

**PROFESSIONAL SERVICES
SUPPLEMENTAL AGREEMENT #1
FOR
CITY INTERSECTION IMPROVEMENTS II**

**STATE OF TEXAS §
 §
COUNTY OF TRAVIS §**

This Supplemental Agreement No. 1 to a contract for Professional Services is made by and between the City of Pflugerville, Texas ("City") and Burns & McDonnell Engineering Company, Inc. ("Consultant"). City and Consultant may be referred to herein singularly as "Party" or collectively as the "Parties."

WHEREAS, the City and Consultant executed an Agreement for Professional Services ("Agreement") on the 15TH day of July, 2021 for the City Intersection Improvement II project ("Project") in the amount of \$224,335.13; and

WHEREAS, the City and Consultant desire to enter into a Supplemental Agreement # 1 for Professional Services for the Project in the amount of \$767,795.89 on the September 13, 2022 to add final engineering design for improvements to the intersections of SH130 (Copper Mine Overpass) and FM 685, and E. Pflugerville Parkway and FM to the Agreement; and

WHEREAS, it has become necessary to amend the Agreement to modify the provisions for the Term of the Agreement, Scope of Services, Work Schedule, and Compensation; and

WHEREAS, it is necessary for the City to amend its agreements from time to time to comply with changes in state law relating to contracts of municipalities.

NOW, THEREFORE, premises considered, the City and the Consultant agree that said Agreement is amended as follows:

I.

Article III. Scope of Services and Exhibit 1, shall be amended as set forth in the attached addendum to Exhibit 1.

Article III. Work Schedule and Exhibit 4, shall be amended as set forth in the attached addendum to Exhibit 4.

Article IV. Compensation to Consultant and Exhibit 2 (Fee Schedule), shall be amended by increasing/decreasing by \$767,795.89 the amount payable under the Agreement for a total of \$992,131.02, as shown by the attached Addendum to Exhibit 2 (Fee Schedule).

2.

Except as amended hereby as indicated above, the terms of the Agreement shall remain unchanged and in full force and effect.

EXECUTED and **AGREED** to as of the dates indicated below.

**CITY OF
PFLUGERVILLE**

CONSULTANT

(Signature)

(Signature)

Printed Name: Sereniah Breland

Printed Name: **Andrew Reid**

Title: City Manager

Title: **Principal**

Date: _____

Date: _____

APPROVED AS TO FORM:

Charles E. Zech
City Attorney
DENTON NAVARRO ROCHA BERNAL & ZECH, P.C.

Scope of Services

PROJECT LOCATION AND GENERAL DESCRIPTION OF THE WORK:

The project includes final engineering design and analysis, opinion of probable construction costs and construction phase services for the improvements to the intersections of SH130 (Copper Mine Overpass) and FM 685, and E. Pflugerville Parkway and FM 685. The proposed improvements in general include U-turn lane additions, traffic signal equipment and modifying signalization, geometric and safety improvements, sidewalk, and ADA Improvements. Both intersections are under this one agreement with the understanding that the projects may be bid and constructed separately.

Design Standards

The project will utilize the following design standards:

- TxDOT Criteria, Standard specifications and drawings
- Texas Department of Transportation (TxDOT) Design Criteria
- AASHTO Standards and Policies
- FHWA Policies and Criteria
- Texas Manual on Uniform Traffic Control Devices (TMUTCD)
- As Outlined in the TxDOT Advance Funding Agreement

Work to be Performed

- Task 1. Design Management
- Task 2. Preliminary Design
- Task 3. Final Design
- Task 4. Bid Phase Services
- Task 5. Construction Phase Services
- Task 6. ROW/Easement Services
- Task 7. Survey and Subsurface Utility Engineering Services
- Task 8. Permitting
- Task 9. Plan and Submittal Checklists
- Task 10. Quality Control/Quality Assurance

TASK 1. DESIGN MANAGEMENT.

Burns & McDonnell Engineering Company, Inc.'s team (ENGINEER) will manage the work outlined in this scope to provide efficient and effective use of ENGINEER's and City of Pflugerville's (CITY's) time and resources. ENGINEER will manage change, communicate effectively, coordinate internally and externally as needed, and proactively address issues with the CITY's Project Manager as necessary to make progress on the work.

1.1. Managing the Team

- Lead, manage and direct design team activities
- Provide quality control in performance of the work
- Communicate internally among team members
- Task and allocate team resources

1.2. Communications and Reporting

- Attend three (3) project design review meetings with CITY staff. This includes one milestone review meeting for the revised preliminary design, one meeting for 60% review, and one meeting for 90% plan review.
- Conduct and document monthly design team meetings.
- Revise baseline Project Schedule and prepare monthly updates as required in Attachment D to this Standard Agreement and according to the City of Pflugerville's Schedule Guidance Document.
- Prepare and submit monthly progress reports in the format provided by the respective CITY Department.
- Prepare invoices, in accordance with Attachment B to this Standard Agreement and submit monthly in the format requested by the CITY.

PROJECT DETAILS

- Work associated with the task order is to last through development of the final 100% plans to be completed by 04/25/2023; bid phase services complete by 06/04/2023; and construction and close out of the project complete by 12/22/2023.
- Coordination meetings with CITY include preparation and follow up meeting minutes/notes.

DELIVERABLES

- A. Meeting summaries with action items for milestone plan review meetings.
- B. Monthly invoices
- C. Monthly progress reports
- D. Revised baseline design schedule (30%, 60%, 90%)
- E. Review comment responses (30%, 60%, 90%, 100%)
- F. Monthly schedule updates with schedule narrative describing any current or anticipated schedule changes.

TASK 2. PRELIMINARY DESIGN (30%)

Preliminary engineering not part of this phase.

PROJECT DETAILS

- ENGINEER shall not proceed with Final Design activities without written approval by the CITY of the Preliminary Design plans.
- Construction cost opinions will use ONLY standard CITY and TxDOT bid items.

Roadway

- CITY and TxDOT unit costs (if available) will be used for this cost opinion.
- The roadway exhibit will include proposed horizontal roadway alignment, proposed/existing profile, existing and proposed ROW, existing and proposed sidewalks and driveways, and proposed lane dimensions and lane arrows.

- The submittals will base the deliverables from the PS&E TxDOT checklists.

Environmental

- Archeological survey or any additional cultural resource services or additional information requested by the THC and/or other agencies are not included in this scope and fee estimate. If requested, ENGINEER would provide a scope and fee estimate for these services.
- Project impacts to WOTUS will be authorized under Nationwide Permit (NWP) 14, with impacts below the established notification thresholds. If notification thresholds are exceeded, a supplemental fee estimate would be submitted for approval to prepare and submit a PCN to the USACE.
- The TCEQ has conditionally certified that activities authorized under NWP 14 should not result in a violation of established Texas Surface Water Quality Standards as required under Section 401 of the Federal Clean Water Act; therefore, an individual Section 401 Water Quality Certification is not required.
- Minimal ROW required for a C-List CE. CE requiring technical reports will be additional services.

Traffic Engineering

- Traffic analysis will be performed using Trafficware's Synchro and Sidra analysis software for intersection analysis evaluation. The analysis will be performed in accordance with the evaluation criteria of the Highway Capacity Manual (HCM), 6th Edition.

ACTIVITY 3. PRELIMINARY DESIGN (60 PERCENT)

Preliminary plans and specifications shall be submitted to CITY per the approved Project Schedule.

ENGINEER will develop the preliminary design of the infrastructure as follows:

- 3.1. Development of Preliminary Design Drawings and Specifications shall include the following:
 - A Project Control Sheet, showing all Control Points, used or set while gathering data. Generally, on a scale of not less than 1:400. The following information shall be indicated for each Control Point: X, Y and Z Coordinates, in Texas State Plane Coordinate System, and a referred bearing base. Z coordinate on CITY Datum only; descriptive location (i.e. set in the centerline of the inlet in the South curb line of North Side Drive at the East end of radius at the Southeast corner of North Side Drive and North Main Street).
 - SUE plan drawings and conflict matrix
 - Updated existing and proposed typical section sheets.
- 3.1.1 Roadway Design
 - Updated roadway plan and when applicable profile sheets displaying station and coordinate data for horizontal alignment P.C.'s, P.T.'s, P.I.'s; station and elevation data of 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.
 - Benchmarks on the plan/profile sheet.

- Bearings given on all proposed centerlines, or baselines.
- Station equations relating utilities to paving, when appropriate.
- Overall project easement and ROW layout sheet(s).
- Intersection layout sheets including ROW lines, horizontal alignments, existing and proposed utilities, curbs, sidewalks, driveways, lane dimensions and arrows, and existing and proposed contours (0.50' intervals)
- Preliminary roadway details to include curbs, driveways, sidewalks, and pavement details.
- ENGINEER will prepare and submit Preliminary right-of-way and/or easement sketches based on the boundary survey and improvements proposed on the engineering plans. These will be documents needed to obtain right-of-way dedications and/or easements needed for improvements, construction, and temporary access along the project corridor.
- ENGINEER will prepare and submit temporary right of entry documents for CITY review. These documents will include letters, and accompanying legal descriptions and exhibits, addressed to landowners affected by the project construction activities (not permanent easements).

3.1.2 Traffic Engineering

- The ENGINEER will prepare preliminary signing, and pavement marking plans.
- The ENGINEER will prepare preliminary traffic signal design for the existing signalized intersections.

3.1.3 Traffic Control Plan:

- The ENGINEER will update the Traffic Control Plan to reflect changes as a result of the conceptual 30% design submittal while also including construction signage and pavement markings which will be in accordance with the latest edition of the TMUTCD.

3.1.4 Illumination Plans:

- The ENGINEER will investigate and identify the illumination power supply and existing lighting in coordination with utilities and the CITY and TxDOT. The ENGINEER shall prepare the following:
 - Illumination Plans and Details.
 - Lighting Calculations (voltage Drops and Conduits).
 - Illumination quantities.

3.1.5 Drainage Design

- ENGINEER will orchestrate and participate with the CITY\Consultants in an on-site project corridor walk-through to evaluate elements of Design Plans and conduct a constructability review for concerning elements of the project. It is anticipated that this review will occur prior to or on concert with the preparation of the engineering plans.

- ENGINEER will prepare and submit Storm Drain Layout Plans to the CITY for review and comment. This plan set will be prepared in accordance with the CITY's Engineering Standards and include:
 - ROW/Easements layout sheet with horizontal and vertical control
 - Drainage area maps and calculations (updated)
 - Storm drain and channel improvement plans
 - Channel design cross-sections (as needed to support plan and profile drawings)
 - Special details, and standard construction details for the storm drain.
 - Erosion control plans

3.1.6 Removal Plans:

- The ENGINEER will develop removal plans comprised of existing items that must be removed to facilitate the construction of the proposed improvements. The ENGINEER shall develop removal quantities and related general notes.

3.1.7 Landscape Plans

- The ENGINEER shall defer to standard sod and seeding specifications and standards for landscaping and not include separate landscape plans. Additional landscape and aesthetic plans are outside this scope of services.

3.1.8 Water and Wastewater Relocation Plans

- ENGINEER will develop water and wastewater line relocation plans to accommodate placement of the proposed storm sewer system and culverts to accommodate proposed roadway improvements.

3.1.9 Bridge Design:

- No bridge work is included in this scope.

3.2. Geotechnical Investigation/Pavement Design

- Soil investigations, including field and laboratory tests, soil borings, dynamic cone penetrometer, related engineering analysis and recommendations for determining subsurface conditions at the intersections will be made. The following borings will be drilled:

Intersection	Number of Borings	Boring Depth (ft)	Total Depth (ft)
East Pflugerville Parkway and FM 685	5	15	75
FM 685 and Copper Mine	5	15	75

As part of this work, the ENGINEER shall:

- Conduct a brief visual conditions survey of the existing pavements to determine boring locations

- b. Coordinate with CITY to obtain Right-of-Way Permit including submission of a Soil Boring Plan and Traffic Control Plan
 - c. Stake borings in the field utilizing tape and right angle measurements from existing benchmarks (does not include surveying of boring locations and assumes surveyor will stake roadway alignment)
 - d. Coordinate utility locating within a 25 ft radius of the boring locations including an 811 "One Call" and notification to local utility companies.
 - e. Drilling coordination, logging, and pavement coring
- Perform a Geotechnical Investigation Report for the project evaluated by a professional geotechnical engineer Licensed in the State of Texas. The following items will be included in the geotechnical report:
 - boring logs,
 - plan of borings,
 - subsurface exploration procedures,
 - encountered subsurface conditions,
 - field and laboratory test results,
 - description of surface and subsurface conditions,
 - groundwater conditions,
 - general earthwork recommendations,
 - swell potential evaluations, including PVR calculations,
 - pavement thickness design alternatives with subgrade stabilization,
 - We will perform appropriate laboratory tests on soil samples recovered from the borings. Laboratory testing will include but not limited to moisture content, liquid limit, plastic limit, sulfate testing, particle size analysis tests, visual classification, and Lime series (Tex-121-e Part III).
 - Present one (1) TxDOT standard pavement design option and one (1) pavement design alternative for each intersection. The TxDOT standard pavement design analysis will be performed with TxDOT software FPS-21 or Pavement Designer, unless otherwise approved by the City. The Texas Triaxial Class of the subgrade will be estimated based on soil classification and plasticity index.
 - Submit a Draft Geotechnical Engineering Report and Final Geotechnical Engineering Report presenting findings, design recommendations, and construction considerations. The two intersections will be included in one report.

3.3. Constructability Review

- Prior to the 60 percent review meeting with the CITY, the ENGINEER shall schedule and attend a project site visit with the CITY Project Manager and Construction personnel to walk the project. The ENGINEER shall summarize the CITY's comments from the field visit and submit this information to the CITY in writing.

3.5. Utility Clearance

ENGINEER will perform limited Utility Clearance (UC) services for this project to assist the GEC TEAM in facilitating the accommodation of existing utilities. ENGINEER's

coordination scope will be limited to the following activities on the project:

- Schedule and hold a Utility Kick off meeting with all utility owners (UOs), the CITY, General Engineering Consultant (GEC), and any other stakeholders with interest in the project. With the approval of the CITY, will provide the invite, agenda, exhibits, run the meeting and submit meeting minutes with an attendance list.
- Utility Conflict Matrix – ENGINEER will review existing utilities, identify potential conflicts, and prepare a utility conflict matrix summarizing conflicts at the 30%, 60%, 90%, and 100% submittal. ENGINEER will maintain utility conflict matrix throughout design and construction, submitting at the major submittal milestones. A CADD file will be created to correlate with the matrix and be updated and submitted with the matrix.
- Design Meetings – Utility ENGINEER will attend, via internet or by phone, monthly design meetings run by the Design Team to keep updated on current revisions in design and schedule (assume 12).

3.6. Construction Estimate: Opinion of Probable Construction Costs

3.7. Preliminary Specifications

- ENGINEER will provide preliminary project specifications to support the engineering plans which meet the requirements of TxDOT AFA and city requirements.

PROJECT DETAILS

- ENGINEER shall not proceed with Final Design activities without written approval by the CITY of the Preliminary Design plans.

Geotechnical Investigation/Pavement Design

- Borings will be taken with truck mounted drill rig. Borings may be taken with ATV rig for additional fee if site/weather conditions warrant and if approved by CITY.
- Borings can be drilled during the day or based on TxDOT ROW permit requirements.

Preliminary Drainage Design and Analysis

- Update drainage sheets, adding profile data to P&P sheets.
- Develop storm sewer plans and computations.
- Develop miscellaneous drainage details.
- Provide existing drainage improvements (where needed).

Roadway

- Up to four (4) construction phases for TCP are assumed for construction of each intersection.
- TxDOT and the CITY's front end and technical specifications will be used. The ENGINEER shall supplement the technical specifications if needed.
- ENGINEER shall not proceed with Final Design activities without written approval by the CITY of the Preliminary Design plans.
- Construction cost opinions will use ONLY standard CITY and TxDOT bid items.

Utility Coordination

- Up to twelve (12) monthly design meetings.

DELIVERABLES

- Preliminary Design drawings and specifications
 - a. Two (2) paper copies of 11"x17" 60% plan sheets with electronic PDF.
 - b. Two (2) paper copies of 11"x17" 60% cross section sheets with electronic PDF.
 - c. Final Geotechnical Report
 - d. Updated Construction Schedule
- Utility Conflict Matrix and Tracking Report
- Up to four right-of-way\easement sketches for each intersection for a total of 12 right-of-way\easement sketch documents.
- Up to twelve (12) right of entry documents.
- Geotechnical Report (Draft and Final)
- Opinions of probable construction cost

ACTIVITY 4. FINAL DESIGN (90 PERCENT AND 100 PERCENT)

4.1. Final Draft (90%) Plans and Specifications

- Upon approval of the Preliminary plans, ENGINEER will prepare construction plans as follows:
 - Final draft construction plans (90%) and specifications shall be submitted to CITY per the approved Project Schedule.
 - The ENGINEER shall submit a final design opinion of probable construction costs with both the 90% and 100% design packages.

4.2. Final (100%) Plans and Specifications

- #### 4.2.1
- Following a 90% construction plan review meeting with the CITY, the ENGINEER shall submit Final Plans (100%) to the CITY per the approved Project Schedule. Each plan sheet shall be stamped, dated, and signed by the ENGINEER registered in State of Texas.

4.3 Project Decision Log: Documentation of key design decisions.

4.4 Opinion of Probable Construction Costs.

The ENGINEER shall submit a final design opinion of probable construction costs with both the 90% and 100% design packages.

PROJECT DETAILS

- ENGINEER shall not proceed with Final Design activities without written approval by the CITY of the 90% design plans.
 - Update sheets and details as necessary

- Update storm sewer & drainage area sheets
- Construction cost opinions will use ONLY standard CITY and TxDOT bid items.

DELIVERABLES

- A. 90% construction plans and specifications.
 - a. Two (2) paper copies of 11"x17" 90% plan sheets with electronic PDF.
 - b. Two (2) paper copies of 11"x17" 90% cross section sheets with electronic PDF.
 - c. Updated Construction Schedule
- B. Utility Tracking Report
- C. Draft SWPPP
- D. Up to four right-of-way\easement sketches for each intersection for a total of up to 12 right-of-way\easement sketch documents.
- E. Up to eight (8) right of entry documents.
- F. Geotechnical Report (Draft and Final)
- G. Opinions of probable construction cost
- H. Public Meeting exhibits
- I. Draft Project Manual
- J. Final ROW plat and Easement documents (up to six (6) parcels and six (6) easements)
- K. ROW field monumentation as needed
- L. 100% construction plans and specifications.
 - a. Two (2) paper copies of 11"x17" Final Construction plan sheets with electronic PDF.
 - b. Two (2) Project Manuals and Bid Documentation for advertisement and letting with electronic PDF.
 - c. Two (2) SWPPP plans for construction with electronic PDF.
- M. Detailed opinions of probable construction costs including summaries of bid items and quantities using the CITY's and TxDOT's standard bid items and format.

TASK 5. BID PHASE SERVICES

ENGINEER will support the bid phase of the project as follows.

5.1. Bid Support

- The ENGINEER shall provide plans and contract documents to potential bidders.
 - Contract documents shall be uploaded as a pdf.
 - Unit Price Proposal documents will be created and combined in a bid tabulation spreadsheet and provide a Recommendation to Award the apparent low bidder.

- The ENGINEER will develop and implement procedures for receiving and answering bidders' questions and requests for additional information. The procedures shall include a log of all significant bidders' questions and requests and the response thereto. The ENGINEER will provide technical interpretation of the contract bid documents and will prepare proposed responses to all bidders' questions and requests, in the form of addenda. Attend the Prebid conference in support of the CITY.
- Attend the bid opening in support of the CITY.
- Incorporate all addenda into the contract documents and issue conformed sets.

5.2 Final Design Drawings

- Final Design Drawings shall be submitted as an **Adobe Acrobat PDF format (version 6.0 or higher)** file.

PROJECT DETAILS

- Sets of construction documents will be printed and made available for purchase by plan holders.

DELIVERABLES

- A. Addenda
- B. Bid tabulations
- C. Recommendation of award
- D. Construction documents (conformed, if applicable)

TASK 6. CONSTRUCTION PHASE SERVICES

ENGINEER will support the construction phase of the project as follows.

6.1 Construction Support

- The ENGINEER shall attend the preconstruction conference.
- The ENGINEER shall attend monthly construction meetings.
- The ENGINEER shall visit each of the project sites up to 12 visits as construction proceeds to observe and report on progress.
- The ENGINEER shall review shop drawings, samples and other submittals submitted by the contractor for general conformance with the design concepts and general compliance with the requirements of the contract for construction. Such review shall not relieve the Contractor from its responsibility for performance in accordance with the contract for construction, nor is such review a guarantee that the work covered by the shop drawings, samples and submittals is free of errors, inconsistencies or omissions. The ENGINEER shall log and track shop drawings, samples and other submittals.
- As requested by the CITY, the ENGINEER shall provide necessary interpretations and clarifications of contract documents, review change orders, and make recommendations as to the acceptability of the work.

- The ENGINEER shall attend the “Final” project walk through and assist with preparation of final punch list.

6.2 Record Drawings

- The ENGINEER shall prepare record drawings from information provided by the CITY depicting any changes made to the Final Drawings during construction. The following information shall be provided by the CITY:
 - As-Built Survey
 - Red-Line Markups from the Contractor
 - Red-Line Markups from CITY Inspector
 - Copies of Approved Change Orders
 - Approved Substitutions
- The ENGINEER shall modify the Final Drawings electronically and shall place a stamp on the plans indicating that they represent Record Drawings of the project as constructed. The stamp shall be signed and dated by the ENGINEER and shall be placed on each plan sheet, whether there are any revisions on the sheet or not. Each sheet shall clearly indicate all changes which apply to that sheet by clouding and numbering, or other suitable means.
- The following disclaimer shall be included with the Record Drawing stamp:
 - These Record Drawings were prepared using information provided by others and represent the as constructed conditions to the extent that documented changes were provided for recording. The ENGINEER assumes no liability for undocumented changes and represents only that the documented changes are accurately depicted on these drawings.
- The ENGINEER shall submit one (1) set of sealed Final Drawings, modified and stamped as Record Drawings. The ENGINEER may keep copies of the information provided by the CITY for their files, but all original red-lined drawings shall be returned to the CITY.
- Record Drawings shall be submitted as an PDF file.

PROJECT DETAILS

- Assume one (1) year construction duration
- Up to twelve (12) Site visits and construction meetings (1 monthly).
- Up to five (5) Submittal reviews.
- Up to five (5) RFI's.
- Up to four (4) Change Orders.

DELIVERABLES

- A. Response to Contractor's Request for Information
- B. Review of Change Orders

- C. Review of submittals
- D. Final Punch List items
- E. Record Drawings

ACTIVITY 7. ROW/EASEMENT SERVICES

ENGINEER will support and perform activities related to ROW and land as outlined below, per scoping direction and guidance from the CITY's Project Manager.

7.1. Right-of-Way Research

- The ENGINEER shall determine rights-of-way, easements needs for construction of the project. Required temporary and permanent easements will be identified based on available information and recommendations will be made for approval by the CITY.
 - ENGINEER will update prior research regarding ownership information.

7.2. Right-of-Way/Easement Preparation and Submittal.

- The ENGINEER shall prepare documents to be used to obtain right-of-way and permanent and/or temporary easements required to construct the improvements.
 - Includes effort to prepare up to six (6) anticipated new drainage easements.
 - Includes effort for ROW acquisition of up to ten (12) parcels.
 - Scope assumes that ENGINEER will only show existing easements that contain known utilities as identified by available construction plans and/or SUE research. No chain-of-title research is included in this scope.

7.3. Temporary Right of Entry Preparation and Submittal

- Prior to entry outside of ROW, the ENGINEER shall prepare, mail and obtain Temporary Right of Entries from landowners. It is assumed that letters will only be required for landowners adjacent to temporary construction easements or who are directly affected by the project and no easement is required to enter their property.

PROJECT DETAILS

- Up to four (4) coordination meetings are anticipated.
- Right-of-Entry notifications will be prepared for survey access. The ENGINEER and the CITY shall prepare, mail and obtain Temporary Right of Entries from landowners. The ENGINEER shall track responses and compile a return list.
- A working sketch on the project will be prepared and used for field locating the property monumentation and as a preliminary route map.

DELIVERABLES

- A. Updated ROW/Easement CAD base map and sheets.
- B. Temporary Right of Entry Letters
- C. Right-of-Way Acquisition Exhibits

ACTIVITY 8. SURVEY AND SUBSURFACE UTILITY ENGINEERING SERVICES.

ENGINEER will provide survey support as follows.

8.1. Design Survey

- ENGINEER will perform field surveys to collect horizontal and vertical elevations and other information needed by ENGINEER in design and preparation of plans for the project. Information gathered during the survey shall include topographic data, elevations of all sanitary and adjacent storm sewers, rim/invert elevations, location of buried utilities, structures, and other features relevant to the final plan sheets for the limits shown in Attachment B. Existing drainage at intersections will be verified by field surveys. Spot elevations will be shown on intersection layouts with cross slope to fit intersecting grade lines. The minimum survey information to be provided on the plans shall include the following:
 - A Project Control Sheet, showing **ALL** Control Points, used or set while gathering data.
 - The following information about each Control Point;
 - a. Identified (Existing. CITY Monument #8901, PK Nail, 5/8" Iron Rod)
 - b. X, Y and Z Coordinates, in an identified coordinate system, and a referred bearing base. Z coordinate on CITY Datum only.
 - c. Descriptive Location (Ex. Set in the centerline of the inlet in the South curb line of North Side Drive at the East end of radius at the Southeast corner of North Side Drive and North Main Street).
 - Coordinates on all P.C.'s, P.T.'s, P.I.'s, Manholes, Valves, etc., in the same coordinate system, as the Control.
 - No less than two horizontal benchmarks, per line or location.
 - Bearings given on all proposed centerlines, or baselines.
 - Station equations relating utilities to paving, when appropriate.

8.2. Temporary Right of Entry Preparation and Submittal

- Right-of-Entry notifications will be prepared for survey access by the City. The CITY shall prepare, mail and obtain Temporary Right of Entries from landowners. The City shall track responses and compile a return list.

8.3. Subsurface Utility Engineering

ENGINEER will perform SUE services for this project in general accordance with the recommended practices and procedures described in ASCE publication CI/ASCE 38-02 "Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data." As described in the publication, four levels have been established to describe and depict the quality of subsurface utility information. The four quality levels are as follows:

Quality Level D

- Conduct appropriate investigations (e.g., owner records, TxDOT/County/CITY records, personal interviews, visual inspections, etc.), to help identify utility owners that may have facilities within the project limits or that may be affected by the project.

- Collect applicable records (e.g., utility owner base maps, “as built” or record drawings, permit records, field notes, geographic information system data, oral histories, etc.) on the existence and approximate location of existing involved utilities.
- Review records for: evidence or indication of additional available records; duplicate or conflicting information; need for clarification.
- Develop SUE plan sheets and transfer information on all involved utilities to appropriate design plan sheets, electronic files, and/or other documents as required. Exercise professional judgment to resolve conflicting information. For information depicted, indicate: utility type and ownership; date of depiction; quality level(s); end points of any utility data; line status (e.g., active, abandoned, out of service); line size and condition; number of jointly buried cables; and encasement.

Quality Level C (includes tasks as described for Quality Level D)

- Identify surface features, from project topographic data and from field observations, that are surface appurtenances of subsurface utilities.
- Include survey and correlation of aerial or ground-mounted utility facilities in Quality Level C tasks.
- Survey surface features of subsurface utility facilities or systems, if such features have not already been surveyed by a professional surveyor. If previously surveyed, check survey data for accuracy and completeness.
- The survey shall also include (in addition to subsurface utility features visible at the ground surface): determination of invert elevations of any manholes and vaults; sketches showing interior dimensions and line connections of such manholes and vaults; any surface markings denoting subsurface utilities, furnished by utility owners for design purposes.
- Exercise professional judgment to correlate data from different sources, and to resolve conflicting information.
- Update (or prepare) plan sheets, electronic files, and/or other documents to reflect the integration of Quality Level D and Quality Level C information.
- Recommend follow-up investigations (e.g., additional surveys, consultation with utility owners, etc.) as may be needed to further resolve discrepancies.
- Provide Quality Level C to identify overhead utilities on the project and provide the overhead utility information on the SUE plan sheets.

Level B (includes tasks as described for Quality Level C)

- Select and apply appropriate surface geophysical method(s) to search for and detect subsurface utilities within the project limits, and/or to trace a particular utility line or system to within approximately 1.0 feet.
- Based on an interpretation of data, mark the indications of utilities on the ground surface for subsequent survey. Utilize paint or other method acceptable for marking of lines.
- Unless otherwise directed, mark centerline of single-conduit lines, and outside edges of multi-conduit systems.
- Resolve differences between designated utilities and utility records and surveyed appurtenances.
- Recommend additional measures to resolve differences if they still exist. Recommendations may include additional or different surface geophysical methods, exploratory excavation, or upgrade to Quality Level A data.

- As an alternative to the physical marking of lines, the ENGINEER may, with CITY's approval, utilize other means of data collection, storage, retrieval, and reduction, that enables the correlation of surface geophysical data to the project's survey control.

Quality Level A

- Expose and locate utilities at specific locations.
- Tie horizontal and vertical location of utility to survey control.
- Provide utility size and configuration.
- Provide paving thickness and type, where applicable.
- Provide general soil type and site conditions and such other pertinent information as is reasonably ascertainable from each test hole site.

ENGINEER to include supplemental QL "B" SUE services at E. Pflugerville Parkway at FM 685. Additional QL "B" at Copper Mine Overpass is excluded from this scope of work. The limits of the SUE investigations are shaded in red in Exhibit B. ENGINEER will provide QL "B" SUE designating within the areas, and will attempt to designate the following utilities within this area: potable water, reclaimed water, chilled water, natural gas/crude oil/refined product pipelines, communication duct banks, fiber optic, cable television, telephone, and electric. Wastewater and storm drain facilities will be inverted at manholes, and will be depicted as QL "C" information. ENGINEER will attempt to designate utility servicelines, however, because services are often non-toneable, and often not depicted on records, these lines may not be shown in the final SUE data, Wastewater and storm drain facilities will be inverted at manholes and will be depicted as QL "C" information. Additionally, during this phase, ENGINEER will perform an inventory of overhead utilities within the entire project limits. Irrigation lines are excluded from this scope of work.

Additionally, ENGINEER will provide ten (10) QL "A" SUE test holes at locations identified by the ENGINEER and approved by the CITY following a review of the QL "B" deliverables. Six (6) test holes will be completed at the FM 685 and Pflugerville Parkway intersection. Four (4) test holes will be completed at the Copper Mine Pass intersection.

ENGINEER has made the following assumptions with regard to the test holes on this project:

- All test holes will be accessible to truck-mounted vacuum excavation equipment.
- Right-Of-Way (ROW) permits from the City of Pflugerville (COP) and/or the Texas Department of Transportation (TxDOT) will be required. ENGINEER will obtain all required permits and ensure that coordination and compliance with the appropriate agency is provided.
 - It is assumed that any COP permits will be provided at not cost to the ENGINEER.
- Designed traffic control plans will not be required. It is assumed TxDOT typical TCP details will be utilized for any required lane closures.
- Non-routine traffic control measures will be required. ENGINEER will acquire the services of a qualified Maintenance-Of-Traffic (MOT) Subcontractor and ensure that adequate traffic control is provided.
- The coring of pavement will be required at six (6) locations.
- Flowable fill will not be required when backfilling test holes and full-section pavement repair (including sidewalks) will not be required to restore the original pavement surface. If requested, these services can be provided at an additional cost.

Utility Procedure:

QL "D" and "C" – Records Research and Surface Feature Survey

It is the responsibility of the SUE provider to perform due diligence with regard to records research and the acquisition of available utility records. The due diligence provided for this project will consist of contacting the applicable One Call agency and associated utility owners/municipalities, visually inspecting the work area for evidence of utilities, and reviewing available utility record information. Additional utilities not identified through these efforts will be referred to as Unknown utilities.

QL "B" – Designating

Following a review of the project scope and available utility records with the utility project manager, field personnel will begin designating the approximate horizontal position of known subsurface utilities within the project area. A suite of geophysical equipment that includes magnetic and electromagnetic induction will be used to designate conductive utilities. Where access is available, a sonde will be inserted into non-conductive utilities to provide a medium for transmission which can then be designated using geophysical equipment. Non-conductive utilities can also be designated using other proven methods, such as rodding and probing. Utility staff will make a reasonable attempt to designate Unknown utilities identified during field work; however, no guarantee is made that all Unknown utilities will be designated. Utilities will be marked and labeled to distinguish type and ownership. Field data depicting the designated utilities, as well as relevant surface features, will be produced to provide accuracy and completeness of subsequent survey data. The utility project manager will review the collected survey data, field data, and utility records for accuracy and completeness.

QL "A" – Locating

Utility staff will utilize non-destructive vacuum excavation equipment to excavate test holes at the requested locations. To layout the test holes, utility staff will follow the QL "B" – Designating procedures described above. Once each utility is located, utility staff will record the size, type, material, and depth. Test holes will be uniquely marked. Excavations will be backfilled by mechanical means with the appropriate material, and the original surface will be restored. If necessary, utility staff can core pavement up to a depth of 12 inches. Asphalt surfaces will be repaired with an asphalt cold patch, and concrete cores will be epoxied in place, flush with the surrounding surface.

ENGINEER will establish any necessary routine traffic control measures at no additional cost. However, if non-routine traffic control measures (lane closures, traffic detours, flagpersons, etc.) are required, this service will be invoiced as a direct expense. Due to the risk of damage, ENGINEER will not attempt to probe or excavate test holes on AC water lines unless approval is obtained from the owner in advance. Additionally, excavation in rock, or to a depth greater than 18 feet, is considered beyond the scope of this proposal.

PROJECT DETAIL

Design Survey

- Property Corner Ties: All corners found will be located using either GPS/RTK or conventional methods.

- All new monumentation set will be 5/8-inch iron rods with yellow plastic cap stamped PELOTON or PK Nails with washer stamped PELOTON unless otherwise directed. If directed to set other identifying markers, those markers will be supplied or will be acquired by Peloton at an additional cost.
- Traffic Control: Signs will be placed at the beginning of the project and the end of the project each day. If the vehicle cannot be parked off street, then it will be placed in the most unobtrusive location and cones will be set out.

DELIVERABLES

- A. Copies of field survey data and notes signed and sealed by a licensed surveyor.
- B. Drawing of the project layout with dimensions and coordinate list.
- C. SUE Data
 - a. Utility base map CADD file depicting the type, and horizontal location of the existing/designated utilities. The size of each utility will be presented in the utility file if this information is indicated on available record drawings.
 - b. Up to eight (8) QL "A" SUE test holes at location that will be provided by the Client following a review of the QL "B" information.
 - c. A summary sheet of all test hole coordinate data and depth information.
 - d. 8.5" x 11" Test Hole Data Forms for all test hole locations completed. These plans will be signed and sealed by a Professional Engineer and delivered to the Client in electronic PDF form.
 - e. 11" x 17" SUE Plan Sheets depicting all designated and located utilities. These plans will be signed and sealed by a Professional Engineer and delivered to the Client in electronic PDF form.

ACTIVITY 9. PERMITTING.

ENGINEER will provide permitting support for the CITY to obtain agreements and/or permits normally required for a project of this size and type, as follows:

- 9.1. Texas Pollutant Discharge Elimination System Permitting System and Storm Water Pollution Prevention Plan
 - For projects that disturb an area greater than one (1) acre, the Contractor will be responsible for preparing and submitting the Storm Water Pollution Prevention Plan (SWPPP) with appropriate regulatory agencies.
 - Submit via electronic form submission a Notice of Intent (NOI) to TCEQ and attach completed SWPPP approximately 45 days before initiating ground disturbing activities.
- 9.1.1 Prepare Drainage Study Submittal Checklists (30%, 60%, 90%, Final Submittals) and floodplain development permit. It is assumed that any work in the floodplain will be minor, either to eliminate small floodplain impacts due to proposed improvements or to allow for minor construction within the floodplain, such as storm drain outfall structures.
- 9.2. Texas Department of Licensing and Regulation (TDLR)

- Identify and analyze the requirements of the Texas Architectural Barriers Act, Chapter 68 Texas Administrative Code, and become familiar with the governmental authorities having jurisdiction to approve the design of the Project.
- Submit construction documents to the TDLR.
- Completing all TDLR forms/applications necessary.
- Obtain the Notice of Substantial Compliance from the TDLR
- Request an inspection from TDLR or a TDLR locally approved Registered Accessibility Specialist no later than 30 calendar days after construction substantial completion. Advise the CITY in writing of the results of the inspection.
- Responding to agency comments and requests.

9.3. TxDOT Permit

- Coordinate to obtain approval of the agency issuing the agreement and/or permit.
- Completing all TxDOT forms/applications necessary.
- Submitting forms/applications for CITY and TxDOT review.
- Submitting revised forms to TxDOT for agency review.
- Responding to TxDOT comments and requests.

PROJECT DETAILS

- Permit fees are paid by CITY unless stated otherwise.
- Environmental Services – Not used
- Floodplain Services – Flood Plain Development Permit
- TxDOT permit
- Railroad Permit – Not Used
- Permit preparation will begin after approval of the Conceptual Design.
- Up to five (5) meetings with the agencies for permitting.

DELIVERABLES

- A. Permitting Checklists and documentation.

ACTIVITY 10. PLAN SUBMITTAL CHECKLISTS

Engineer shall complete and submit Plan Submittal Checklists in accordance with the following table:

PLAN SUBMITTAL CHECKLIST REQUIREMENTS

Attachment "A" Type	Traffic Signal (Submit All @ 60%)	Storm Water 30%	Storm Water 60%	Street Lights (Submit All @ 60%)	Water /Sewer (Submit All @ 60%)	Traffic Engineering (Submit All @ 60%)	Traffic Control 30%	Traffic Control 60%	Traffic Control 90%
							Required for all work in CITY ROW		

Street	N/A	X	X	X	X*	X	X	X	X
Storm Water		X	X				X	X	X
Water / Sewer					X		X	X	X

*If included in street project

ADDITIONAL SERVICES NOT INCLUDED IN THE EXISTING SCOPE OF SERVICES

Additional Services not included in the existing Scope of Services – CITY and ENGINEER agree that the following services are beyond the Scope of Services described in the tasks above. However, ENGINEER can provide these services, if needed, upon the CITY’s written request. Any additional amounts paid to the ENGINEER as a result of any material change to the Scope of the Project shall be agreed upon in writing by both parties before the services are performed. These additional services include the following:

- Negotiation of easements or property acquisition.
- Services related to development of the CITY’s project financing and/or budget.
- Services related to disputes over pre-qualification, bid protests, bid rejection and re-bidding of the contract for construction.
- Construction management and inspection services.
- Construction Staking or As-Built Surveying.
- Environmental delineation services and technical reports.
- Ultimate alternative analysis
- Bridge and Landscape design and construction services.
- Performance of materials testing or specialty testing services.
- Design of floodplain enhancements and channel improvements.
- Services necessary due to the default of the Contractor.
- Services related to damages caused by fire, flood, earthquake or other acts of God.
- Services related to warranty claims, enforcement and inspection after final completion.
- Services to support, prepare, document, bring, defend, or assist in litigation undertaken or defended by the CITY.
- Performance of miscellaneous and supplemental services related to the project as requested by the CITY.
- Level A SUE
- Public Meetings and materials

ACTIVITY 11. QUALITY CONTROL/QUALITY ASSURANCE.

ENGINEER to provide to the CITY a Quality Control/ Quality Assurance Plan (QC/QA Plan) outlining the ENGINEER’s method of ensuring the highest levels of design and accuracy are incorporated into the calculations, plans, specifications, and estimates.

ENGINEER is responsible for and shall coordinate all subconsultant activity to include quality and consistency of plans. If, at any time, during the course of reviewing a submittal of any item it becomes apparent to the CITY that the submittal contains errors, omissions, and inconsistencies, the CITY may cease its review and return the submittal to the ENGINEER immediately for appropriate action. A submittal returned to the ENGINEER for this reason may be rejected by the CITY Project Manager

11.1. QC/QA of Survey and SUE Data

- The ENGINEER’s Surveyor shall perform Quality Control/ Quality Assurance on all procedures, field surveys, data, and products prior to delivery to the CITY. The CITY

may also require the ENGINEER's Surveyor to perform a Quality Assurance review of the survey and/or subsurface utility engineering (SUE) work performed by other surveyors and SUE providers.

- ENGINEER's Surveyor shall certify in writing via a letter that the survey information provided has undergone a Quality Control/ Quality Assurance process.
- ENGINEER's Subsurface Utility Engineering provider shall certify in writing via a letter that the SUE information provided has undergone a Quality Control/ Quality Assurance process.

PROJECT DETAILS

- Limited to locations provided.

11.2. QC/QA of Design Documentation

- ENGINEER shall perform a QC/QA review of all documents being submitted for review at all stages of the design including the 30%, 60%, and 90% and Final Document design review submittals. QA should be performed by an individual within the firm who is not on the design team.
- The documentation of a QC/QA review includes (1) a copy of the color-coded, original marked-up document (or "checkprint") developed during the QA checking process and/or review forms which sequentially list documents and associated comments; and (2) a QC sign-off sheet with signatures of the personnel involved in the checking process. Mark-ups may also be documented using the Comment Resolution Log.
- Evidence of the QC/QA review will be required to accompany all submittals. Documentation shall include, but is not limited to, the following items:
 - PDF of the completed Detailed Checklists
 - PDF of the QC/QA checkprint of the calculations, plans, specifications, and estimates demonstrating that a review has been under taken;
 - PDF of previous review comments (if any) and the ENGINEER's responses to those comments in the Comment Resolution Log
 - If any of the above information is missing, is incomplete or if any comments are not adequately addressed; the CITY may contact the ENGINEER and request the missing information. If the ENGINEER does not respond to the request within 24 hours, the CITY shall reject the submittal. No additional time will be granted for a returned submittal.
- If the ENGINEER has not adequately addressed the comments, the submittal shall be rejected and returned to the ENGINEER immediately to address the issues.

PROJECT DETAILS

- All submittals to the CITY will be Quality checked prior to submission.

DELIVERABLES

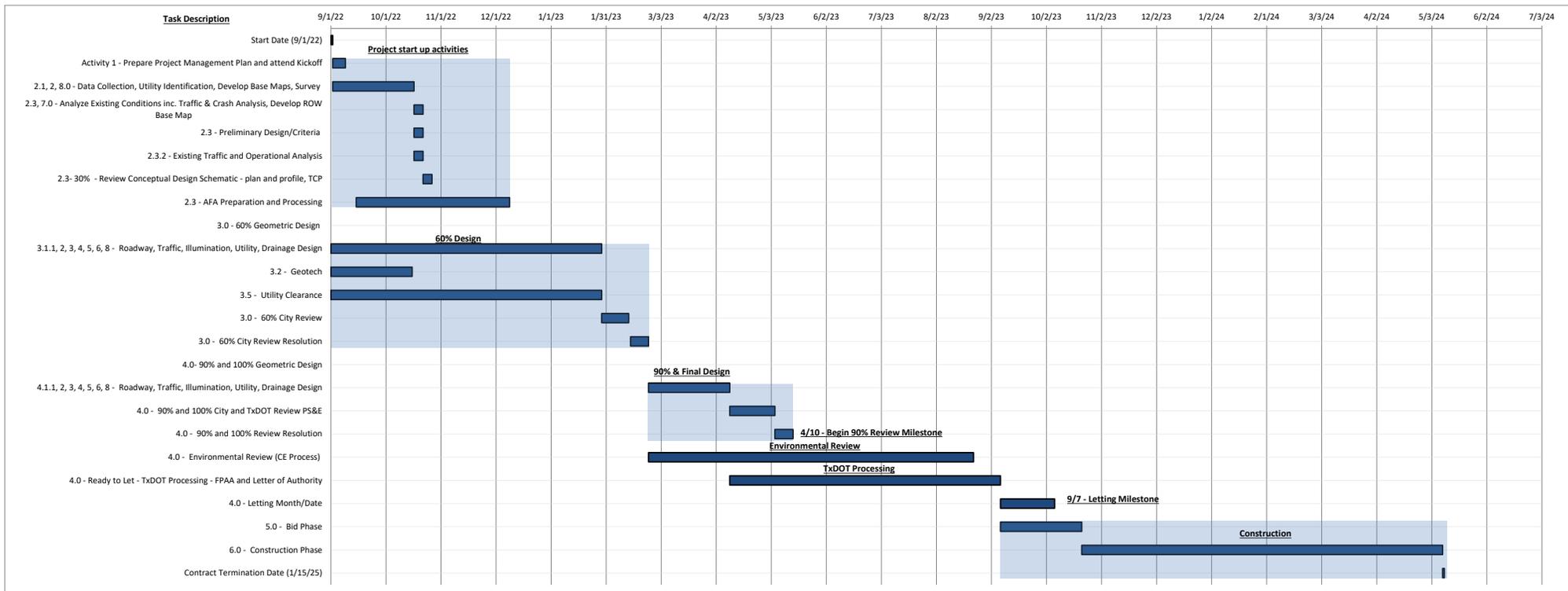
- A. QC/QA Documentation.

ACTIVITY 12. ADDITIONAL SERVICES.

These services may or may not be needed to complete the project. A separate "Notice to Proceed" from the City will be required prior to performing this work:

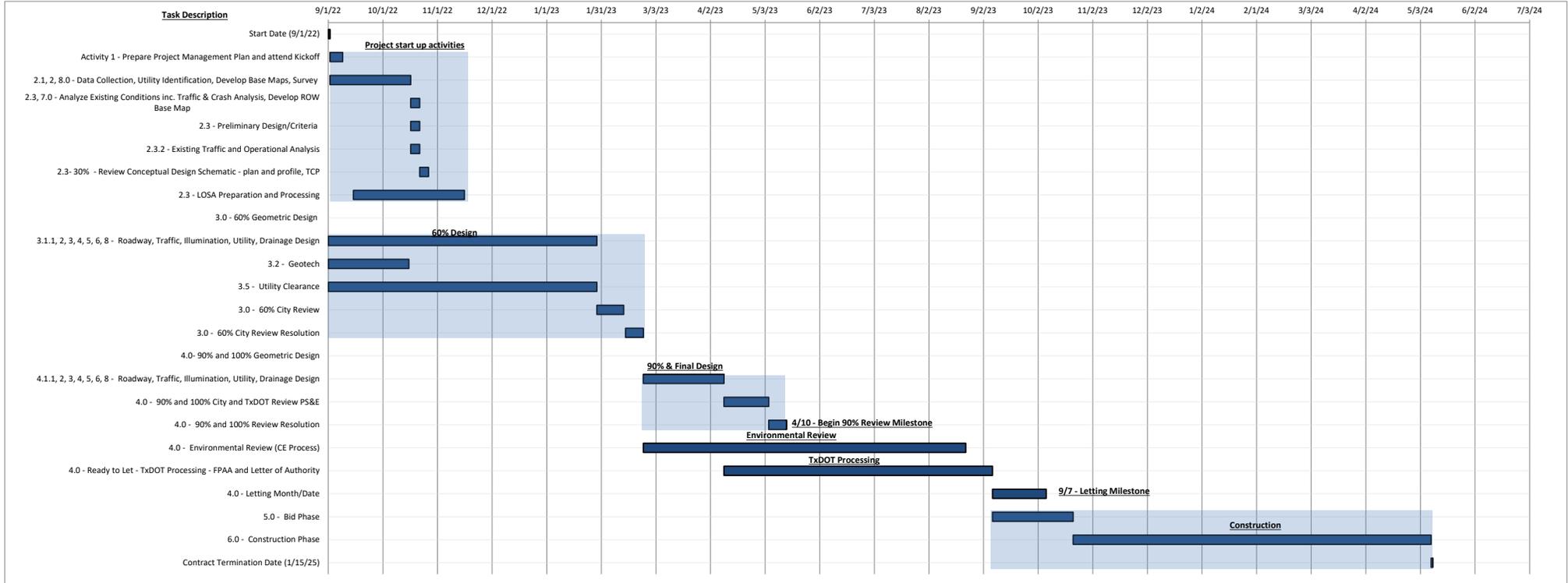
- a) *SUE Services - Quality Level A Test Holes*
- b) *Public Involvement*
- c) *Environmental Technical Memorandum - 404 Permitting*
- d) *Signal Warrant Studies*

Pflugerville Intersections II Work Schedule



Pflugerville Intersections II Work Schedule

Prime Provider:
Burns McDonnell Engineering Company, Inc.



Addendum to Exhibit 2

Plugerville Parkway Fee

Firm	Total Cost	Percent Participation
Peloton	\$83,465.00	17.97%
TRG	\$35,712.65	7.69%
RABA	\$22,826.17	4.92%
Total Sub	\$142,003.82	30.58%
BMCD	\$322,397.01	69.42%
Total	\$464,400.83	100.00%

Copper Mine Fee

Firm	Total Cost	Percent Participation
Peloton	\$55,935.00	18.44%
TRG	\$23,697.27	7.81%
RABA	\$15,470.45	5.10%
Total Sub	\$95,102.72	31.35%
BMCD	\$208,292.34	68.65%
Total	\$303,395.06	100.00%

Intersections II Total

Firm	Total Cost
Peloton	\$139,400.00
TRG	\$59,409.92
RABA	\$38,296.62
Total Sub	\$237,106.54
BMCD	\$530,689.35
Total	\$767,795.89

Level of Effort Spreadsheet
TASK/HOUR BREAKDOWN
 Design Services for
Pflugerville Intersections - Task Order 2
 Burns & McDonnell Engineering Company, Inc.
 8/26/2022

Activity No.	Task Description	Labor (hours)									Total Hours	Total Labor Cost	Sub Labor				Expenses				Total Expense Cost	Task Sub Total	
		Project Manager	Senior Engineer	Project Engineer	Designer	Sr Technician	EIT	Project Controls Specialist	Admin	Subconsultants				Travel	BMcD Directs								
		\$222.00	\$213.00	\$193.00	\$193.00	\$193.00	\$117.00	\$139.00	\$139.00	Peloton			RIOS			Raba	Traffic	Peloton	RIOS	Raba			Traffic
1.0	Project Management	91	0	34	27	10	10	0	10	182	\$36,409	\$8,500	\$0	\$0	\$0	\$90	\$0	\$0	\$0	\$36	\$0	\$126	\$44,909
1.1	Managing the Team	60	0	0	0	0	0	0	0	60	\$13,320	\$2,820								\$36		\$0	\$16,140
1.1.1	Team/Resource management, design development direction	0	0	10	10	0	0	0	10	30	\$5,194											\$36	\$5,230
1.2	Communications and Reporting	0	0	0	0	0	0	0	0	0	\$0	\$5,680			\$90							\$90	\$5,770
	Design Review Meeting (8 months, 3 Mtgs.)	0	0	7	7	0	0	0	0	14	\$2,702											\$0	\$2,702
	Monthly Design Team Meetings (8 Mtgs)	0	0	10	10	10	10	0	0	40	\$6,960											\$0	\$6,960
	Revise Baseline Schedule and monthly updates (8 months)	7	0	7	0	0	0	0	0	14	\$2,905											\$0	\$2,905
	Prepare Monthly Progress Reports	12	0	0	0	0	0	0	0	12	\$2,664											\$0	\$2,664
	Prepare Monthly Invoice	12	0	0	0	0	0	0	0	12	\$2,664											\$0	\$2,664
2.0	30% Design	10	0	0	12	10	0	0	0	32	\$6,466	\$7,485	\$9,347	\$12,945	\$0	\$0	\$13,410	\$9,881	\$0	\$36	\$60	\$23,387	\$36,243
2.1	Data Collection	0	0	0	0	0	0	0	0	0	\$0	\$780		\$12,945				\$9,881				\$9,881	\$10,661
2.2	Subsurface Utility Engineering (Ref. 8.3)	0	0	0	0	0	0	0	0	0	\$0	\$0	\$9,347									\$0	\$0
2.3	30% Design Package	0	0	0	0	0	0	0	0	0	\$0	\$5,665			\$13,410					\$60		\$13,470	\$19,135
2.3.1	Roadway Design (30%)	0	0	0	0	0	0	0	0	0	\$0											\$0	\$0
2.3.2	Traffic Engineering (Signing/Marking)	0	0	0	0	0	0	0	0	0	\$0											\$0	\$0
2.3.3	30% Drainage Study and Analysis (SWPPP)	0	0	0	0	0	0	0	0	0	\$0											\$0	\$0
2.3.4	30% Drainage Design (30%)	0	0	0	0	0	0	0	0	0	\$0											\$0	\$0
2.4	Conceptual/Construction Estimate (1 Total)	0	0	0	0	0	0	0	0	0	\$0	\$1,040										\$0	\$1,040
2.6	Environmental	0	0	0	0	0	0	0	0	0	\$0											\$0	\$0
2.6.1	Natural Resource Investigation	0	0	0	0	0	0	0	0	0	\$0									\$36		\$36	\$36
2.6.2	Cultural Resource Investigation (Antiquities Form & Review Letter)	10	0	0	12	10	0	0	0	32	\$6,466											\$0	\$6,466
3.0	Preliminary Design (60 Percent)	69	10	77	36	84	77	0	0	353	\$64,478	\$8,305	\$12,956	\$0	\$24,935	\$0	\$0	\$0	\$60	\$36	\$120	\$216	\$110,674
3.1	Preliminary Drawings and Specifications	0	0	0	0	0	0	0	0	0	\$0				\$24,935					\$36	\$120	\$156	\$25,091
3.1.1	Roadway Design	6	3	0	18	18	21	0	0	66	\$11,376	\$6,965										\$0	\$18,341
3.1.2	Traffic Engineering (Signing/Marking)	5	0	0	9	0	0	0	0	14	\$2,847											\$0	\$2,847
	Traffic Signal Design	5	0	0	0	0	0	0	0	5	\$1,110											\$60	\$1,170
3.1.3	Traffic Control Plan	6	2	12	9	10	7	0	0	46	\$8,560											\$0	\$8,560
3.1.4	Illumination Plans	5	0	9	0	0	0	0	0	14	\$2,847											\$0	\$2,847
3.1.5	Drainage Design Plans (SWPPP)	5	2	6	0	0	0	0	0	13	\$2,694											\$0	\$2,694
3.1.6	Removal Plans	5	0	7	0	9	10	0	0	31	\$5,368											\$0	\$5,368
3.1.7	Preliminary Landscape Design	0	0	0	0	0	0	0	0	0	\$0											\$0	\$0
3.1.8	Preliminary Water & Wastewater Line Relocation Design	5	3	18	0	18	15	0	0	59	\$10,452											\$0	\$10,452
3.2	Geotechnical Investigation/Pavement Design	5	0	6	0	5	6	0	0	22	\$3,935											\$0	\$3,935
3.3	Constructability Review	6	0	0	0	0	6	0	0	12	\$2,034	\$710										\$0	\$2,744
3.5	Utility Clearance	0	0	0	0	0	0	0	0	0	\$0		\$12,956									\$0	\$0
	Utility Clearance Coordination	9	0	12	0	12	0	0	0	33	\$6,630											\$0	\$6,630
3.6	Construction Estimate	7	0	7	0	12	12	0	0	38	\$6,625	\$630										\$0	\$7,255

**Level of Effort Spreadsheet
TASK/HOUR BREAKDOWN
Design Services for
Pflugerville Intersections - Task Order 2
Burns & McDonnell Engineering Company, Inc.
8/26/2022**

Activity No.	Task Description	Labor (hours)									Total Hours	Total Labor Cost	Sub Labor				Expenses				Total Expense Cost	Task Sub Total					
		Project Manager	Senior Engineer	Project Engineer	Designer	Sr Technician	EIT	Project Controls Specialist	Admin	Subconsultants				Travel	BMcD Directs												
		\$222.00	\$213.00	\$193.00	\$193.00	\$193.00	\$117.00	\$139.00	\$139.00	Peloton			RIOS			Raba	Traffic	Peloton	RIOS	Raba			Traffic				
4.0	Final Design (90 Percent) and Final Construction Documents (100 Percent)	86	17	83	27	51	70	0	0	334	\$61,976	\$7,810	\$0	\$0	\$14,383	\$0	\$0	\$0	\$0	\$0	\$120	\$120	\$84,169				
4.1	Final Draft (90%) Plans and Specifications	0	0	0	0	0	0	0	0	0	\$0	\$4,910			\$1,391						\$120	\$120	\$6,421				
4.1.1	Roadway Design (list Sheets)	5	4	10	10	7	11	0	0	47	\$8,460												\$0	\$8,460			
4.1.2	Traffic Engineering (Signing/Marking)	5	0	0	5	0	0	0	0	10	\$2,075													\$0	\$2,075		
	Traffic Signal Design	5	0	0	0	0	0	0	0	5	\$1,110													\$0	\$1,110		
4.1.3	Traffic Control Plan	7	0	10	0	0	0	0	0	17	\$3,484														\$0	\$3,484	
4.1.4	Illumination Design and Plans	5	0	10	0	0	0	0	0	15	\$3,040														\$0	\$3,040	
4.1.5	Drainage Design Plans (SWPPP)	5	3	0	0	0	9	0	0	17	\$2,802														\$0	\$2,802	
	Drainage Specifications	5	0	0	0	0	0	0	0	5	\$1,110														\$0	\$1,110	
4.1.6	Final Removal Plans	5	0	7	0	10	10	0	0	32	\$5,561														\$0	\$5,561	
4.1.8	Final Water & Wastewater Line Relocation Design	7	5	12	0	12	15	0	0	51	\$9,006														\$0	\$9,006	
4.2	Final (100%) Plans and Specifications	7	5	12	12	10	15	0	0	61	\$10,936	\$2,270			\$8,040										\$0	\$21,246	
	Drainage Specifications	5	0	0	0	0	0	0	0	5	\$1,110				\$1,238										\$0	\$2,348	
	Final Stormwater Report	5	0	0	0	0	0	0	0	5	\$1,110				\$3,714										\$0	\$4,824	
4.3	Project Decision Logs (90% and 100%)	10	0	12	0	0	0	0	0	22	\$4,536															\$0	\$4,536
4.4	Construction Estimates (90% and 100%)	10	0	10	0	12	10	0	0	42	\$7,636	\$630														\$0	\$8,266
5.0	Bid Phase	26	0	26	0	0	40	0	5	97	\$16,165	\$1,720	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$36	\$120	\$156	\$17,885				
5.1	Bid Support	0	0	0	0	0	0	0	0	0	\$0	\$1,090								\$36	\$120	\$156	\$1,246				
5.1.1	Contract Documents and Maintain Plan Holders List	5	0	6	0	0	6	0	0	17	\$2,970														\$0	\$2,970	
5.1.2	Issue Addenda	2	0	5	0	0	10	0	5	22	\$3,274														\$0	\$3,274	
5.1.3	Attend Pre-bid Conference	2	0	0	0	0	0	0	0	2	\$444														\$0	\$444	
5.1.4	Attend Bid Opening	2	0	0	0	0	0	0	0	2	\$444														\$0	\$444	
5.1.5	Tabulate Bids and Recommend Award	5	0	5	0	0	5	0	0	15	\$2,660														\$0	\$2,660	
5.1.6	Issue Conformed Contract Documents	5	0	5	0	0	0	0	0	10	\$2,075														\$0	\$2,075	
5.2	Final Design Drawings	5	0	5	0	0	19	0	0	29	\$4,298	\$630													\$0	\$4,928	
6.0	Construction Phase Services	39	25	48	0	33	18	0	20	183	\$34,502	\$2,130	\$0	\$0	\$0	\$120	\$0	\$0	\$0	\$36	\$60	\$216	\$36,632				
6.1	Construction Support	0	0	0	0	0	0	0	0	0	\$0	\$1,720				\$120					\$60	\$180	\$1,900				
6.1.1	Attend Preconstruction Conference	2	0	2	0	0	2	0	0	6	\$1,064														\$0	\$1,064	
6.1.3	Site Visits & Constr Mtngs (1.5 hr, 1 per month for 6 months)	5	0	5	0	0	6	0	0	16	\$2,777									\$36		\$36	\$2,813				
6.1.4	Submittal Review (Assume 4 shops)	10	10	10	0	0	0	0	0	30	\$6,280														\$0	\$6,280	
6.1.5	Request for Information/Change Order Review	0	10	12	0	12	10	0	0	44	\$7,932														\$0	\$7,932	
6.1.6	Prepare Monthly Progress Reports with Schedule (8)	10	0	0	0	0	0	0	10	20	\$3,610														\$0	\$3,610	
6.1.8	Prepare Monthly Invoice (8)	10	0	0	0	0	0	0	10	20	\$3,610														\$0	\$3,610	
6.1.9	Final Walk Through and Punch List	2	0	7	0	0	0	0	0	9	\$1,795														\$0	\$1,795	
6.2	Record Drawings	0	5	12	0	21	0	0	0	38	\$7,434	\$410													\$0	\$7,844	

**Level of Effort Spreadsheet
TASK/HOUR BREAKDOWN
Design Services for
Pflugerville Intersections - Task Order 2
Burns & McDonnell Engineering Company, Inc.
8/26/2022**

Activity No.	Task Description	Labor (hours)									Total Labor Cost	Sub Labor				Expenses				Total Expense Cost	Task Sub Total		
		Project Manager	Senior Engineer	Project Engineer	Designer	Sr Technician	EIT	Project Controls Specialist	Admin	Total Hours		Subconsultants				Travel	BMcD Directs						
		\$222.00	\$213.00	\$193.00	\$193.00	\$193.00	\$117.00	\$139.00	\$139.00			Peloton	RIOS	Raba	Traffic			Peloton	RIOS			Raba	Traffic
7.0	ROW/Easement Services	34	10	22	7	0	0	0	12	85	\$16,943	\$26,770	\$0	\$0	\$0	\$30	\$0	\$0	\$0	\$0	\$0	\$30	\$43,713
7.1	Right-of-Way Research (2 developer plats, etc.)	0	0	2	7	0	0	0	0	9	\$1,737	\$5,770				\$30						\$30	\$7,537
7.2	Right-of-Way Documents	5	10	10	0	0	0	0	0	25	\$5,170	\$20,050										\$0	\$25,220
7.2.1	Coordination Meetings with Developers	12	0	0	0	0	0	0	0	12	\$2,664											\$0	\$2,664
7.3	Temporary Right of Entry Submittal	5	0	10	0	0	0	0	12	27	\$4,708	\$950										\$0	\$5,658
7.4	Right-of-Way Misc.	12	0	0	0	0	0	0	0	12	\$2,664											\$0	\$2,664
8.0	Survey Services	4	5	15	0	10	0	0	5	39	\$7,473	\$20,385	\$0	\$0	\$0	\$120	\$0	\$0	\$0	\$0	\$0	\$120	\$27,858
8.1	Design Survey	0	5	0	0	10	0	0	0	15	\$2,995	\$20,385				\$120						\$120	\$23,500
8.2	Temporary Right of Entry Submittal (Additional Survey)	2	0	5	0	0	0	0	5	12	\$2,104											\$0	\$2,104
8.3	Subsurface Utility Engineering (QL-A, B, C, & D)	2	0	10	0	0	0	0	0	12	\$2,374											\$0	\$2,374
8.4	Construction Survey (Control & Staking)	0	0	0	0	0	0	0	0	0	\$0											\$0	\$0
9.0	Permitting	24	20	33	0	0	12	0	10	99	\$18,751	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,930	\$0	\$17,266	\$19,196	\$18,751
9.1	TPDES/SWPPP	0	5	0	0	0	0	0	0	5	\$1,065											\$0	\$1,065
9.1.1	Checklist (Prelim thru Final)	0	0	0	0	0	0	0	0	0	\$0											\$0	\$0
9.1.2	Letter of Map Revision (LOMR)	0	0	0	0	0	0	0	0	0	\$0											\$0	\$0
9.2	TDLR	5	0	12	0	0	0	0	5	22	\$4,121										\$3,150	\$3,150	\$7,271
9.3	TxDOT Permit and Coordination	5	5	10	0	0	12	0	5	37	\$6,204										\$150	\$150	\$6,354
10	PLAN SUBMITTAL CHECKLISTS (30%, 60%, 90%)	0	0	11	0	0	0	0	0	11	\$2,123											\$0	\$2,123
11	QUALITY CONTROL/QUALITY ASSURANCE	0	0	0	0	0	0	0	0	0	\$0											\$0	\$0
11.1	QC/QA of Survey and SUE Data	7	5	0	0	0	0	0	0	12	\$2,619											\$0	\$2,619
11.2	QC/QA of Design Documentation	7	5	0	0	0	0	0	0	12	\$2,619											\$0	\$2,619
	Technology charges (\$9.95/Hr)	0	0	0	0	0	0	0	0	0	\$0								\$1,930	\$13,966	\$15,896	\$15,896	
		0	0	0	0	0	0	0	0	0	\$0											\$0	\$0
	Totals	383	87	338	109	198	227	0	62	1404	263,163.40	83,105.00	22,302.65	12,945.33	39,318.00	360.00	13,410.00	9,880.84	1,989.88	179.91	17,745.82	43,566.45	\$420,834

Level of Effort Spreadsheet Notes:

Project Summary	
Total BMcD Hours	1,404
Total BMcD Labor	\$263,163.40
Total Expense	\$43,566.45
Subconsultant Labor	\$118,352.98
BMcD Traffic Labor	\$39,318.00
Total Project Cost	\$464,400.83

Firm	Total Cost	Percent Participation
Peloton	\$83,465.00	17.97%
TRG	\$35,712.65	7.69%
RABA	\$22,826.17	4.92%
Total Sub	\$142,003.82	30.58%
BMCD	\$322,397.01	69.42%
Total	\$464,400.83	100.00%

**Level of Effort Spreadsheet
TASK/HOUR BREAKDOWN
Design Services for
Pflugerville Intersections - Task Order 1
Burns & McDonnell Engineering Company, Inc.
7/25/2022**

Activity No.	Task Description	Labor (hours)									Total Labor Cost	Sub Labor				Expenses				Total Expense Cost	Task Sub Total		
		Project Manager	Senior Engineer	Project Engineer	Designer	Sr Technician	EIT	Project Controls Specialist	Admin	Total Hours		Subconsultants				Travel	BMcD Directs						
		\$222.00	\$213.00	\$193.00	\$193.00	\$193.00	\$117.00	\$139.00	\$139.00			Peloton	RIOS	Raba	Traffic			Peloton	RIOS			Raba	Traffic
1.0	Project Management	61	0	22	17	6	6	0	6	118	\$23,763	\$4,730	\$0	\$0	\$0	\$60	\$0	\$0	\$0	\$24	\$0	\$84	\$28,493
1.1	Managing the Team	40	0	0	0	0	0	0	0	40	\$8,880	\$1,410										\$0	\$10,290
1.1.1	Team/Resource management, design development direction	0	0	6	6	0	0	0	6	18	\$3,150									\$24		\$24	\$3,174
1.2	Communications and Reporting	0	0	0	0	0	0	0	0	0	\$0	\$3,320			\$60							\$60	\$3,380
	Design Review Meeting (8 months, 3 Mtgs.)	0	0	5	5	0	0	0	0	10	\$1,930											\$0	\$1,930
	Monthly Design Team Meetings (8 Mtgs)	0	0	6	6	6	6	0	0	24	\$4,176											\$0	\$4,176
	Revise Baseline Schedule and monthly updates (8 months)	5	0	5	0	0	0	0	0	10	\$2,075											\$0	\$2,075
	Prepare Monthly Progress Reports	8	0	0	0	0	0	0	0	8	\$1,776											\$0	\$1,776
	Prepare Monthly Invoice	8	0	0	0	0	0	0	0	8	\$1,776											\$0	\$1,776
2.0	30% Design	6	0	0	8	6	0	0	0	20	\$4,034	\$5,585	\$6,212	\$8,883	\$0	\$0	\$8,940	\$6,587	\$0	\$24	\$40	\$15,591	\$24,714
2.1	Data Collection	0	0	0	0	0	0	0	0	0	\$0	\$780		\$8,883				\$6,587				\$6,587	\$7,367
2.2	Subsurface Utility Engineering (Ref. 8.3)	0	0	0	0	0	0	0	0	0	\$0		\$6,212									\$0	\$0
2.3	30% Design Package	0	0	0	0	0	0	0	0	0	\$0	\$4,025				\$8,940					\$40	\$8,980	\$13,005
2.3.1	Roadway Design (30%)	0	0	0	0	0	0	0	0	0	\$0											\$0	\$0
2.3.2	Traffic Engineering (Signing/Marking)	0	0	0	0	0	0	0	0	0	\$0											\$0	\$0
2.3.3	30% Drainage Study and Analysis (SWPPP)	0	0	0	0	0	0	0	0	0	\$0											\$0	\$0
2.3.4	30% Drainage Design (30%)	0	0	0	0	0	0	0	0	0	\$0											\$0	\$0
2.4	Conceptual/Construction Estimate (1 Total)	0	0	0	0	0	0	0	0	0	\$0	\$780										\$0	\$780
2.6	Environmental	0	0	0	0	0	0	0	0	0	\$0											\$0	\$0
2.6.1	Natural Resource Investigation	0	0	0	0	0	0	0	0	0	\$0									\$24		\$24	\$24
2.6.2	Cultural Resource Investigation (Antiquities Form & Review Letter)	6	0	0	8	6	0	0	0	20	\$4,034											\$0	\$4,034
3.0	Preliminary Design (60 Percent)	44	8	52	24	55	51	0	0	234	\$42,722	\$6,405	\$8,546	\$0	\$15,792	\$0	\$0	\$0	\$0	\$24	\$80	\$104	\$73,465
3.1	Preliminary Drawings and Specifications	0	0	0	0	0	0	0	0	0	\$0	\$5,065			\$15,792					\$24	\$80	\$104	\$20,961
3.1.1	Roadway Design	4	2	0	12	12	14	0	0	44	\$7,584											\$0	\$7,584
3.1.2	Traffic Engineering (Signing/Marking)	3	0	0	6	0	0	0	0	9	\$1,824											\$0	\$1,824
	Traffic Signal Design	3	0	0	0	0	0	0	0	3	\$666											\$0	\$666
3.1.3	Traffic Control Plan	4	2	8	6	6	5	0	0	31	\$5,759											\$0	\$5,759
3.1.4	Illumination Plans	3	0	6	0	0	0	0	0	9	\$1,824											\$0	\$1,824
3.1.5	Drainage Design Plans (SWPPP)	3	2	4	0	0	0	0	0	9	\$1,864											\$0	\$1,864
3.1.6	Removal Plans	3	0	5	0	6	6	0	0	20	\$3,491											\$0	\$3,491
3.1.7	Preliminary Landscape Design	0	0	0	0	0	0	0	0	0	\$0											\$0	\$0
3.1.8	Preliminary Water & Wastewater Line Relocation Design	3	2	12	0	12	10	0	0	39	\$6,894											\$0	\$6,894
3.2	Geotechnical Investigation/Pavement Design	3	0	4	0	3	4	0	0	14	\$2,485											\$0	\$2,485
3.3	Constructability Review	4	0	0	0	0	4	0	0	8	\$1,356	\$710										\$0	\$2,066
3.5	Utility Clearance	0	0	0	0	0	0	0	0	0	\$0		\$8,546									\$0	\$0
	Utility Clearance Coordination	6	0	8	0	8	0	0	0	22	\$4,420											\$0	\$4,420
3.6	Construction Estimate	5	0	5	0	8	8	0	0	26	\$4,555	\$630										\$0	\$5,185