AGREEMENT FOR ENGINEERING SERVICES
BETWEEN THE
CITY OF NORTH RICHLAND HILLS
AND
QUIDDITY ENGINEERING

I.

This Agreement is executed by and between the City of North Richland Hills, a municipal corporation located in Tarrant County, Texas, acting by and through Paulette Hartman, its duly authorized City Manager (hereinafter called "CITY"), and **Quiddity Engineering**, a Texas corporation, acting by and through Mark J. Holliday, its duly authorized Principal (hereinafter called "ENGINEER").

WITNESSETH, that CITY desires professional engineering services in connection with the **HARMONSON ROAD PROJECT – DAWN ROAD TO MACKEY CREEK CHANNEL**

NOW, THEREFORE, CITY and ENGINEER, in consideration of the mutual covenants and agreements herein contained, do mutually agree as follows:

II. PROJECT

In this Agreement, the "PROJECT" means the engineering design of the **HARMONSON ROAD PROJECT – DAWN ROAD TO MACKEY CREEK CHANNEL** in accordance with the Public Works Design Manual, applicable CITY codes, regulations and standards.

III. BASIC AGREEMENT

ENGINEER is an independent contractor and undertakes and agrees to perform professional engineering services in connection with the PROJECT, as stated in the sections to follow. It is understood and agreed that ENGINEER is not and will not by virtue of this contract be deemed to be an agent or employee of CITY and that CITY will not be entitled to direct the performance by ENGINEER's employees or subcontractors of the tasks contemplated by this contract. All engineering services shall be performed with diligence and in accordance with professional standards customarily obtained for such services in the State of Texas. For rendering such services CITY agrees to pay ENGINEER as set forth in Section VIII: "Compensation" and Exhibit F: "Compensation".

IV. SCOPE OF ENGINEER'S SERVICES

ENGINEER shall render the professional services necessary for development of the PROJECT, in accordance with the schedule in Exhibit A: "Project Schedule" and as detailed in Exhibit B: "Basic Engineering Services", said exhibits being attached hereto and incorporated herein for all purposes. ENGINEER shall be responsible, to the level of competency presently maintained by other practicing professional engineers in the same type of work in the Dallas/Fort Worth Metroplex area, for professional and technical soundness, accuracy, and adequacy of all designs, drawings, specifications, and other work and materials furnished under this Agreement.

V. SPECIAL ENGINEERING SERVICES

The CITY will pay the ENGINEER for Special Engineering Services as indicated in Exhibit C: "Special Engineering Services", attached hereto and made a part of this Agreement.

VI. ADDITIONAL ENGINEERING SERVICES

Additional Engineering Services are defined in Exhibit D: "Additional Engineering Services", attached hereto and made a part of this Agreement. No Additional Engineering Services are authorized unless authorization for specified additional services are provided to ENGINEER by CITY in writing and approved by CITY.

VII. SCOPE OF CITY SERVICES

The City will furnish items and perform those services as identified in Exhibit E: "Services to be provided by the City", attached hereto and made a part of this Agreement.

VIII. COMPENSATION

A. In consideration of the services described herein, CITY shall pay and ENGINEER shall receive compensation in accordance with Exhibit F: "Compensation".

B. Total payments including without limitation reimbursable expenses, to ENGINEER by CITY for the services stated in Section IV and Section V above shall not exceed **Two Hundred Eighty-Eight Thousand One Hundred Dollars ($288,100).**

C. CITY may authorize additional services to be provided by ENGINEER as mutually agreed upon by the parties. Any authorization for additional services shall be given to ENGINEER by CITY in writing and approved by CITY.

D. CITY and ENGINEER understand that the variables in ENGINEER's cost of performance may fluctuate. The parties agree that any fluctuation in ENGINEER's costs will in no way alter ENGINEER's obligations under this Agreement nor excuse performance or delay on ENGINEER's part.

IX. OWNERSHIP OF DOCUMENTS

All completed or partially completed evaluations, reports, surveys, designs, drawings and specifications prepared or developed by ENGINEER under this Agreement, including any original drawings, computer disks, mylars or blue lines, shall become the property of CITY when the Agreement is concluded or terminated, and may be used by CITY in any manner it desires; provided, however, that ENGINEER shall not be liable for the use of such drawings for any project other than the PROJECT described in this Agreement or for the use of any of the above listed items that are not signed and sealed or designated as final, or for the use of any electronic data.

X. INDEMNITY

ENGINEER AND ITS SUBCONSULTANTS SHALL INDEMNIFY AND HOLD CITY AND ALL OF ITS OFFICERS, AGENTS, SERVANTS, AND EMPLOYEES HARMLESS FROM ANY LOSS, DAMAGE, LIABILITY OR EXPENSES, ON ACCOUNT OF DAMAGE TO PROPERTY AND INJURIES, INCLUDING DEATH, TO ANY AND ALL PERSONS, INCLUDING BUT NOT LIMITED TO OFFICERS, AGENTS OR EMPLOYEES OF ENGINEER OR ITS SUBCONSULTANTS, AND ALL OTHER PERSONS PERFORMING ANY PART OF THE WORK AND IMPROVEMENTS, ARISING OUT OF, CAUSED BY OR RESULTING FROM ANY NEGLIGENT ACT, ERROR, OMISSION, OR WILFULL MISCONDUCT BY ENGINEER OR ITS SUBCONSULTANTS IN THE PERFORMANCE OF ENGINEER'S PROFESSIONAL SERVICES OR IN THE PREPARATION OF EVALUATIONS, REPORTS, SURVEYS, DESIGNS, WORKING DRAWINGS, SPECIFICATIONS AND OTHER ENGINEERING DOCUMENTS INCORPORATED INTO ANY IMPROVEMENTS CONSTRUCTED IN ACCORDANCE THEREWITH; ENGINEER SHALL DEFEND AT ITS OWN EXPENSE ANY SUITS OR OTHER PROCEEDINGS BROUGHT AGAINST CITY AND ITS OFFICERS, AGENTS, SERVANTS AND EMPLOYEES OR ANY OF THEM ON ACCOUNT OF THE FOREGOING DESCRIBED NEGLIGENT ACTS, ERRORS OR OMISSIONS, AND SHALL PAY ALL EXPENSES AND SATISFY ALL JUDGMENTS WHICH MAYBE INCURRED BY OR RENDERED AGAINST CITY, ITS OFFICERS, AGENTS, SERVANTS AND EMPLOYEES OR ANY OF THEM, IN CONNECTION WITH THE FOREGOING DESCRIBED NEGLIGENT ACTS, ERRORS, OR OMISSIONS; PROVIDED AND EXCEPT HOWEVER, THAT THIS INDEMNIFICATION PROVISION SHALL NOT REQUIRE ENGINEER TO INDEMNIFY OR HOLD CITY OR ANY OF ITS OFFICERS, AGENTS, SERVANTS OR EMPLOYEES HARMLESS FROM ANY LOSS, DAMAGES, LIABILITY OR EXPENSE, ON ACCOUNT OF DAMAGE TO

PROPERTY OR INJURIES TO PERSONS ARISING OUT OF, CAUSED BY OR RESULTING FROM CITY'S NEGLIGENT ACT, ERROR, OMISSION, OR WILLFULL MISCONDUCT, OR DEFECTS OR DEFICIENCIES IN DESIGN CRITERIA AND INFORMATION FURNISHED TO ENGINEER BY CITY, OR ANY SIGNIFICANT DEVIATION IN CONSTRUCTION FROM ENGINEER'S DESIGNS, WORKING DRAWINGS, SPECIFICATIONS OR OTHER ENGINEERING DOCUMENTS. NOTWITHSTANDING ANYTHING IN THE AGREEMENT TO THE CONTRARY, NEITHER PARTY (INCLUDING ITS SUBCONSULTANTS, AGENTS, ASSIGNEES, AFFILIATES AND VENDORS) SHALL BE LIABLE TO THE OTHER FOR AN SPECIAL, CONSEQUENTIAL, INDIRECT, PUNITIVE, EXEMPLARY OR INCIDENTAL DAMAGES OF ANY KIND REGARDLESS OF THE CAUSE OR ACTION.

Approval by CITY of contract documents shall not constitute or be deemed to be a release of the responsibility and liability of ENGINEER, its officers, agents, employees and subconsultants, for the accuracy and competency of the services performed under this Agreement, including but not limited to evaluations, reports, surveys, designs, working drawings and specifications, and other engineering documents. Approval by CITY shall not be deemed to be an assumption of such responsibility and liability by CITY for any error, omission, defect, deficiency or negligence in the performance of ENGINEER's professional services or in the preparation of the evaluations, reports, surveys, designs, working drawings and specifications or other engineering documents by ENGINEER, its officers, agents, employees and subconsultants, it being the intent of the parties that approval by CITY signifies CITY's approval of only the general design concept of the improvements to be constructed.

XI. INSURANCE

For the duration of this Agreement, ENGINEER shall maintain the following minimum public liability and property damage insurance which shall protect ENGINEER, its subcontractors, its subconsultants and CITY from claims for injuries, including accidental death, as well as from claims for property damage which may arise from the performance of work under this Agreement. ENGINEER shall provide a Certificate of Insurance verifying that the following minimum limits of coverage are provided:

A. Worker's Compensation Insurance:
   Statutory requirements ($ 300,000 minimum)

B. Comprehensive General Liability and Bodily Injury:

Bodily Injury	$ 500,000 per person, or
	$ 1,000,000 per occurrence; and
Property Damage	$ 100,000 each occurrence; or
Combined Single Limit	$ 1,000,000 aggregate

C. Comprehensive Automobile Liability:

Bodily Injury	$ 500,000 per person, or
	$ 1,000,000 per occurrence; and
Property Damage	$ 100,000 each occurrence; or
Combined Single Limit	$ 1,000,000 aggregate

D. Professional Liability:

Errors and Omissions	$ 1,000,000

The Certificate of Insurance shall contain a provision that such insurance cannot be canceled or modified without thirty (30) days prior written notice to CITY.

XII. ARBITRATION

No arbitration arising out of or relating to this Agreement shall occur without both parties' written approval.

XIII. TERMINATION AND SUSPENSION

A. CITY may terminate this Agreement at any time for convenience or for any cause by a notice in writing to ENGINEER. Either CITY or ENGINEER may terminate this Agreement in the event the other party fails to perform in accordance with the provisions of this Agreement. Upon receipt of such notice, ENGINEER shall immediately discontinue all services and work and the placing of all orders or the entering into contracts for supplies, assistance, facilities, and materials, in connection with the performance of this Agreement and shall proceed to cancel promptly all existing contracts insofar as they are chargeable to this Agreement.

B. If CITY terminates this Agreement under the foregoing Paragraph A, CITY shall pay ENGINEER a reasonable amount for services performed prior to such termination, which payment shall be based upon the payroll cost of employees engaged on the work by ENGINEER up to the date of termination of this Agreement and for subcontract and reproduction in accordance with the method of compensation stated in Section VIII: "Compensation" hereof. In the event of termination, the amount paid shall not exceed the amount appropriate for the percentage of work completed.

XIV. SUCCESSORS AND ASSIGNS

CITY and ENGINEER each bind themselves and their successors, executors, administrators and assigns to the other party of this Agreement and to the successors,

executors, administrators and assigns of such other party in respect to all covenants of this Agreement; except as above, neither CITY nor ENGINEER shall assign, sublet or transfer its interest in this Agreement without the written consent of the other. Nothing herein shall be construed as creating any personal liability on the part of any officer or agent of CITY.

XV. AUTHORIZATION, PROGRESS, AND COMPLETION

CITY and ENGINEER agree that the PROJECT is planned to be completed in accordance with the Exhibit A: "Project Schedule" which is attached hereto and made a part hereof. ENGINEER shall employ manpower and other resources and use professional skill and diligence to meet the schedule; however, ENGINEER shall not be responsible for schedule delays resulting from conditions beyond ENGINEER's control. With mutual agreement, CITY and ENGINEER may modify the Project Schedule during the course of the PROJECT and if such modifications affect ENGINEER's compensation, it shall be modified accordingly, subject to City Council approval.

For Additional Engineering Services, the authorization by CITY shall be in writing and shall include the definition of the services to be provided, the schedule for commencing and completing the services and the basis for compensation as agreed upon by CITY and ENGINEER.

It is understood that this Agreement contemplates the full and complete Engineering services for this PROJECT including any and all services necessary to complete the work as outlined in Exhibit B: "Basic Engineering Services". Nothing contained herein shall be construed as authorizing additional fees for services to provide complete services necessary for the successful completion of this PROJECT.

XVI. SUBCONTRACTS

ENGINEER shall be entitled, only if approved by CITY, to subcontract a portion of the services to be performed by ENGINEER under this Agreement.

XVII. RIGHT TO AUDIT

ENGINEER agrees that CITY shall, until the expiration of three (3) years after final payment under this Agreement, have access to and the right to examine and photocopy any directly pertinent books, design calculations, quantity take-offs, documents, papers and records of ENGINEER involving transactions relating to this Agreement. ENGINEER agrees that CITY shall have access during normal working hours to all necessary ENGINEER facilities and shall be provided adequate and appropriate work space in order to conduct audits in compliance with the provisions of this section. CITY shall give ENGINEER reasonable advance notice of intended audits.

ENGINEER further agrees to include in all its subconsultant agreements hereunder a provision to the effect that the subconsultant agrees that CITY shall, until the expiration of three (3) years after final payment under the subcontract, have access to and the right to examine and photocopy any directly pertinent books, design calculations, quantity take-offs, documents, papers and records of such subconsultant, involving transactions to the subcontract, and further, that CITY shall have access during normal working hours to all subconsultant facilities, and shall be provided adequate and appropriate work space, in order to conduct audits in compliance with the provisions of this article. CITY shall give subconsultant reasonable advance notice of intended audits.

XVIII. EXHIBITS

Both parties agree to the following exhibits and as such, the following exhibits are made a part of this Agreement:

Exhibit "A"	Project Schedule
Exhibit "B"	Basic Engineering Services
Exhibit "C"	Special Engineering Services
Exhibit "D"	Additional Engineering Services
Exhibit "E"	Services to be provided by the City
Exhibit "F"	Compensation
Exhibit "G"	Form 1295

XIX. MISCELLANEOUS

A. Authorization to Proceed. Signing this Agreement shall be construed as authorization by CITY for ENGINEER to proceed with the work, unless otherwise provided for in the authorization.

B. Legal Expenses. In the event legal action is brought by CITY or ENGINEER against the other to enforce any of the obligations hereunder or arising out of any dispute concerning the terms and conditions of this Agreement, the prevailing party in any litigation between the parties to this agreement shall be entitled to reasonable attorney fees.

C. Notices. Any notice or correspondence required under this Agreement shall be sent by certified mail, return receipt requested, or by personal delivery and shall be effective upon receipt, if addressed to the party receiving the notice or correspondence at the following address:

If to ENGINEER:
Quiddity Engineering, LLC .
Attn: Steve Templer, P.E.
4500 Mercantile Plaza Dr Suite 228
Fort Worth, Texas 76137

If to CITY:
City of North Richland Hills
Attn: Nathan Frohman, P.E., CFM
Public Works & Engineering Department
4301 City Point Drive
North Richland Hills, Texas 76180

With Copies to the City Manager and City Attorney at the same address.

D. Independent Contractor. ENGINEER shall perform services hereunder as an independent contractor, and not as an officer, agent, servant or employee of the CITY and ENGINEER shall have the exclusive right to control services performed hereunder by ENGINEER, and all persons performing same, and shall be responsible for the negligent acts and omissions of its officers, agents, employees, and subconsultants. Nothing herewith shall be construed as creating a partnership or joint venture between CITY and ENGINEER, its officers, agents, employees and subconsultants; and the doctrine of respondent superior has no application as between CITY and ENGINEER.

E. Venue. This Agreement shall be governed by the laws of the State of Texas, and venue in any proceeding relating to this Agreement shall be in Tarrant County, Texas.

F. Entire Agreement. This Agreement represents the entire agreement between CITY and ENGINEER and supersedes all prior negotiations, representations or agreements, either written or oral. This Agreement may be amended only by written instrument signed by both CITY and ENGINEER.

G. Severability. If any provision in this Agreement shall be held illegal by a valid final judgment of a court of competent jurisdiction, the remaining provisions shall remain valid and enforceable.

H. Disclosure. By signature of this Agreement, ENGINEER warrants to CITY that it has made full disclosure in writing of any existing conflicts of interest or potential conflicts of interest, including but not limited to personal financial interests, direct or indirect, in property abutting the PROJECT and business relationships with abutting

property owners. ENGINEER further warrants that it will make disclosure in writing of any conflicts of interest which develop subsequent to the signing of this Agreement and prior to final payment under this Agreement.

This Agreement is executed in two (2) counterparts.

IN TESTIMONY WHEREOF, the parties hereto have executed this Agreement this the _____ day of _____, 20__.

CITY OF NORTH RICHLAND HILLS (CITY)

By: _____
Paulette Hartman, City Manager

Date: _____

ATTEST:

_____
Alicia Richardson, City Secretary

_____

APPROVED TO FORM AND LEGALITY:

_____
Cara White, Interim City Attorney

CITY SEAL

QUIDDITY ENGINEERING, LLC. (ENGINEER)

By: _____
Mark J. Holliday, P.E., Vice-President

Date: _____

ATTEST:

_____
Steven D. Templer, P.E., Sr. Client Mgr.

Date: _____

ATTEST:

_____
Notary Public in and for the State of Texas

_____
Type or Print Notary's Name
My Commission Expires:

_____

CORPORATE SEAL

EXHIBIT A

PROJECT SCHEDULE
FOR
HARMONSON ROAD – DAWN DRIVE TO MACKEY CREEK CHANNEL

PROJECT SCHEDULE

The Scope of Services for this PROJECT is based on the following schedule:

Activity	Due Date
Notice To Proceed from City	**April 22, 2024**
Submit Conceptual Design	**August 16, 2024**
Receive City Review Comments	**September 19, 2024**
Submit Preliminary 60% Plans	**November 21, 2024**
Receive City Review Comments	**January 2, 2025**
Submit 90% Plans	**February 13, 2025**
Receive Final City Review Comments	**March 27, 2025**
Submit Final 100% Plans for Bid	**April 25, 2025**
Advertise for Construction Bids	**May 4, 2025**
Open Construction Bids	**May 29, 2025**
Begin Construction	**June 26, 2025**

Note: Due dates shown are provisional submittal dates of task activities listed and may change when agreed upon between both parties.

EXHIBIT B

BASIC ENGINEERING SERVICES
FOR
HARMONSON ROAD – DAWN DRIVE TO MACKEY CREEK CHANNEL

The scope of work for BASIC Engineering Services involves Conceptual, Preliminary and Final Design, Project Plans, Specifications and Estimates for the reconstruction of Harmonson Road, an existing 2-lane asphalt roadway from Dawn Drive to Mackey Creek (approx.. 2,100 LF). The improvements will include the replacement of the asphalt pavement with concrete paving with integral curb, installation of pedestrian facilities (5' sidewalks and curb ramps), and underground storm drain systems. The existing culverts at Mackey Creek will remain in place and their level of service will not be analyzed. The asphalt on top of the existing Mackey Creek culvert will be milled and overlaid with asphalt. The waterline will be replaced throughout the project limits and will extend just east of the existing Mackey Creek culverts. The Sanitary sewer will remain in place.

1. PROJECT MANAGEMENT

1.1. Manage the Team:

- Lead, manage and direct design team activities
- Conduct and document bi-weekly design team meetings.
- Ensure quality control is practiced in performance of the work
- Communicate internally among team members
- Allocate team resources
- Manage Sub-Consultants

1.2. Communications and Reporting:

- Conduct review meetings with the CITY at the end of each study/design phase.
- Prepare and submit monthly invoices in the format acceptable to the CITY.
- Prepare and submit weekly or bi-weekly progress reports.
- Prepare and submit baseline Project Schedule initially and Project Schedule updates.
- Coordinate with other agencies and entities as necessary for the design of the proposed infrastructure and provide and obtain information needed to prepare the design.

2. CONCEPTUAL DESIGN (30% SUBMITTAL)

ENGINEER will develop a conceptual schematic (in roll plot format) of the corridor. The plan view will show the existing and proposed roadway, existing utilities, proposed utility locations, drainage improvements, striping and driveways. The profile will show the proposed: top of curb as well as the existing: ground at right of way, ground at curb, sanitary sewers, waterline, and storm drain system.

2.1. Data Collection:

- ENGINEER will research and make efforts to obtain pertinent information to aid in coordination of the proposed improvements with any planned future improvements that may influence the project. ENGINEER will also identify and seek to obtain data for existing conditions that may impact the project including; utilities, City Master Plans, and property ownership as available from the Tax Assessor's office.
- Perform site visit to verify survey.
- Prepare design criteria for proposed elements of the design such as: roadway and water. It is anticipated that the Storm drain system will remain in place. Sanitary sewer will remain in place and the tops will be adjusted.
- Conduct QC/QA reviews and document those activities

2.2. Roadway:

- Once the Survey and existing ROW have been established the ENGINEER will prepare a roll plot showing a Centerline alignment and the back of 5' sidewalk. The sidewalk will be shown in two location options: directly behind the curb and offset 3' behind the curb. The intent is to have this ready for the project kick-off meeting to discuss constraints and determine appropriate solutions to minimize or eliminate the need for right of way.
- Attend and facilitate a pre-design project kickoff meeting with CITY staff to confirm and clarify scope, understand CITY objectives, and ensure economical and functional designs that meet CITY requirements. Obtain any additional design criteria, available GIS information, pertinent utility plans, street plans, plats and right-of-way maps, existing easement information, previous studies prepared by others, as-built plans for portions of surrounding infrastructure, historical drainage complaints and other information available for the project area. Prepare and distribute Meeting Minutes.
- Prepare existing typical sections of the roadway, along with proposed typical sections for a R2U street. Typical sections shall include existing ROW, existing and proposed lane widths and direction arrows, existing and proposed curbs, and sidewalks. A geotechnical report will be prepared for pavement design.

- Prepare conceptual plan roll plot showing existing and proposed horizontal roadway alignment; curb and gutter, lane widths, existing ROW; proposed sidewalks and driveways in sufficient detail to show limits of work, identify constraints, and create OPCC.

2.3. Utilities:

- Utilities will be depicted utilizing Record Drawings, Survey information, and utility coordination.
- SUE services, if desired, are included in Additional Services.
- Conceptual will show plan layout of proposed water improvements.
- Show existing sanitary sewer, waterline and storm drain on plan and profile.

2.4. Drainage:

- Two drainage systems are present within Harmonson: the western system (Dawn Drive to Honey Lane) and the eastern system from Glenwyck Drive to Mackey Creek). The existing storm drain systems appear to be functioning and in working order. We do not anticipate significant modifications to the roadway geometry within the limits of the western drainage system and therefore only the inlet tops will be reconstructed with this project and the system will not be analyzed. We do anticipate profile changes on the eastern end of the project which may create the need for additional inlets to be added to the system. The eastern system will be analyzed to verify capacity.
- Delineate drainage area boundaries and prepare proposed drainage area map.
- Analyze the existing eastern storm drain system to show capacity and determine street capacity and evaluate storm drain system improvements and modifications needed.
- Prepare conceptual plan layout of proposed storm sewer improvements.

2.5. Opinion of Probable Construction Cost (OPCC)

- Prepare conceptual level OPCC, in accordance with AACE standards, for the entire project using recent average unit bid prices which are representative of similar types of construction in the local area. The ENGINEER has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. OPCC provided herein are based on the information known to ENGINEER at this time and represent only the ENGINEER's judgment as a design professional familiar with the construction industry. The ENGINEER cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its OPCC.

Assumptions:

- Comments from City will be addressed in 60% submittal.
- Roadway improvements will start at the Dawn Drive radius returns with no planned improvements in the actual intersection.

Deliverables:

- Conceptual design roll plots (.pdf and 2 hard copies)
- Drainage area map (.pdf and 2 hard copies)
- OPCC (.pdf and 2 hard copies)

3. PRELIMINARY DESIGN PLANS (60% SUBMITTAL)

3.1. Roadway:

- Prepare preliminary plans based on the guidance and comments received from the 30% conceptual design.
- Prepare Cover Sheet, Index, and General Notes.
- Project Layout showing all Survey Control Points, alignment geometry and call-outs, Beg/End project limits, Roadway names, Proposed Utility/Drainage locations with system names.
- Updated proposed typical sections.
- Removal/Demolition plan sheets.
- Roadway profile and design cross sections. Profile will be based upon top of curb.
- Roadway intersection layouts.
- Grading layouts.
- Prepare roadway plan and profile sheets depicting existing and proposed horizontal roadway, existing ROW, existing and proposed sidewalks, curb ramps, existing and proposed driveways, proposed lane dimensions and lane arrows, storm drain, CITY owned and franchise utilities. Proposed roadway profile labeling vertical curves station and elevation data of all vertical profile P.C.'s, P.T.'s, P.I.'s, low points, and high points; lengths of vertical curves, grades, K values, e, and vertical clearances where required.
- Prepare cross sections at driveways.
- Prepare cross sections at fifty-foot intervals and driveways along the project limits.
- Compile applicable CITY, NCTCOG, and/or TxDOT paving details.

3.2. Drainage:

- Compile the hydrological and hydraulic data.
- Update proposed drainage area maps.
- Analyze the proposed drainage improvements required to accommodate the roadway modifications on the eastern storm drain system.
    - The system draining to Dawn Drive is anticipated to remain in place as significant changes in roadway grades are not anticipated for this section. Inlet tops will be replaced as required by the design.

    - The road profile is expected to be revised along the system draining to Mackey Creek to better meet current CITY criteria. Portions of this existing system may be modified, if required.
- Starting hydraulic grade line at Mackey Creek will be taken as the greater of the crown of the outlet pipe or the water surface in Mackey Creek considering its expected coincident storm frequency. The coincident storm frequency of Mackey Creek will be based used to determine the starting HGL. The contributing area of Mackey Creek to Harmonson Road will be determined by using LiDAR topographic data.
- Hydraulic grade line calculations for the system draining to Dawn Drive not be calculated or shown.
- Prepare a preliminary storm drain and inlet plan with alignments and sizes.
- Prepare preliminary storm sewer profiles with design notes for stationing, size, slope, flow lines, and pipe material.
- Compile applicable CITY, NCTCOG, and/or TxDOT paving details.

3.3. Water

- Refine the plan alignment based on comments from the CITY.
- Prepare water line profile for waterlines 12-inches and greater (from Honey Lane to the east).
- Place fire hydrants, valves and service lines per CITY standards.
- Prepare plan and profile sheets.
- Compile applicable CITY and/or NCTCOG details.

3.4. Sanitary Sewer

- Adjust existing top of manholes as required. Information to be shown on roadway plan and profile sheets.
- Compile applicable CITY details.

3.5. Traffic Control

- Prepare detour layouts and sequencing narrative.
- Prepare conceptual layout for the planned construction phasing. Up to three (3) phases are assumed. Phase 1 – Waterline construction. Phase 2 – Dawn Drive to Glenwyck Drive, Phase 3 – Glenwyck Drive to Mackey Creek.
- It is anticipated that the roadway will be closed to through traffic during Phase 2 and Phase 3 and detour routes will be provided. Traffic will be maintained for residents that live within these phases.
- Compile applicable CITY and/or NCTCOG details..

3.6. Quantities
- Summarize quantities per sheet.
- Compile and prepare an updated OPCC

3.7. Constructability Review
- After the submittal and prior to the 60 percent review meeting with the CITY, the ENGINEER will schedule and attend a project site visit with the CITY Project Manager and construction personnel to walk the project. The ENGINEER will summarize the CITY's comments.

3.8. The preliminary design submittal plans will be half size – 11"x17" and will consist of:
- Cover sheet (1 sheet)
- Index sheet (1 sheet)
- General notes sheets (1 sheet)
- Project control sheet (2 sheets)
- Typical sections sheets (1 sheet)
- Preliminary removal/Demolition sheets (4 sheets double stacked)
- Preliminary roadway plan and profile sheets (7 sheets)
- Grading Layouts (4 sheets double stacked)
- Preliminary cross sections (10 sheets)
- Preliminary drainage area map and runoff calculations (2 sheets)
- Inlet and preliminary storm calcs (1 sheet)
- Preliminary storm drain plan and profile sheets. Western System will contain 2 plan sheets and the Eastern System will contain 3 plan and profile sheets.
- Preliminary erosion control sheets (3 sheets double stacked)
- Preliminary water line plan for systems less than 12-inches in diameter (1 sheet double stacked). Preliminary plan and profile sheets for waterlines 12-inches and greater (4 sheets)
- Preliminary traffic control sheets (7 sheets)
- OPCC

Assumptions:
- Comments from City will be addressed in 90% submittal.

Deliverables:
- 60% plans (11x17) (.pdf and 3 hard copies)
- 60% plans (22x34) (1 hard copy)
- 60% OPCC (.pdf and 2 hard copies)

- 60% project decision log (.pdf and 2 hard copies)

4. PRE-FINAL DESIGN PLANS (90%)

4.1. Final Plans and contract documents (90%)

- Finalize the plan sheets listed in Task 3.9 for 90% submittal.
- Prepare project manual and specifications. Project Manual will consist of City front end documents in which we will fill in milestones and project name. ENGINEER will prepare bid item descriptions for each item referencing NCTCOG or TxDOT specifications. City will provide descriptions they have used in the past.
- Prepare updated OPCC.
- Submit 90% plans, project manual and OPCC.

4.2 Submit Plans for TDLR/PROWAG Review as outlined in additional services.

Deliverables:

- 90% plans (11x17) (.pdf and 2 hard copies)
- 90% plans (22x34) (1 hard copy)
- 90% project manual (.pdf and 2 hard copies)
- 90% OPCC (.pdf and 2 hard copies)
- 90% project decision log (.pdf and 2 hard copies)

5. FINAL PLANS AND CONTRACT DOCUMENTS (100%)

- Address CITY 90% Comments.
- Finalize the plans, project manual, and specifications.

Deliverables:

- 100% plans (11x17) (.pdf and 2 hard copies)
- 100% plans (22x34) (1 hard copy)
- 100% project manual (.pdf and 3 hard copies)
- 100% OPCC (.pdf)
- 100% project decision log (.pdf)

EXHIBIT C

SPECIAL ENGINEERING SERVICES
FOR
HARMONSON ROAD PROJECT – DAWN DRIVE TO MACKEY CREEK

The scope of work for SPECIAL Engineering Services involves Surveys (Design) and Geotechnical Engineering. The scope of work for the Special Engineering Services is more generally described as follows:

1. FIELD SURVEY

ENGINEER will perform an on the ground survey of the property under the direct supervision of a Registered Professional Land Surveyor.

1.1. Surveying Services – North and South Portion Full Mapping

- Survey area generally includes ROW to ROW of Harmonson Road from Dawn Drive to 150 LF east of the Mackey Creek culverts. The Survey portion of this proposal defines ROW to ROW to include 10' outside ROW unless there is a privacy fence along and within the 10' width.
- Survey will include:
  - ROW to ROW - 100 LF up each intersecting road (Dawn Dr., Honey Ln., Glenwyck Dr., Lochridge Ct., Park Oaks Ct., and Harmonson Ct.)
  - Property line to property line - 50 LF upstream and downstream of Mackey Creek culvert.
  - 10 LF into Driveway approaches.
- The size, length, and flowline elevation of existing storm sewers will be surveyed. Drainage areas contributing to the PROJECT or conveying water from the PROJECT will be determined through field investigations and available topographic mapping.
- Above ground features of existing utilities within the proposed Right-of-Way for the limits of the PROJECT will be field located, including elevations of sanitary and storm sewer manhole flowlines and water/gas valve stems. 811 Utility Locate will be requested before the survey begins. Pin Flags and markings that are present when our surveyors are in the field will be located. The excavation and other costs required to expose or probe the underground utilities will be the responsibility of others.
- Included in this item: Establish survey control, location of permanent improvements along the site; cross sections and/or mapping generally at 50-foot intervals, contours on one-foot intervals; locations, common name and trunk diameter of trees 6-inches or over in caliper (measured 5' above existing grade); location of visible utilities and appurtenances; inverts of sanitary sewer and storm drain manholes and inlets; back-of-curb, gutter, driveways, and edge of pavements; fences; landscape areas; and mailboxes

1.2. Perform Deed Research

1.3. Perform RIGHT-OF-WAY search to determine where property has been dedicated to the City by owner.

-

Assumptions:

- Not included in this item: Final as-built survey of constructed improvements. Record drawings will be provided based on contractor notes during construction.
- Not included in this item: Species names of trees, trees less than 6-inches in diameter, right of entry, and subsurface utility engineering services (see Additional Services).

Deliverables:

- Field survey points and descriptions in CAD format.

2. GEOTECHNICAL ANALYSIS

2.1. Through a qualified subcontractor, ENGINEER shall:

- Perform soil investigations for approximately Six (6) test borings within the 2100' Harmonson Road Reconstruction limits.
- Four (4) of the test borings will be drilled to depths of ten (10) feet below the existing pavement grade. Two (2) of the test borings will be drilled to depths of fifteen (15) feet near the existing cross drainage culvert for purposes of the waterline lowering. The existing pavements will be cored at selective locations in order to obtain accurate measurements of the existing pavement and base thicknesses.
- Perform laboratory tests and engineering analyses.
- Provide recommendations regarding pavement thickness based upon design traffic data provided by client.
- Pavement subgrade recommendations.
- 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.
- Recommendations for open-cut construction for the new utility lines.

Deliverables:

- Geotechnical report summarizing analyses and recommendations.

EXHIBIT D

ADDITIONAL ENGINEERING SERVICES
FOR
HARMONSON ROAD PROJECT – DAWN DRIVE TO MACKEY CREEK

The scope of work for ADDITIONAL Engineering Services involves Subsurface Utility Engineering, TDLR/RAS Review, Bid Phase Services and Construction Phase Services. The scope of work for the Special Engineering Services is more generally described as follows:

1. SUBSURFACE UTILITY ENGINEERING

Through a qualified subcontractor, ENGINEER shall provide Subsurface Utility Engineering (SUE) Services only areas there are potential conflicts.

1.1. Perform QL "A" SUE at potential conflict locations to determine exact location and depth of utility. This will be performed as needed with locations to be determined during the design process

2. RIGHT-OF-WAY INSTRUMENT

2.1. The Surveyor will prepare up to twenty (20) metes and bounds descriptions with accompanying map exhibit for right of way acquisition. This will include boundary surveys for up to 20 lots to establish the existing property corners for the legal metes and bounds descriptions.

2.2. RIGHT-OF-WAY Acquisition is excluded from this scope.

3. Easement Research

Easement research will not be performed as part of this scope. Easements will be determined from As-built drawings and verified by coordination with utility companies.

4. TDLR/RAS REVIEW

4.1. The ENGINEER will coordinate and provide plans to a Registered Accessibility Specialist (RAS). The plans will be reviewed in accordance with Texas Accessibility Standards (TAS). The RAS will follow up after construction is complete to provide an inspection and complete TDLR forms.

5. Public Meeting

5.1. Public Meeting is excluded from the scope of work.

6. BID PHASE SERVICES

6.1. Bid Advertisement:

- ENGINEER shall prepare and submit to CITY a draft Bid Advertisement for publishing by the CITY.

6.2. Bidder Assistance:

- The ENGINEER, if the need arises, will be help answer up to 5 questions and provide a response to the City. The City will prepare proposed responses to all bidders' questions and requests, in the form of addenda.
- Attend the prebid conference in support of the CITY.
- ENGINEER will NOT attend the bid opening in support of the CITY.

6.3. Bid Analysis and Recommendation of Award:

- The CONSULTANT will tabulate and review all bids received for the construction project, assist the CITY in evaluating bids, and recommend award of the contract.
- The CONSULTANT will assist the CITY in determining the qualifications and acceptability of prospective contractors, subcontractors, and suppliers.
- The CONSULTANT shall make a recommendation of award to the CITY.

6.4. Conformed Construction Documents:

- Upon award of a contract by the CITY, the CONSULTANT shall assist with the execution, assembly and distribution of the construction contract documents for the Project.

6.5. Deliverables:

- To CITY:
  - (11x17) (.pdf and 3 hard copies to CITY)
  - (22x34) (1 hard copy)
  - 3-bound project manuals
- To CONTRACTOR:
  - Up to 4-plan sets consisting of either full size or half size plans. Any additional set the CONTRACTOR will pay $50/set as per Project Manual Language

7. CONSTRUCTION ADMINISTRATION

7.1. Preconstruction Conference:

- The CONSULTANT shall NOT attend the preconstruction conference.

7.2. Site Visits:

- The CONSULTANT shall not make periodic site visits.

7.3. Shop Drawing and Lab Report Reviews are not included in the scope of work.

7.4. Modifications to Contract Documents

- The City will answer CONTRACTOR questions regarding plan clarifications.
- Provide up to 3 modifications to contract documents for change order.

7.5. Final Inspection

- The Engineer shall attend final inspection of the Project with representatives of the OWNER and the construction contractor.

7.6. Record Drawings:

- Prepare construction “Record Drawings” based upon mark-ups and information provided by the construction contractor(s). Submit one (1) pdf set of the record drawings (with “record drawing stamp” bearing the signature of the Engineer and the date) to the CITY on a flash and all associated revised CAD files.

EXHIBIT E

SERVICES TO BE PROVIDED BY THE CITY
FOR
HARMONSON ROAD – DAWN DRIVE TO MACKEY CREEK CHANNEL

The CITY will provide the following services to the ENGINEER in the performance of the PROJECT upon request:

I. Provide any existing data the CITY has on file concerning the PROJECT, if available.

II. Provide any available As-Built plans for existing streets and drainage facilities, if available.

III. Provide any available As-Built plans for existing water and sanitary sewer mains, if available.

IV. Assist the ENGINEER, as necessary, in obtaining any required data and information from TxDOT and/or other local utility companies.

V. Provide standard details and specifications in digital format.

VI. Assist the ENGINEER by requiring appropriate utility companies to expose underground utilities within the Right-Of-Way, when required.

VII. Give prompt written notice to ENGINEER whenever CITY observes or otherwise becomes aware of any development that affects the scope or timing of the ENGINEER's services.

VIII. Televise the existing storm drain and determine if system is in good shape and can remain in place.

IX. City will provide and distribute a general notice letter to residents informing them that surveyors will surveying the road and the front portion of their property.

X. City will obtain Right of Entry for Surveyors when performing boundary survey.

EXHIBIT F

COMPENSATION
FOR
HARMONSON ROAD – DAWN DRIVE TO MACKEY CREEK CHANNEL

I. COMPENSATION

For and in consideration of the services to be rendered by the ENGINEER, the CITY shall pay, and the ENGINEER shall receive the compensation hereinafter set forth for the Design and Construction Phases of the work and additionally for Special Engineering Services and/or Additional Engineering Services that are in addition to the Basic Engineering Services. All remittances by CITY of such compensation shall either be mailed or delivered to the ENGINEER's home office as identified in the work authorization.

A. Compensation for the Basic Engineering Services shall be completed for lump sum fee not to exceed **$170,600.00**

B. Compensation for Special Engineering Services not covered by the Basic Engineering Services provided herein above shall be as follows:

- Design Surveys with Deed research: Lump Sum Fee not to exceed of **$13,500.00**
- Perform Right of Way Search. This is a per roadway task. Seven (7) roads at $825.00 per location for a maximum not to exceed Fee of **$5,800.00**
- Geotechnical Engineering: Lump Sum Fee not to exceed of **$13,750.00**

C. Compensation for Additional Engineering Services not covered by Basic Engineering Services or Special Engineering Services provided herein shall be as follows:

- Subsurface Utility Engineering QL "A". Assumes 2 locations (0-4 feet) at $850.00 per location; 2 locations (4-8 feet) at $1,150 per location and 1 locations (8-12 feet) at $1,450 per location for a maximum not to exceed Fee of **$5,450.00.**
- Easement/Right-of-Way Instrument including boundary survey work. Twenty (20) locations at $3,000.00 per location for a maximum not to exceed Fee of **$60,000.00.**
- TDLR/RAS: Maximum not to exceed Fee not to exceed of **$1,500.00**

- Bid Phase Services: Maximum not to exceed Fee not to exceed of **$8,200.00**
- Construction Administration: Maximum not to exceed Fee of **$9,300.00**

Payments to the ENGINEER for authorized Additional Engineering Services will be due monthly, upon presentation of monthly statement by the ENGINEER for such services.

II. AUDIT AND SCOPE CHANGE

Cost budgets are set forth above and are subject to the audit provisions of this Agreement, Section XVII: “Right to Audit”. It is also understood that the cost budgets are based upon ENGINEER's best estimate of work and level of effort required for the proposed scope of services. As the PROJECT progresses, it is possible that the level of effort and/or scope may differ up or down from that assumed. If there are no scope changes, the ENGINEER shall receive the full amount of lump sum and unit price fees, regardless of the cost. If at any time it appears that the cost budget may be exceeded, the ENGINEER shall notify the CITY as soon as possible in writing.

If there is a scope change, the ENGINEER shall notify the CITY as soon as possible in writing and shall include a revised scope of services, estimated cost, revised fee schedule, and a revised time of completion. Upon negotiation and agreement via a signed amendment by both parties, the cost budget, fee schedule, and total budget will be adjusted accordingly.

CITY shall not be obligated to reimburse the ENGINEER for costs incurred in excess of the cost budget. The ENGINEER shall not be obligated to perform on any change in scope of work or otherwise incur costs unless and until the CITY has notified the ENGINEER in writing that the total budget for Engineering Services has been increased and shall have specified in such notice a revised total budget which shall thereupon constitute a total budget for Engineering Services for performance under this Agreement.

A detailed scope of work, total budget, and schedule will be prepared by the ENGINEER and executed by the CITY if the ENGINEER is authorized to perform any Additional Engineering Service(s).

III. PAYMENT

Payments to the ENGINEER will be made as follows:

A. Invoice and Time of Payment

Monthly invoices will be issued by the ENGINEER for all work performed under this Agreement. Invoices are due and payable on receipt. Invoices will be prepared in a format approved by the CITY prior to submission of the first monthly invoice. Once approved, the CITY agrees not to require changes in the invoice format, but reserves the right to audit. Monthly payment of the fee will be in proportion to the percent completion of the total work (as indicated in Exhibit B: “Basic Engineering Services”).

Upon completion of services enumerated in Exhibit B: "Scope of Basic Engineering Services", the final payment of any balance will be due upon receipt of the final invoice.

EXHIBIT G

FORM 1295
FOR
HARMONSON ROAD – DAWN DRIVE TO MACKEY CREEK CHANNEL

[Form 1295 is submitted as the following page]