EXHIBIT A

SCOPE OF SERVICES
TO BE PERFORMED BY CONSULTANT

CITY OF McKINNEY
Gray Branch Park Master Plan Update

November 8, 2017

I. BASIC SERVICES

A. Project Site: The project site is a 212-acre site abutting Wilson Creek, south of US 380 and on both sides of Gray Branch Road. This site was previously master planned, however, an additional one hundred twelve (112) acres has been acquired by the City. The objective of this update is to incorporate the additional property into the plan and adjust the land use, circulation and facilities to provide maximum utilization.

B. Park Elements: The program of development shall include, but not be limited to, the following elements. It is understood that the cost of the total development may exceed the allocated funds for the project. The Master Plan Update will focus on full development of the park. Strategies for phasing and funding sources will be incorporated into the plan.

1. Athletics (number of fields depends on site conditions)
    a. Soccer fields – approximately 20 total, 16 natural grass, 4 artificial turf, which includes one (1) Championship Field with seating for 3,500 spectators
    b. Tennis courts
    c. Basketball courts
    d. Lacrosse fields
    e. Sand volleyball
    f. Cricket pitch

2. Facilities
    a. Multigenerational Recreation Center
    b. Concession / Restroom buildings - (number depends on park layout)
    c. Food Truck Concession areas
    d. Maintenance area
    e. Playground
    f. Large pavilion(s)
    g. Satellite shelters

3. Miscellaneous
    a. Recreational trails, concrete and natural surface
    b. Pedestrian bridges
    c. Lighting (roadway, pedestrian and security)
    d. Sports lighting
    e. Landscaping (trees and planters beds)
    f. Pond
    g. Natural areas
    h. Splash pad
    i. Picnic areas
    j. Open space
    k. Trail head(s)

4. Utilities
    a. Sanitary sewer connections
    b. Water service and fire protection
    c. Storm drainage system
    d. Water supply for irrigation system

5. Park Roads, Parking, and Site Structures
    a. Park roads and drives
    b. Vehicular bridges
    c. Parking areas
    d. Alignment for future street(s) and park access drives
    e. Turn lanes on existing perimeter streets

C. Soccer Complex Program: The Owner will work with a third party regional athletic field design, operation, and maintenance organization to sponsor and manage the soccer complex. The Consultant will work with both the Owner and the Management Group to develop the program and Master Plan of Development

D. Park Master Planning Phase: The Owner has established the general program elements as expressed by the citizens of McKinney and staff, but is aware that the program elements may change through the master planning process. However, it is the Owner's intent that the Consultant have the flexibility and creativity to provide as many of the program elements as possible.

1. Services – Consultant will provide/perform the following Master Planning Phase Services:
    a. Conduct reconnaissance of the park site.
    b. Analyze the capabilities and limitations of the park site and prepare descriptive graphics in a study of development feasibility.

(1) This effort shall include an investigation of property abutting the subject area to assess the need for property acquisition and/or public easements for review by City Staff.

c. Prepare a packet/brochure for City Council describing the history of the Gray Branch Park Site and its current Master Plan.
d. Conduct a work session with City Staff to determine a Program of Development for the park site which includes the Elements referenced above.
e. Prepare conceptual park development plan alternatives in sketch form.
f. Present the most viable plan alternatives in a work session with the Staff for review and further development.
g. Prepare a first draft of the master plan for staff review and revisions prior to public presentations.
h. Prepare general opinions of probable cost and recommendations for construction phasing. Increments of development will correspond to park budget plans.
i. Prepare recommendations for maintenance personnel, equipment, and operational budget for the sports venue.
j. Present the final draft master plan, opinion of probable cost and phasing recommendations once to the Parks, Recreation & Open Space Advisory Board.
k. Upon final approval and authorization to proceed, make final revisions to the master plan.
l. Present the final master plan, opinion of probable cost and phasing recommendations once to the Parks and Recreation Advisory Board, MCDC, and the City Council.

E. Products: The following products will be provided by the Consultant in completion of the Master Plan.

1. A printed color packet/brochure on the History of Gray Branch Park.

2. A colored rendering of the master plan.

3. An opinion of probable cost and recommended construction phasing.

4. A digital file of the Master Plan, Opinion of Probable Cost and Phasing Recommendations in a format specified by the City.

5. Printing costs for the items listed above shall be included in the lump sum fee. Any additional printing shall be provided as an additional service.

6. 3D Animation – a computer graphic model will be prepared showing the existing conditions, then the proposed improvements to be used by the City to educate and inform the public.

F. Meetings:

1. Stakeholder Meetings: The Consultant will prepare for and attend up to four (4) meetings with the stakeholders, sports associations, owners, and general public for the purpose of discussing the updated plan and gathering input.

2. Public Presentation: One presentation will be made to the Parks and Recreation Advisory Board, MCDC and the City Council (a total of three meetings).

3. Meetings with Staff: In addition to the above, the Consultant will attend a total of four (4) meetings with staff, including kick-off meeting. (Other staff meetings may occur before or after board and commission meetings at no additional charge.)

4. Additional meetings may be scheduled with additional compensation to the Consultant, as mutually agreed to in writing in advance of any such meeting(s).

5. The City will be responsible for advertising all meetings, if needed.

II. ADDITIONAL SERVICES

The following services are not included in Basic Services, and are considered as optional to the Agreement. Any of the additional services listed shall be provided only upon written Authorization of Owner.

A. Traffic Impact Analysis. Access to the park site will be analyzed to determine the impact of the development of Gray Branch Park on University Drive (US 380) and surrounding thoroughfares.

1. Meetings up to four that could include kick-off meeting, meeting with regional athletic facility design, operation and maintenance professionals, meeting with McKinney staff, and presentation of results.

2. Site Visit: A site visit will be performed to collect information about the surrounding roadway network as well as all geometric and operational aspects for each of the study intersections. The study intersections may include up to six intersections depending on the site plan. It is anticipated that the intersections below would be included in the study.
   a. Lake Forest Drive at University Drive;
   b. University Drive at Gray Branch Road;
   c. Lake Forest Drive and Fieldcrest Drive;
   d. University and Ridge Road;

e. Gray Branch Road at McClure Elementary driveway, and
f. One additional intersection, if deemed necessary.

The study intersections will be finalized during the kick-off meeting.

3. Data Collection
   a. Turning Movement Counts: Turning movement counts will be collected for the PM peak period (4:30-6:30 PM) on a weekday and for 3 peak hours on a Saturday at each of the intersections identified during the kick-off meeting. The budget only includes collecting turning movement counts for up to five (5) hours at six (6) intersections at a total of 30 hours.
   b. Existing Signal Timing Data: The City will provide existing traffic signal timing data for each of the signalized intersections finalized during the kick-off meeting.

4. Existing Conditions Analysis: The existing weekday PM and Saturday peak hour operating conditions at the study intersections determined at the kick-off meeting will be analyzed using Synchro. If the existing operating conditions are found to be below a level of service (LOS) D, improvements will be identified to bring the operation to an acceptable level of service.

5. Future Background Traffic Analysis: Volumes for the future background traffic will be generated based upon existing traffic, historic growth rates in the area, and other development in the area. Planned roadway improvements in the vicinity of the site per the City's Thoroughfare Plan will also be considered in the analysis. Up to one (1) known background development in the vicinity of the site for which the City will provide a TIA will also be included in the analysis.

   The future background scenario will be analyzed for the PM and Saturday peak hours. If the future background conditions are found to operate at an unacceptable level of service (E or worse), improvements will be identified to mitigate the deficiencies. This step will determine if minor roadway improvements can be added to increase capacity for the proposed development. If the intersection is already over capacity, we will discuss with the City what LOS will be acceptable for the analysis.

6. Traffic Forecasts for Development: The engineer will prepare forecasts of the traffic generated by the complete development based on guidelines contained in Trip Generation, 10th Edition published by the Institute of Transportation Engineers upon publication release and any data provided for similar facilities. The projected trips for the development will be based on what could be the most users in one day of the facility. We also plan to schedule phone interviews for up to three (3) agencies with similar facilities to better understand traffic patterns and traffic peaking considerations for the study.

The directional distribution of the traffic for the proposed development will be based on current traffic patterns in the area and engineering judgment. Up to two distributions will be analyzed if it is found that the exit pattern may need to change based upon the proposed park development.

7. Future with Project Traffic Analysis: The project trips will be added to the future background volumes, and the future plus project PM and Saturday peak hour operating conditions at the study intersections will be analyzed. For any intersection that is operating at an unacceptable level of service (E or worse), improvements will be identified and tested to determine if any low cost intersection improvements can be added to carry the additional traffic.

8. Internal Roadway Analysis: The engineer will determine the number of lanes needed for up to two roadways internal to the proposed site to operate at a Level of Service C based on projected traffic volumes. The volumes from Task A6 and planning level of service thresholds will be used for the analysis.

9. Queue Length Analysis: Up to four entrances will be analyzed for left turn queue lengths to assist with storage bay lengths for any turn lanes required.

10. Auxiliary Lane Analysis: Up to four (4) site driveways will be studied to determine if they meet the requirements for auxiliary lanes as designated in the TxDOT Access Management Manual.

11. Summary Report: When the study is complete, a draft report will be prepared and submitted to the Client for their review. The engineer will revise the report to address review comments received, finalize the report and submit a PDF copy and 6 hard copies to the City. All raw traffic volume data will be included as an appendix to the report. Highway capacity analysis reports and relevant queuing reports for the intersections included in the project will also be included in an appendix.

12. Additional Services: This scope of services assumes that additional analysis such the items below will be considered additional services with associated fees:
    a. Alternative Intersection Analysis
    b. Traffic Control Plans
    c. Data collection at similar facilities
    d. Signal warrant analysis
    e. Traffic signal design
    f. Traffic signal timing
    g. Weaving analysis
    h. Analysis for intersections and roadways that are not stated in this scope of services

13. This scope further does not include coordination or meetings with the TxDOT or other agencies for obtaining approval of the report after submittal of the final report. If required, these services can be performed on an hourly basis plus expenses.

14. Deliverables will include Traffic Impact Analysis study report submitted in a PDF format with 6 hard copies.
15. Schedule: A draft report will be submitted to the client within 12-16 weeks of a notice to proceed and receipt of required items from the Client, and a kick-off meeting with the City. A final report incorporating client comments will be submitted approximately two (2) weeks after receiving comments from the City and Client.

B. Hydraulic and Hydrology Services.

1. The City of McKinney requires a Flood Study / Downstream Assessment impact analysis of the proposed project on Wilson Creek and Wilson Creek Tributary 10 for the 100-year fully developed floodplain. The downstream assessment consists of hydrologic and hydraulic analyses for post-project conditions and evaluating the impacts to water surface elevations, velocities and floodplain storage volume and capacity of the watershed downstream of the project site. In addition, the City of McKinney requires development stay out of the erosion hazard setback limit unless channel improvements are proposed to help stabilize the banks from future erosion. A setback limit will need to be developed as the project progresses. Based on the amount of floodplain impact anticipated for this project, it is likely that the FEMA Map will be changed as a result. Since most of the site is within the floodplain and/or floodway of Wilson Creek, engineering studies will be performed to determine the requirements for flood conveyance across the portion of the Site which will be developed in the first phase of construction. The entire area of the Site will be included in the studies. These studies will address the following:

2. Data Collection and Field Reconnaissance.
    a. Obtain and review hydrologic and hydraulic modeling, work maps and other related data for Gray Branch Creek from City of McKinney.
    b. Wilson Creek is currently mapped a FEMA Zone AE floodplain with floodway while Tributary 10 is mapped as a Zone A. The City of McKinney has conducted watershed studies for Wilson Creek including ultimate watershed development, but this was completed in 1988 and is likely out of date. These models will be used as the base model for the Flood Study / Downstream Assessment for Wilson Creek while Tributary 10 will need to be created from models built during surrounding development or from scratch.
    c. Conduct one site visit.

3. Hydrologic Modeling – Conceptual.
    a. Collect latest H&H models that represent this watershed. 1988 Master Plan models of Wilson Creek will be collected along with any other models from surrounding development.
    b. Collect information on upstream detention ponds throughout the watershed, particularly along Gray Branch.
    c. Collect plans on US380 from TxDOT regarding the crossing just upstream of this project.
    d. Update model using latest version of HEC-HMS to reflect existing watershed development and continue through the zone of influence.
    e. Analyze the 10-YR, 50-YR, 100-YR, and 500-YR storm events for both existing and ultimate watershed conditions. Use known water surface elevations from Wilson Creek analysis for the boundary condition.
    f. Modify existing models to reflect proposed improvements from the Master Planned Park site concept plan.

4. Hydraulic Modeling – Conceptual.
    a. Using the latest version of HEC-RAS, modify the existing conditions hydraulic mod4el for Wilson Creek as needed to model the area. Run models for 10-YR, 50-YR, 100-YT, and 500-YR storm events for both existing and ultimate watershed conditions.
    b. Using the latest version of HEC-RAS, create the existing conditions hydraulic model for Wilson Creek Tributary 10 (Gray Branch) to model the area. Run models for 10-YR, 50-YR, 100-YR, and 500-YR storm events for both existing and ultimate watershed conditions. Use known water surface elevations from Wilson Creek analysis for the boundary condition.
    c. Modify existing models to reflect proposed improvements from the Master Planned Park site concept plan.

5. Downstream Assessment – Conceptual.
    a. Evaluate impacts to the creeks throughout and downstream of the project site.
    b. Determine if valley storage compensation is required based on hydrologic and hydraulic impacts.
    c. Determine if detention is required based on proposed improvements and hydrologic analysis.

6. Data requirements to be provided by others to complete the Conceptual Downstream Assessment:
    - Existing site topo (in CAD or GIS format) – City of McKinney

C. Permit Identification. The Consultant shall coordinate with agencies who have jurisdiction over the project area and shall investigate and identify applicable permits which the Owner

will be required to apply for. Actual permit applications will be prepared and submitted at a later stage, and only upon authorization of the Owner.

D. Environmental Services. The following sections describe the environmental services that could be required to be performed on the entire area of the Site or selected areas of the site. Services will be provided only as needed and as authorized by the Owner.

1. Cultural Resource Surveys
2. Waters of the U.S. Delineation
3. Section 404 Permit Application
4. Protected Species Survey and Coordination
5. Other FEMA/COE Permit applications.
    a. CLOMR – Conditional Letter of Map Revision
    b. LOMA - Letter of Map Amendment
    c. LOMR-F – Letter of Map Revision based on Fill
    d. Wetland Determination

E. Topographic and/or Boundary Survey. While existing base information is sufficient for overall master planning, it is not sufficient for detailed schematic design and preparation of construction documents for improvements on site. At the appropriate time, a new topographic survey with a minimum contour interval of one foot will be required. The survey will show the property boundary, existing facilities, the utilities, trees with 3" caliper or greater, adjacent public streets or roads and other miscellaneous items. The survey should comply with standard City of McKinney requirements.

F. Plat Preparation. This property is currently unplatted. Prior to development of the first phase of the project, a plat will be required. The plat must conform to City of McKinney requirements.

G. Project Website. If desired by the City, the Consultant can provide a website tailored to provide information to the public and to post graphics and presentations for viewing by the public. All information and data will be coordinated through the City's Information Technology Department.

H. Water Supply Study

I. Easements/R.O.W. Documents and Field Surveying

J. Additional Property acquisitions. If additional properties are acquired and added to the park, adjustments to the professional services agreement may be required.

K. Construction/Bidding Documents. Upon completion and approval of the Master Plan, the Owner will determine a strategy for funding and implementation of the Master Plan. Upon

request by the Owner, the Consultant will provide a proposal for Professional Services for design, bidding, and construction administration based on the scope and schedule approved by the Owner. All fees must be approved by City Council before authorization.

L. Geotechnical Investigation and Report. The Consultant will secure the services of an independent geotechnical engineering company to investigate the engineering properties of the soils and to make recommendations on the design of building foundations, paving, light pole foundations, shade structures, etc.

III. EXCLUSIONS

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

1. Fees for permits and advertising.
2. Storm Water Pollution Prevention Plan (SWPPP).
3. Accessibility reviews and inspections are not required at Master Plan level, however, when/if Construction Documents are prepared, review documents will be prepared and submitted to Texas Department of Licensing and Regulation (TDLR) for review and subsequent inspection when construction is complete.