included on each monthly invoice for prints, plots, photocopies, plans or documents on CD, DVD or memory devices, and mileage. No individual or separate accounting of these items will be performed by TNP.

Any permit fees, filing fees, or other fees related to the project and paid on behalf of the client by TNP to other entities shall be invoiced at 1.10 times actual cost.

Notes:

All subcontracted and outsourced services shall be billed at rates comparable to TNP's billing rates above or cost times a multiplier of 1.10.

* *Rates shown are for 2022 and are subject to change in subsequent years.*

** *Survey equipment may include truck, ATV, Robotic Total Station, GPS Units and Digital Level.*

*** *Includes crew labor, vehicle costs, and field supplies.*

****Does not include Level B Designating effort.*

ATTACHMENT D
PROVISIONS

1. AUTHORIZATION TO PROCEED
Signing this form shall be construed as authorization by CLIENT for TNP, Inc. to proceed with the work, unless otherwise provided for in the authorization.

2. LABOR COSTS
TNP, Inc.'s Labor Costs shall be the amount of salaries paid TNP, Inc.'s employees for work performed on CLIENT'S Project plus a stipulated percentage of such salaries to cover all payroll-related taxes, payments, premiums, and benefits.

3. DIRECT EXPENSES
Unless otherwise stated, a fee equal to 3% of labor billings shall be included on each monthly invoice to account for the TNP's direct expenses for the Project. Direct Expenses shall be those costs incurred on or directly for the CLIENT'S Project, including but not limited to prints, plots, copies, postage, courier services, binding charges, mileage, etc.

4. OUTSIDE SERVICES
When technical or professional services are furnished by an outside source, when approved by CLIENT, an additional amount shall be added to the cost of these services for TNP, Inc.'s administrative costs, as provided herein.

5. ENGINEER'S OPINION OF PROBABLE COST
Any cost opinions provided by TNP, Inc. will be on a basis of experience and judgment, but since it has no control over market conditions or bidding procedures TNP, Inc. cannot warrant that bids or ultimate construction costs will not vary from these cost opinions.

6. PROFESSIONAL STANDARDS
TNP, Inc. shall be responsible, to the level of competency presently maintained by other practicing professional engineers in the same type of work in CLIENT'S community, for the professional and technical soundness, accuracy, and adequacy of all design, drawings, specifications, and other work and materials furnished under this Authorization. TNP, Inc. makes no other warranty, expressed or implied.

7. TERMINATION
Either CLIENT or TNP, Inc. may terminate this authorization by giving 30 days written notice to the other party. In such event CLIENT shall forthwith pay TNP, Inc. in full for all work previously authorized and performed prior to effective date of termination. If no notice of termination is given, relationships and obligations created by this Authorization shall be terminated upon completion of all applicable requirements of this Authorization.

8. ARBITRATION
All claims, disputes, and other matters in question arising out of, or relating to, this Authorization or the breach thereof may be decided by arbitration in accordance with the rules of the American Arbitration Association then obtaining. Either CLIENT or TNP, Inc. may initiate a request for such arbitration, but consent of the other party to such procedure shall be mandatory. No arbitration arising out of, or relating to this Authorization shall include, by consolidation, joinder, or in any other manner, any additional party not a party to this Authorization.

9. LEGAL EXPENSES
In the event legal action is brought by CLIENT or TNP, Inc. against the other to enforce any of the obligations hereunder or arising out of any dispute concerning the terms and conditions hereby created, the losing party shall pay the prevailing party such reasonable amounts for fees, costs and expenses as may be set by the court.

10. PAYMENT TO TNP, INC.
Monthly invoices will be issued by TNP, Inc. for all work performed under the terms of this agreement. Invoices are due and payable on receipt. Interest at the rate of 1½% per month will be charged on all past-due amounts, unless not permitted by law, in which case, interest will be charged at the highest amount permitted by law.

11. LIMITATION OF LIABILITY
TNP, Inc.'s liability to the CLIENT for any cause or combination of causes is in the aggregate, limited to an amount no greater than the fee earned under this agreement.

12. ADDITIONAL SERVICES
Services in addition to those specified in Scope will be provided by TNP, Inc. if authorized in writing by CLIENT. Additional services will be paid for by CLIENT as indicated in attached Basis of Compensation or as negotiated.

13. SALES TAX
In accordance with the State Sales Tax Codes, certain surveying services are taxable. Applicable sales tax is not included in the above proposed fee. Sales tax at an applicable rate will be indicated on invoice statements.

14. SURVEYING SERVICES
In accordance with the Professional Land Surveying Practices Act of 1989, the CLIENT is informed that any complaints about surveying services may be forwarded to the Texas Board of Professional Engineers and Land Surveyors, 1917 S. Interstate 35, Austin, Texas 78741, fax: (512) 440-5715.

15. INVALIDITY CLAUSE
In case any one or more of the provisions contained in this Agreement shall be held illegal, the enforceability of the remaining provisions contained herein shall not be impaired thereby.

16. PROJECT SITE SAFETY
TNP, Inc. has no duty or responsibility for project site safety.

17. DRAINAGE CLAUSE
TNP, Inc. in the performance of its services may be required to assess the impact of the Project on neighboring property owners. The parties to this Agreement recognize that the development of real property has the potential to increase water runoff on downstream properties, and that such increase in runoff increases the possibility of water damage to downstream properties. The CLIENT agrees to indemnify and hold the Engineer harmless from any and all claims and damages arising, directly or indirectly, from water or drainage damage to downstream properties resulting from the development and construction of the Project. CLIENT shall not be required to reimburse Engineer for any claims or expenses arising out of the Project if it is determined by a court of competent jurisdiction that Engineer was negligent in the performance of its duties and obligations, and that Engineer's negligence was the direct cause of damage to a property downstream of the Project.

18. CONSTRUCTION MEANS AND METHODS
Means and methods of construction are the sole responsibility of the contractor.

ATTACHMENT E

Attachment E: Project Location