

INDIVIDUAL PROJECT ORDER NUMBER – Knowles Drive Final Design

Describing a specific agreement between Kimley-Horn and Associates, Inc. (the Consultant or KH), and the City of Saginaw, Texas (the Client) in accordance with the terms of the Master Agreement for Continuing Professional Services dated April 17, 2012, which is incorporated herein by reference.

Identification of Project: Knowles Drive Final Design

Project Understanding:

Kimley-Horn understands that this work will include the preparation of construction documents for roadway, drainage, water and sanitary sewer relocations, pavement markings and signage, traffic control plans, traffic signal, roundabout plans, midblock pedestrian crossings, specifications, as well as project management and coordination tasks for four phases of Knowles Drive. The limits are from Longhorn Road to Edwards Drive and the Knowles Drive and Bailey Boswell Road Intersection (known as project limits).

The project will be designed and constructed in four phases, the phases are as follows:

Phase 1 – Edwards Drive to 400' South of Woodcrest Drive

Phase 2 – 400' South of Woodcrest Drive to W. McLeroy Boulevard

Phase 3 – W. McLeroy Boulevard to Longhorn Road

Phase 4 – Knowles Drive and Bailey Boswell Road Intersection Traffic Signal

A detailed Scope of Services is provided below:

Specific Scope of Basic Services:

Task 1 – Knowles Drive Phase 1 (400' South of Woodcrest Drive to W. McLeroy Boulevard)

A. Final Design – Phase 1 (Lump Sum)

1. Project Management
 - a. Conduct progress meetings to monitor the development of the project. During this phase of the project, conduct up to:
 - Eight (8) monthly project meetings with the City
 - One (1) City Council meeting
 - b. Prepare and e-mail bi-monthly progress reports to the project team (City and KH Staff).
 - c. Project Administration
 - Prepare project correspondence and invoicing documents.
2. Franchise Utility Coordination
 - a. Identify franchise utility contacts.
 - b. Send one set of plans to each franchise utility for their review. Request each franchise utility to mark up the plans to show the size, type, and location of their utilities.
 - c. Notify the City and franchise utility companies if any relocations are required.
 - d. Submit one set of each submittal (60% and 100%) during final design and the project schedule to each affected franchise utility for their review and comment.
 - e. Coordinate with franchise utility companies and inform them of necessary relocations.
 - f. Attend meetings as needed with franchise utility companies.
3. Project site visits, up to two (2), to document existing conditions and evaluate constructability.
4. Roadway
 - a. Prepare plan / profile sheets (22"x34" plan sheets at a scale of 1"=20' horizontal, and 1"=4' vertical). Items to be included:

- Plan:
 - Control data
 - Existing right-of-way
 - Existing topography
 - Existing pavement
 - Proposed centerline alignment and horizontal curve data
 - Proposed face of curb
 - Proposed sidewalk and barrier-free ramps
 - Proposed transition pavement tie-ins to existing pavement
 - Proposed storm sewer and culvert alignments and sizes
 - Existing trees to remain
 - Existing trees to be removed
 - Existing locations
 - Proposed commercial driveways
 - Existing storm drain locations
 - Existing water line locations
 - Existing sanitary sewer line locations
 - Existing franchise utility locations (relying upon information provided by franchise utilities)
- Profile:
 - Existing Ground Profile and Proposed Vertical Alignment
- b. Prepare typical sections:
 - Existing typical section for Knowles Drive
 - Proposed typical section for Knowles Drive
- c. Prepare Roundabout Plans:
 - Alignment & Plan Paving Sheets
 - Profile Sheets
 - Grading Sheets
 - Contour Sheets
- d. Develop design cross-sections:
 - Develop on 50' station intervals and at driveway and cross street centerlines.
 - Show pavement, right-of-way limits, side slopes, pavement cross slopes, curbs and sidewalks.
 - Cross-sections will be provided in the bid documents.
- e. Prepare driveway plan / profile sheets.
- f. Prepare roadway details to clarify intent of design.
- g. Compile applicable City and TxDOT standard details. Modify standard details as needed.
- 5. Drainage
 - a. Perform final storm sewer sizing and alignment design. Prepare final inlet design sheets and hydraulic design sheets for inclusion in the plans.
 - b. Prepare storm sewer plan / profile sheets depicting storm sewer lines, inlets, junction boxes, connections, manholes, utility crossings, and the hydraulic grade lines.
 - c. Prepare profiles for the proposed storm drain laterals.
 - d. Determine outfall grading requirements and provide plans and details for channel protection including concrete riprap.
 - e. Provide plan sheets and details to construct storm sewer outfalls.
 - f. Prepare drainage details to clarify intent of design. Compile applicable City standard details. Modify standard details as needed.

- g. Create details for connections to existing system (where applicable).
- h. Prepare erosion control plan.
- 6. Utilities
 - a. Wastewater
 - Sanitary Sewer Manhole adjustments
 - Sanitary Sewer line lowering/relocations to avoid proposed storm drain (assumed two (2) locations) will be specified in the plans.
 - b. Water
 - Minor adjustments to existing water valve boxes, meters, fire hydrants, etc. will be specified in the plans.
 - Water line lowering/relocations to avoid proposed storm drain (assume ten (10) locations) will be specified in the plans.
 - Water line crossing plan and details
 - c. Prepare utility details to clarify intent of design.
 - d. Compile applicable City standard details. Modify standard details as needed.
- 7. Traffic Control Plans
 - a. Develop suggested sequence of construction narrative and overall phasing plan.
 - b. Prepare phasing layout sheets as needed including detour plans and typical sections.
 - c. Prepare traffic control details to clarify intent of design.
 - d. Compile applicable TxDOT standard details.
- 8. Pavement Marking and Signing Plans
 - a. Prepare pavement marking layouts in accordance with City and TxDOT design standards and TMUTCD.
 - b. Prepare details to clarify intent of design.
 - c. Compile applicable City and TxDOT standard details. Modify standard details as needed.
 - d. Prepare signing layout in accordance with City design standards and the TMUTCD.
- 9. Illumination
 - a. Street lighting foundation and conduit layout in accordance with Oncor specifications (Oncor to furnish and install lighting poles, fixtures and conductors).
- 10. Prepare and submit Nationwide permit. The Consultant will perform a site visit and document any environmental impacts that need to be considered during construction. It is anticipated the channel will use a non-notification nationwide permit. Preparation of an individual permit will be considered Additional Services.
- 11. Prepare general notes and specification data. Identify and prepare special specifications and/or special provisions applicable to the project.
- 12. Compile and update the overall opinion of probable construction cost (OPCC). The Consultant 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. Opinions of probable costs provided herein are based on the information known to Consultant at this time and represent only the Consultant's judgment as a design professional familiar with the construction industry. The Consultant cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.
- 13. Prepare a construction duration estimate using anticipated local production rates.
- 14. Interim design submittal (60%)
 - a. Submit three (3) copies to the City for review and comment.
 - b. Submittal shall include the following:
 - Interim design plans
 - Updated OPCC
- 15. Final design submittal (90%)

- a. Submit three (3) copies to the City for review and comment.
 - b. Submittal shall include the following:
 - Final design plans
 - Contract documents (*NCTCOG*), including the following:
 - City standard construction contract forms
 - Notice to bidders
 - Special instructions to bidders
 - Bid form
 - Standard construction contract
 - Performance bond
 - Payment bond
 - Maintenance bond
 - Certificate of insurance
 - General conditions
 - Special provisions
 - Technical specifications
 - OPCC
 - On behalf of the City, KH will identify and solicit the services of a Registered Accessibility Specialist (RAS) to perform the plan review and inspection on behalf of the TDLR. KH will provide one set of plans (11"x17") for review in accordance with the Elimination of Architectural Barriers Act. The registration, review and inspection fees will be paid directly by the City.
16. Incorporate the final design submittal review comments.
17. Prepare the final OPCC.
18. Final design submittal (100%)
- a. Submit three (3) full-size (22"x34") and three (3) half-size (11"x17") sets of plans and specifications to the City.
 - b. Submit the final OPCC.

Task 2 – Knowles Drive Phase 2 (400' South of Woodcrest Drive to W. McLeroy Boulevard)

A. Final Design – Phase 2 (Lump Sum)

1. Project Management
 - a. Conduct progress meetings to monitor the development of the project. During this phase of the project, conduct up to four (4) additional monthly project meetings with the City.
 - b. Prepare and e-mail bi-monthly progress reports to the project team (City and KH Staff).
 - c. Project Administration
 - Prepare project correspondence and invoicing documents.
2. Franchise Utility Coordination
 - a. Identify franchise utility contacts.
 - b. Send one set of plans to each franchise utility for their review. Request each franchise utility to mark up the plans to show the size, type, and location of their utilities.
 - c. Notify the City and franchise utility companies if any relocations are required.
 - d. Submit one set of each submittal (60% and 100%) during final design and the project schedule to each affected franchise utility for their review and comment.
 - e. Coordinate with franchise utility companies and inform them of necessary relocations.
 - f. Attend meetings as needed with franchise utility companies.
3. Project site visits, up to two (2), to document existing conditions and evaluate constructability.
4. Roadway
 - a. Prepare plan / profile sheets (22"x34" plan sheets at a scale of 1"=20' horizontal, and 1"=4' vertical). Items to be included:
 - Plan:
 - Control data
 - Existing right-of-way
 - Existing topography
 - Existing pavement
 - Proposed centerline alignment and horizontal curve data
 - Proposed face of curb
 - Proposed sidewalk and barrier-free ramps
 - Proposed transition pavement tie-ins to existing pavement
 - Proposed storm sewer and culvert alignments and sizes
 - Existing trees to remain
 - Existing trees to be removed
 - Existing driveway locations
 - Proposed driveways
 - Existing storm drain locations
 - Existing water line locations
 - Existing sanitary sewer line locations
 - Existing franchise utility locations (relying upon information provided by franchise utilities)
 - Profile:
 - Existing Ground Profile and Proposed Vertical Alignment
 - b. Prepare typical sections:
 - Existing typical section for Knowles Drive
 - Proposed typical section for Knowles Drive
 - c. Roundabout at Knowles Drive and W. McLeroy Boulevard, if necessary (to be determined by the Client, assume only one option between 4.c and 4.d to be performed):

- Alignment & Plan Paving Sheets
 - Profile Sheets
 - Grading Sheets
 - Contour Sheets
- d. Traffic Signal at Knowles Drive and W. McLeroy Boulevard, if necessary (to be determined by the Client, assume only one option between 4.c and 4.d to be performed):
 - a. Prepare traffic signal layout plans.
 - b. Meet with electric service provider and Client to identify power source for traffic signal.
 - c. Final design will include complete signal design including existing conditions and removal sheets, traffic signal layout and charts, pavement markings and sign layout and all applicable standards.
 - e. Develop design cross-sections:
 - Develop on 50' station intervals and at driveway and cross street centerlines.
 - Show pavement, right-of-way limits, side slopes, pavement cross slopes, curbs and sidewalks.
 - Cross-sections will be provided in the bid documents.
 - f. Prepare driveway plan / profile sheets.
 - g. Prepare roadway details to clarify intent of design.
 - h. Compile applicable City and TxDOT standard details. Modify standard details as needed.
5. Drainage
 - a. Perform final storm sewer sizing and alignment design. Prepare final inlet design sheets and hydraulic design sheets for inclusion in the plans.
 - b. Prepare storm sewer plan / profile sheets depicting storm sewer lines, inlets, junction boxes, connections, manholes, utility crossings, and the hydraulic grade lines.
 - c. Prepare profiles for the proposed storm drain laterals.
 - d. Determine outfall grading requirements and provide plans and details for channel protection.
 - e. Provide plan sheets and details to construct storm sewer outfalls.
 - f. Prepare drainage details to clarify intent of design. Compile applicable City standard details. Modify standard details as needed.
 - g. Create details for connections to existing system (where applicable).
 - h. Prepare erosion control plan.
 6. Utilities
 - a. Wastewater
 - Sanitary Sewer Manhole adjustments
 - b. Water
 - Minor adjustments to existing water valve boxes, meters, fire hydrants, etc. will be specified in the plans.
 - Water line lowering/relocations to avoid proposed storm drain (assume three (3) locations) will be specified in the plans.
 - Water line crossing plan and details.
 - c. Prepare utility details to clarify intent of design.
 - d. Compile applicable City standard details. Modify standard details as needed.
 7. Traffic Control Plans
 - a. Develop suggested sequence of construction narrative and overall phasing plan.
 - b. Prepare phasing layout sheets as needed including detour plans and typical sections.
 - c. Prepare traffic control details to clarify intent of design.
 - d. Compile applicable TxDOT standard details.
 8. Pavement Marking and Signing Plans

- a. Prepare pavement marking layouts in accordance with City and TxDOT design standards and the TMUTCD.
 - b. Prepare details to clarify intent of design.
 - c. Compile applicable City and TxDOT standard details. Modify standard details as needed.
 - d. Prepare signing layout in accordance with City design standards and the TMUTCD.
 - e. Midblock pedestrian crossing sheets (assume 2 locations):
 - Develop paving sheets showing proposed curb ramp types and locations
 - Develop signing and signing sheets showing proposed pavement markings, standard signs and rectangular rapid flashing beacon (RRFB) assemblies.
9. Illumination
- a. Street lighting foundation and conduit layout in accordance with Oncor specifications (Oncor to furnish and install lighting poles, fixtures and conductors).
10. Prepare and submit Nationwide permit. The Consultant will perform a site visit and document any environmental impacts that need to be considered during construction. It is anticipated the channel will use a non-notification nationwide permit. Preparation of an individual permit will be considered Additional Services.
11. Prepare general notes and specification data. Identify and prepare special specifications and/or special provisions applicable to the project.
12. Compile and update the overall OPCC.
13. Prepare a construction duration estimate using anticipated local production rates.
14. Interim design submittal (60%)
- a. Submit three (3) copies to the City for review and comment.
 - b. Submittal shall include the following:
 - Interim design plans
 - Updated OPCC
15. Final design submittal (90%)
- a. Submit three (3) copies to the City for review and comment.
 - b. Submittal shall include the following:
 - Final design plans
 - Contract documents (*NCTCOG*), including the following:
 - City standard construction contract forms
 - Notice to bidders
 - Special instructions to bidders
 - Bid form
 - Standard construction contract
 - Performance bond
 - Payment bond
 - Maintenance bond
 - Certificate of insurance
 - General conditions
 - Special provisions
 - Technical specifications
 - OPCC
 - On behalf of the City, KH will identify and solicit the services of a RAS to perform the plan review and inspection on behalf of the TDLR. KH will provide one set of plans (11"x17") for review in accordance with the Elimination of Architectural Barriers Act. The registration, review and inspection fees will be paid directly by the City.
16. Incorporate the final design submittal review comments.

17. Prepare the final OPCC.
18. Final design submittal (100%)
 - a. Submit three (3) full-size (22"x34") and three (3) half-size (11"x17") sets of plans and specifications to the City.
 - b. Submit the final OPCC.

D. Roundabout Public Involvement (Reimbursable)

This task includes the Consultant performing roundabout public involvement support for this project. This task may include the following subtasks. The budget for this task is based upon 220 hours of effort.

1. Conduct one (1) public meeting.
 - a. Prepare informational materials including a visualization of the proposed roundabout.
2. Attend and present at one (1) council workshops.
 - a. Prepare and discuss general roundabout information safety, operations, pros/cons.
 - b. Obtain and document feedback.
 - c. Incorporate feedback into final design.
3. Attend up to two (2) public outings (such as Train and Grain, Concerts in the Park, etc) to discuss roundabouts with the public.
 - a. Obtain and document feedback.
4. Prepare educational information regarding roundabouts to be posted to City's website.
5. Prepare educational workshop to be hosted at a City facility such as the Recreation Center to engage children and parents into activities related to roundabouts.

Task 3 – Knowles Drive Phase 3 (W. McLeroy Boulevard to Longhorn Road)

A. Final Design – Phase 3 (Lump Sum)

1. Project Management
 - a. Conduct progress meetings to monitor the development of the project. During this phase of the project, conduct up to four (4) additional monthly project meetings with the City.
 - b. Prepare and e-mail bi-monthly progress reports to the project team (City and KH Staff).
 - c. Project Administration
 - Prepare project correspondence and invoicing documents.
2. Franchise Utility Coordination
 - a. Identify franchise utility contacts.
 - b. Send one set of plans to each franchise utility for their review. Request each franchise utility to mark up the plans to show the size, type, and location of their utilities.
 - c. Notify the City and franchise utility companies if any relocations are required.
 - d. Submit one set of each submittal (60% and 100%) during final design and the project schedule to each affected franchise utility for their review and comment.
 - e. Coordinate with franchise utility companies and inform them of necessary relocations.
 - f. Attend meetings as needed with franchise utility companies.
3. Energy Transfer Gas Coordination:
 - a. The Consultant will meet with coordinate and meet with Energy Transfer Gas Company one time to discuss design requirements necessary for the gas line to remain in place.
4. Project site visits, up to two (2), to document existing conditions and evaluate constructability.
5. Roadway
 - a. Prepare plan / profile sheets (22"x34" plan sheets at a scale of 1"=20' horizontal, and 1"=4' vertical). Items to be included:
 - Plan:
 - Control data
 - Existing right-of-way
 - Existing topography
 - Existing pavement
 - Proposed centerline alignment and horizontal curve data
 - Proposed face of curb
 - Proposed sidewalk and barrier-free ramps
 - Proposed transition pavement tie-ins to existing pavement
 - Proposed storm sewer and culvert alignments and sizes
 - Existing trees to remain
 - Existing trees to be removed
 - Existing driveway locations
 - Proposed driveway locations
 - Existing storm drain locations
 - Existing water line locations
 - Existing sanitary sewer line locations
 - Existing franchise utility locations (relying upon information provided by franchise utilities)
 - Profile:
 - Existing Ground Profile and Proposed Vertical Alignment
 - b. Prepare typical sections:
 - Existing typical section for Knowles Drive

- Proposed typical section for Knowles Drive
- c. Develop design cross-sections:
 - Develop on 50' station intervals and at driveway and cross street centerlines
 - Show pavement, right-of-way limits, side slopes, pavement cross slopes, curbs and sidewalks
 - Cross-sections will be provided in the bid documents.
- d. Prepare driveway plan / profile sheets.
- e. Prepare roadway details to clarify intent of design.
- f. Compile applicable City and TxDOT standard details. Modify standard details as needed.
- 6. Drainage
 - a. Perform final storm sewer sizing and alignment design. Prepare final inlet design sheets and hydraulic design sheets for inclusion in the plans.
 - b. Prepare storm sewer plan / profile sheets depicting storm sewer lines, inlets, junction boxes, connections, manholes, utility crossings, and the hydraulic grade lines.
 - c. Prepare profiles for the proposed storm drain laterals.
 - d. Determine outfall grading requirements and provide plans and details for channel protection.
 - e. Provide plan sheets and details to construct storm sewer outfalls.
 - f. Prepare drainage details to clarify intent of design. Compile applicable City standard details. Modify standard details as needed.
 - g. Create details for connections to existing system (where applicable).
 - h. Prepare erosion control plan.
- 7. Utilities
 - a. Wastewater
 - Sanitary Sewer Manhole adjustments
 - b. Water
 - Minor adjustments to existing water valve boxes, meters, fire hydrants, etc. will be specified in the plans.
 - Water line lowering/relocations to avoid proposed storm drain (assume seven (7) locations) will be specified in the plans.
 - Water line crossing plan and details.
 - c. Prepare utility details to clarify intent of design
 - d. Compile applicable City standard details. Modify standard details as needed.
- 8. Traffic Control Plans
 - a. Develop suggested sequence of construction narrative and overall phasing plan.
 - b. Prepare phasing layout sheets as needed including detour plans and typical sections.
 - c. Prepare traffic control details to clarify intent of design.
 - d. Compile applicable TxDOT standard details.
- 9. Pavement Marking and Signing Plans
 - a. Prepare pavement marking layouts in accordance with City and TxDOT design standards and the TMUTCD.
 - b. Prepare details to clarify intent of design.
 - c. Compile applicable City and TxDOT standard details. Modify standard details as needed.
 - d. Prepare signing layout in accordance with City design standards and the TMUTCD.
 - e. Midblock pedestrian crossing sheets (assume 2 locations):
 - Develop paving sheets showing proposed curb ramp types and locations.
 - Develop signing and signing sheets showing proposed pavement markings, standard signs and rectangular rapid flashing beacon (RRFB) assemblies.
- 10. Traffic Signal
 - a. Prepare traffic signal layout plans for the Knowles Drive and Longhorn Road.

- b. Meet with electric service provider and Client to identify power source for traffic signal.
 - c. Final design will include complete signal design including existing conditions and removal sheets, traffic signal layout and charts, pavement markings and sign layout and all applicable standards.
- 11. Illumination
 - a. Street lighting foundation and conduit layout in accordance with Oncor specifications (Oncor to furnish and install lighting poles, fixtures and conductors).
- 12. Prepare and submit Nationwide permit. The Consultant will perform a site visit and document any environmental impacts that need to be considered during construction. It is anticipated the channel will use a non-notification nationwide permit. Preparation of an individual permit will be considered Additional Services.
- 13. Prepare general notes and specification data. Identify and prepare special specifications and/or special provisions applicable to the project.
- 14. Compile and update the overall OPCC.
- 15. Prepare a construction duration estimate using anticipated local production rates.
- 16. Interim design submittal (60%)
 - a. Submit three (3) copies to the City for review and comment.
 - b. Submittal shall include the following:
 - Interim design plans
 - Updated OPCC
- 17. Final design submittal (90%)
 - a. Submit three (3) copies to the City for review and comment.
 - b. Submittal shall include the following:
 - Final design plans
 - Contract documents (*NCTCOG*), including the following:
 - City standard construction contract forms
 - Notice to bidders
 - Special instructions to bidders
 - Bid form
 - Standard construction contract
 - Performance bond
 - Payment bond
 - Maintenance bond
 - Certificate of insurance
 - General conditions
 - Special provisions
 - Technical specifications
 - OPCC
 - On behalf of the City, KH will identify and solicit the services of a RAS to perform the plan review and inspection on behalf of the TDLR. KH will provide one set of plans (11"x17") for review in accordance with the Elimination of Architectural Barriers Act. The registration, review and inspection fees will be paid directly by the City.
- 18. Incorporate the final design submittal review comments.
- 19. Prepare the final OPCC.
- 20. Final design submittal (100%)
 - a. Submit three (3) full-size (22"x34") and three (3) half-size (11"x17") sets of plans and specifications to the City
 - b. Submit the final OPCC.

Task 4 – Knowles Drive and Bailey Boswell Road Intersection Traffic Signal

A. Final Design – Phase 4 (Lump Sum)

1. Project Management
 - a. Conduct progress meetings to monitor the development of the project. During this phase of the project, conduct up to four (4) monthly project meetings with the City.
 - b. Prepare and e-mail bi-monthly progress reports to the project team (City and KH Staff).
 - c. Project Administration
 - Prepare project correspondence and invoicing documents.
1. Data Collection
 - a. Perform Field reconnaissance of the intersection to verify the information obtained from topographic survey, existing lane configurations, pavement widths, traffic control and utility locations.
 - b. Coordinate with Texas 811 and Client to mark underground utilities.
 - c. Collect 24-hr turning movements at the intersection to develop traffic signal timing.
2. Design
 - a. Conceptual design submittal (30%)
 - Prepare and submit three (3) copies to the City for review and comment.
 - Submittal shall include the following:
 - Interim design plans including preliminary locations of proposed signal equipment.
 - Conceptual OPCC
 - b. Meet with Client to discuss 30% design review comments.
 - c. Meet with electric service provider and Client to identify power source for traffic signal.
 - d. Prepare general notes and specification data. Identify and prepare special specifications and/or special provisions applicable to the project.
 - e. Final design submittal (90%)
 - Prepare and submit three (3) copies to the City for review and comment.
 - Submittal shall include the following:
 - o Final design plans
 - Final design will include complete signal design including existing conditions and removal sheets, traffic signal layout and charts, curb ramps and sidewalk layout, pavement markings and sign layout and all applicable standards.
 - o Contract documents, including the following:
 - City standard construction contract forms
 - Notice to bidders
 - Special instructions to bidders
 - Bid form
 - Standard construction contract
 - Performance bond
 - Payment bond
 - Maintenance bond
 - Certificate of insurance
 - General conditions
 - Special provisions
 - Technical specifications
 - o OPCC
 - f. Incorporate the final design submittal review comments.

- g. Prepare final OPCC.
- h. Final design submittal (100%)
 - Submit three (3) full-size (22"x34") and three (3) half-size (11"x17") sets of plans and specifications to the City.
 - Submit the final OPCC.

Task 5 – Geotechnical Analysis (provided by subconsultant) (Lump Sum)

As part of this task, the following subtasks will be performed:

1. Subsurface Exploration
 - a. Roadway – Along the roadway alignment, drill and extrude fifteen (15) sample borings to depths of 10' below existing grade using truck-mounted equipment.
 - Check samples for consistency with a hand penetrometer.
 - Stake the boring locations using normal taping procedures.
 - Backfill bore holes and plug at the surface.
 - Rock, if encountered, will be evaluated for hardness by TxDOT cone penetration field testing.
2. Laboratory Services
 - a. Considering the planned facilities, anticipated soil conditions, and geology, the following laboratory tests will be required for classification purposes and to determine strength characteristics:
 - Moisture content and soil identification
 - Liquid and plastic limit determinations
 - Unconfined compression tests to evaluate soil strengths
 - Swell test to determine swell potential and subgrade treatment requirements, including subgrade modifications (if required)
 - Unit weight determinations
 - Eades and Grim lime series tests to determine percent lime required for subgrade stabilization
 - Soluble sulfate tests (to determine lime-induced heaving potential)
3. Engineering Analysis
 - a. Prepare an engineering report presenting the following:
 - Sample boring location map
 - General soil and ground-water conditions
 - Examine samples for visible evidence of sulfates and discuss in the reports
 - Recommendations for appropriate subgrade treatment, stabilization type and concentration
 - Recommendations for subgrade modification (if required)
 - Recommended pavement section based on traffic data
 - b. Submit one (1) copy of the report to the City.

Task 6 – Subsurface Utility Engineering (SUE) (Provided by subconsultant) (Reimbursable)

1. Provide Subsurface Utility Engineering (SUE) to Quality Level A, as described below. SUE level A shall be performed on any utilities where conflicts with proposed improvements are suspected based on level B SUE. SUE shall be performed before design on all utilities and, to confirm proper relocation and clearance after utility relocation is complete, on relocated utilities. The SUE shall be performed in accordance with CI/ASCE 38-02.
 - a. Level B (as necessary)
 - 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.
 - 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.
 - b. 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.

Bidding and Construction Contract Administration (Applicable for Tasks 1, 2, 3 and 4)

B. Bidding Phase (Reimbursable)

1. Final bid documents submittal
 - a. Upload all plans and contract documents onto Civcast (or similar website) for access to potential bidders. Contract documents shall be uploaded in .pdf files.
 - b. Print three (3) full-size (22"x34") and three (3) half-size (11"x17") sets for City's use.
 - c. Submittal shall include the following:
 - Final plans
 - Final contract documents
 - Final OPCC
 - d. Furnishing additional copies of review documents and/or bid documents in excess of the number of the same identified above will be considered as Additional Services.
2. Maintain a list of bidders to whom bidding documents have been issued.
3. Prepare for and conduct a pre-bid meeting with prospective bidders.
4. Issue addenda as appropriate to interpret, clarify, or expand the bidding documents.
5. Attend the Bid Opening.
6. Tabulate the bids received and evaluate the compliance of the bids received with the bidding documents.
7. Prepare a written summary of this tabulation and evaluation together with a letter addressing the award of the construction contract.

C. Construction Contract Administration (Reimbursable)

1. Project Management
 - a. Project Communication
 - Conduct monthly progress/coordination meetings with the City and/or Contractor during the Construction phase of the project.
 - b. Project Administration
 - Prepare project correspondence and invoice documents.
2. *Pre-Construction Conference*. Prepare for and conduct the Pre-Construction Conference prior to commencement of Work at the Site.
3. *Visits to Site and Observation of Construction*. Consultant will provide on-site construction observation services during the construction phase. Consultant will make visits at intervals as directed by Client in order to observe the progress of the Work. Such visits and observations by Consultant are not intended to be exhaustive or to extend to every aspect of Contractor's work in progress. Observations are to be limited to spot checking, selective measurement, and similar methods of general observation of the Work based on Consultant's exercise of professional judgment. Based on information obtained during such visits and such observations, Consultant will evaluate whether Contractor's work is generally proceeding in accordance with the Contract Documents, and Consultant will keep Client informed of the general progress of the Work.
 - a. The purpose of Consultant's site visits will be to enable Consultant to better carry out the duties and responsibilities specifically assigned in this Agreement to Consultant, and to provide Client a greater degree of confidence that the completed Work will conform in general to the Contract Documents. Consultant shall not, during such visits or as a result of such observations of Contractor's work in progress, supervise, direct, or have control over Contractor's work, nor shall KH have authority over or responsibility for the means, methods, techniques, equipment choice and usage, sequences, schedules, or procedures of construction selected by Contractor, for safety precautions and programs incident to Contractor's work, nor for any failure of Contractor to comply with laws and regulations applicable to Contractor's

furnishing and performing the Work. Accordingly, Consultant neither guarantees the performance of any Contractor nor assumes responsibility for any Contractor's failure to furnish and perform its work in accordance with the Contract Documents.

4. *Recommendations with Respect to Defective Work.* Consultant will recommend to Client that Contractor's work be disapproved and rejected while it is in progress if, on the basis of such observations, Consultant believes that such work will not produce a completed Project that conforms generally to Contract Documents.
5. *Clarifications and Interpretations.* Consultant will respond to reasonable and appropriate Contractor requests for information and issue necessary clarifications and interpretations of the Contract Documents to Client as appropriate to the orderly completion of Contractor's work. Any orders authorizing variations from the Contract Documents will be made by Client.
6. *Change Orders.* Consultant may recommend Change Orders to Client, and will review and make recommendations related to Change Orders submitted or proposed by the Contractor.
7. *Contractor's Estimates.* Review and process contractor's estimates.
8. *Shop Drawings and Samples.* Consultant will review and approve or take other appropriate action in respect to Shop Drawings and Samples and other data which Contractor is required to submit, but only for conformance with the information given in the Contract Documents. Such review and approvals or other action will not extend to means, methods, techniques, equipment choice and usage, sequences, schedules, or procedures of construction or to related safety precautions and programs.
9. *Substitutes and "or-equal."* Evaluate and determine the acceptability of substitute or "or-equal" materials and equipment proposed by Contractor in accordance with the Contract Documents, but subject to the provisions of applicable standards of state or local government entities..
10. *Inspections and Tests.* Consultant may require special inspections or tests of Contractor's work as Consultant deems appropriate, and may receive and review certificates of inspections within Consultant's area of responsibility or of tests and approvals required by laws and regulations or the Contract Documents. Consultant's review of such certificates will be for the purpose of determining that the results certified indicate compliance with the Contract Documents and will not constitute an independent evaluation that the content or procedures of such inspections, tests, or approvals comply with the requirements of the Contract Documents. Consultant shall be entitled to rely on the results of such tests and the facts being certified.
11. *Disagreements between City and Contractor.* Consultant will, if requested by Client, render written decision on all claims of Client and Contractor relating to the acceptability of Contractor's work or the interpretation of the requirements of the Contract Documents pertaining to the progress of Contractor's work. In rendering such decisions, Consultant shall be fair and not show partiality to Client or Contractor and shall not be liable in connection with any decision rendered in good faith in such capacity.
12. *Applications for Payment.* Based on its observations and on review of applications for payment and accompanying supporting documentation, Consultant will determine the amounts that Consultant recommends Contractor be paid. Such recommendations of payment will be in writing and will constitute Consultant's representation to Client, based on such observations and review, that, to the best of Consultant's knowledge, information and belief, Contractor's work has progressed to the point indicated and that such work-in-progress is generally in accordance with the Contract Documents subject to any qualifications stated in the recommendation. In the case of unit price work, Consultant's recommendations of payment will include determinations of quantities and classifications of Contractor's work, based on observations and measurements of quantities provided with pay requests.
 - a. By recommending any payment, Consultant shall not thereby be deemed to have represented that its observations to check Contractor's work have been exhaustive, extended to every aspect of Contractor's work in progress, or involved detailed inspections of the Work beyond

the responsibilities specifically assigned to Consultant in this Agreement. It will also not impose responsibility on Consultant to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, nor to determine that title to any portion of the work in progress, materials, or equipment has passed to Client free and clear of any liens, claims, security interests, or encumbrances, nor that there may not be other matters at issue between Client and Contractor that might affect the amount that should be paid.

13. *Substantial Completion.* Consultant will, promptly after notice from Contractor that it considers the entire Work ready for its intended use, in company with Client and Contractor, conduct a site visit to determine if the Work is substantially complete. Work will be considered substantially complete following satisfactory completion of all items with the exception of those identified on a final punch list. If after considering any objections of Client, Consultant considers the Work substantially complete, Consultant will notify Client and Contractor.
14. *Final Notice of Acceptability of the Work.* Consultant will conduct a final site visit to determine if the completed Work of Contractor is generally in accordance with the Contract Documents and the final punch list so that Consultant may recommend, in writing, final payment to Contractor. Accompanying the recommendation for final payment, Consultant shall also provide a notice that the Work is generally in accordance with the Contract Documents to the best of Consultant's knowledge, information, and belief based on the extent of its services and based upon information provided to Consultant upon which it is entitled to rely.
15. *Limitation of Responsibilities.* Consultant shall not be responsible for the acts or omissions of any Contractor, or of any of their subcontractors, suppliers, or of any other individual or entity performing or furnishing the Work. Consultant shall not have the authority or responsibility to stop the work of any Contractor.
16. *Record Drawings.* Prepare project "Record Drawings" based on information provided by the Contractor and/or City as to the actual field placement of the work including any changes or deletions. KH is not responsible for the accuracy of the information provided by the Contractor and/or the City. KH will provide the following deliverables:
 - a. One (1) set of reproducible (22" x 34") Record Drawings.
 - b. One (1) set of blackline (22" x 34") Record Drawings
 - c. One (1) set of .pdf file Record Drawings

Additional Services (as required and authorized):

Any services not specifically provided for in the above scope will be billed as additional services and performed at our then current hourly rates. Additional services we can provide include, but are not limited to, the following:

- Construction staking
- Landscape and Irrigation Design
- Design of any offsite drainage improvements beyond the improvements identified in the scope
- Furnish additional copies of review documents and/or bid documents in excess of the number of the same identified above
- Assist the City as an expert witness in litigation in connection with the project or in hearings before approving and regulatory agencies
- Redesign to reflect project scope changes requested by the City, required to address changed conditions or change in direction previously approved by the City, mandated by changing governmental laws, or necessitated by the City's acceptance of substitutions proposed by the contractor
- Wastewater design beyond scope of services identified above
- Water line design beyond scope of services identified above
- Additional bid packages

Schedule:

Work will begin upon receipt of Notice to Proceed from the Client and will be completed in a mutually agreed upon schedule.

Terms of compensation:

Kimley-Horn will perform the following Basic Services for the total lump sum fee below. Individual task amounts are informational only. All permitting, application, and similar project fees will be paid directly by the Client.

Basic Services:

Task 1A Final Design – Phase 1	\$ 639,900
Task 2A Final Design – Phase 2	\$ 554,600
Task 3A Final Design – Phase 3	\$ 688,000
Task 4A Final Design – Phase 4	\$ 35,000
<u>Task 5 Geotechnical Analysis</u>	<u>\$ 20,500</u>
Total for Basic Services:	\$1,938,000

The Consultant will perform the services identified in the Lump Sum Tasks above for a total Lump Sum fee of \$1,948,000. Lump sum fees will be invoiced monthly based upon the overall percentage of services performed.

Kimley-Horn will perform the following Special Services on a labor fee plus expense basis upon authorization from the Client. Labor fee will be billed on an hourly basis according to our then-current rates.

Special Services (Reimbursable) (Upon Authorization):

Task 1B Bidding (Phase 1)	\$ 10,500
Task 1C Construction Contract Administration (Phase 1)	\$ 45,500
Task 2B Bidding (Phase 2)	\$ 10,500
Task 2C Construction Contract Administration (Phase 2)	\$ 43,000
Task 2D Roundabout Public Involvement (Phase 2)	\$ 40,000
Task 3B Bidding (Phase 3)	\$ 10,500
Task 3C Construction Contract Administration (Phase 3)	\$ 45,500
Task 4B Bidding (Phase 4)	\$ 5,000
Task 4C Construction Contract Administration (Phase 4)	\$ 10,000
Task 6 Subsurface Utility Engineering	\$ 50,000
Total for Special Services:	\$270,500

Total Budgetary Labor Fee: \$2,208,500

The Consultant will perform the services identified in the Reimbursable Tasks above on a labor fee plus expense (reimbursable) basis for an estimated fee of \$270,500. Labor fee will be billed on an hourly basis according to the attached rate schedule, which is subject to annual adjustment. Direct reimbursable expenses such as express delivery services, fees, and other direct expenses will be billed at 1.15 times cost. 6% of labor fee will be added to each invoice to cover certain other expenses such as telecommunications, in-house reproduction, postage, supplies, project related computer time, and local mileage. Administrative time related to the project will be billed hourly. All permitting, application, and similar project fees will be paid directly by the Client. Any fee projections in this Agreement are for general budgeting purposes only. Actual fees may be less or more than the projections.

Payment will be due within 25 days of your receipt of the invoice.

Special terms of compensation: The hourly rates listed below are valid through June 30, 2021.

Hourly Rates

Senior Professional I	\$190 - \$255
Senior Professional II	\$245 - \$270
Professional	\$165 - \$215
Analyst	\$110 - \$180
Senior Technical Support	\$120 - \$195
Technical Support	\$90 - \$105
Clerical/Administrative Support	\$80 - \$120

ACCEPTED:

CITY OF SAGINAW, TEXAS

KIMLEY-HORN AND ASSOCIATES, INC.

BY: _____

Gabe Reaume
City Manager

BY: _____

Scott R. Arnold, P.E.
Vice President

DATE: _____

DATE: February 18, 2020