9601 Amberglen Blvd., Suite 109
Austin, TX 78729

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Leander, TX 78641

EXHIBIT A

Statement of Work (SOW) No. 19

TO MASTER SERVICES AGREEMENT

Statement of Work No. 19 to the Master Services Agreement between the City of Manor, Texas, as CITY, and George Butler Associates, Inc., as ENGINEER, dated October 7, 2020.

Through this SOW, CITY hereby authorizes ENGINEER to undertake the work assignment described in the following, said assignment to be performed within the terms and conditions defined in said Master Services Agreement, except as modified herein.

ASSIGNMENT:

- The City of Manor, Texas has identified the necessity to evaluate and develop potential solutions that address drainage issues occurring in its downtown area (City of Manor downtown business area).
- Many downtown properties, businesses, and City facilities could be impacted by drainage issues and are also threatened with foundation instability and possible erosion during rain events.
- The City wishes to conduct a watershed/drainage study (see Exhibit A Proposed Studied Area) and identify a comprehensive program of watershed improvements to: reduce the frequency and severity of flooding, better protect downtown properties, businesses, and infrastructure; protect and enhance the community's ecological health and natural resources, and catalyze community revitalization efforts.
- The resulting watershed plan will provide recommendations for a 3- to 5-year capital project improvements program that addresses imminent problems, and/or identifies solutions to improve runoff to future regional detention ponds) , identify opportunities for multi-benefit approaches and public-private partnerships, and suggest potential additional funding sources for further exploration.

SCOPE OF SERVICES:

TASK 1: ADMINISTRATION

Coordinate project goals and align CITY and ENGINEER expectations and purposes. Subtasks will include:

SUBTASK 1: Kickoff Meeting.

SUBTASK 2: Progress and Review Meetings.

SUBTASK 3: Invoices and Progress Reports.

TASK 2: COLLECT AVAILABLE DATA

SUBTASK 1: Compile and Review Existing Studies and Data. Collect, compile and evaluate pertinent and available data from the CITY, County or other publicly accessible sources. Data may include, but is not limited to historical flood studies, effective FEMA models, stormwater infrastructure, as-built bridge/culvert drawings, GIS planimetric data, topography/LiDAR, land use, parks and trails, land cover and vegetation, wetlands and soils, historical flooding and drainage complaints, stream and levee conditions, rainfall, and streamflow gage data.

Existing plans will be obtained as applicable, including future capital improvements, land use, comprehensive plans, economic development, parks and trails plans, and site development plans.

Some of the documentation that has been collected to help with this task is as follows:

- City of Manor, Phase 3, Street & Drainage Improvements, 1990s map;
- City of Manor, 2003 Street & Drainage Improvements, 2003 construction plans;
- City of Manor, Street & Drainage Improvements Phase II, 2006 construction plans;
- City of Manor, Street & Drainage Improvements Phase II-B, 2008 construction plans;
- City of Manor, Comprehensive Plan, done by others, 2023; and,
- Manor Downtown Master Plan, done by others, July 2024.

SUBTASK 2: Field Assessment Work Plan. ENGINEER will develop a plan and schedule for targeted field assessment of existing conditions, including visual assessments of key infrastructure, drainage patterns and topography, land use and cover, stream stability and erosion, and limited topographic survey. This study will benefit from any feedback from city officials and Staff on problematic areas. Additional CITY information and assistance will be noted, if applicable.

SUBTASK 3: Field Assessment. Conduct field assessment to observe features described in the field assessment work plan. ENGINEER will perform windshield and walking surveys as appropriate, will record data on field sheets and/or cloud-based platforms and will photograph key features and general watershed conditions.

SUBTASK 4: Limited Topographic Survey. A licensed survey crew will survey a limited number of **key** features and locations and limited by the budget, including bridges, culverts, stormwater outfalls, roadway and levee elevations, and other critical features as determined in the Field Assessment Work Plan.

Community Outreach on Problem Areas. See Task 5, Subtask 2 for details.

SUBTASK 5. Identify Potential Partners and Funding. ENGINEER will work with CITY to identify potential partners and funding opportunities, including existing and potential future governmental, agency, not-for-profit and community organizations, foundations, state and federal grant programs, and public-private partnership opportunities.

TASK 3: EVALUATION AND ANALYSIS

SUBTASK 1: Limited Detail 2D Watershed Model Development. Develop existing conditions hydraulic models for the study area. Model(s) will be developed using available data collected in Task 2. Development of the 2D mesh will utilize available LiDAR generated Digital Elevation Model (DEM), or City data, if available. DEM will be smoothed and modified where necessary to address low-lying areas or high points that may result in a misrepresentation of overland flow paths. Hydrology will use the Natural Resources conservation Service (NRCS) Curve Number methods based on existing land use conditions. Rain-on-grid methodology will be used for determining rainfall runoff using National Oceanic and Atmospheric Administration (NOAA) Atlas 14 precipitation grids, for the 2-, 10-, 25- and 100-yr storm events to meet the City of Austin Drainage Criteria Manual (DCM) and City of Manor ordinances.

SUBTASK 2: 2D Model Calibration. Simulations will be developed for up to three historic storm events, using gridded precipitation records of those events. Model results will be compared with observed depths and high-water marks. Limited HEC-RAS model will be calibrated by adjusting Manning's 'n' values, and other parameters until a reasonable representation of observed flow rates, timing, and high-water marks is achieved. The model will be tested for sensitivity to model time step, mesh cell size, theta coefficient, and other input parameters. It is anticipated that the scope boundary area does not contain existing streams or channels.

SUBTASK 3: Opportunities and Constraints Identification. Review aerial imagery, land use and soil maps, and Natural Resource Inventory (NRI) data to identify where various stormwater management solution options may or may not be a contextual fit from a community planning and landscape architecture aspect. Identify key watershed facility opportunities where potential solutions could be implemented within existing or planned public corridors. Identify potential private lands that could be acquired for watershed-based solutions, including potential sites for stream and wetland banks that could facilitate other projects in the watershed. Opportunities will be identified within city limits, as appropriate. Identify critical constraints in the watershed, such as critical public lands that should be preserved and avoided when considering project locations and environmentally sensitive areas.

SUBTASK 4: Conceptual Planning and Design. ENGINEER will identify a range of potentially applicable interventions to reduce identified flooding, erosion, etc., and will evaluate general locations where the interventions may be applied. Ecologically and environmentally based practices, non-structural and structural solutions will be evaluated to identify a broad suite of solutions that are optimized to provide context-sensitive practices that cost-effectively reduce flooding and related problems while enhancing environmental quality and community livability. Public-private partnership opportunities, including in upstream areas outside the city limits, will be noted. ENGINEER will then identify and map the general locations and extents of potentially viable solutions to create conceptual alternatives that meet community objectives.

SUBTASK 5: Conceptual Future Conditions Model. Conceptual solutions and alternatives will be modeled to identify those practices, solutions and locations that appear to be viable and to generate planning level estimates of potential benefits, while eliminating ineffective and unfeasible options. Overall watershed-level benefits will be evaluated to understand the cumulative benefits to existing and potential future flooding, bank stability, and other related issues.

SUBTASK 6: Conceptual Opinion of Probable Cost. Planning-level opinion of probable costs will be developed for the conceptual alternatives based on prior projects of a similar nature and scale, published data sources, unit costs, and best professional judgment as applicable and appropriate. A preliminary cost/benefit analysis will be performed to rank and prioritize conceptual solutions and alternatives based on their costs and potential benefits. The analysis will use a watershed approach that evaluates overall watershed benefits and costs, as well as site-specific conditions.

SUBTASK 7: Watershed Evaluation Review Meeting. ENGINEER will meet with the CITY to present and discuss the evaluation results and preliminary recommendations to be carried forward into the Solutions Phase. ENGINEER will provide graphics, tables, and memoranda as appropriate, to document the evaluation and results and allow for an informed discussion. Final Evaluation results and CITY feedback and direction will be documented in the Watershed Evaluation Memorandum.

Public Workshop #1. See Task 5, Subtask 3 for details.

SUBTASK 8: Watershed Evaluation Memorandum. A concise and informative Technical Memorandum will present the Evaluation Phase results, including an overview of the study, preliminary solutions identification, conceptual options and alternatives, cost/benefit analysis ranking, and recommendations to be carried forward into the Solutions Phase. The memorandum will be written in accessible language for non-technical decision-makers and will use informative graphics and tables to illustrate the opportunities and recommendations. Technical information will be provided in an appendix, and will include supporting data, modeling and evaluation results, opinion of probable cost and references.

TASK 4: SOLUTION DEVELOPMENT

SUBTASK 1: Preliminary Planning and Design. Conceptual solutions and alternatives from the Evaluation Phase will be refined for a more detailed cost/benefit analysis. Additional design analysis will be used to develop more realistic and defensible, preliminary estimates of various solutions' size, extent, coverage, storage volumes, etc. as appropriate, depending on the type of solution; and to help ensure that the potential solutions are context sensitive. ENGINEER will identify value-added opportunities for multiple benefits such as water quality improvement, recreation, habitat connectivity, and community amenities that could be implemented in conjunction with the watershed improvements or in later phases, depending on available funding and partnerships.

SUBTASK 2: Future Conditions Model. Preliminary alternative scenarios will be modeled to further evaluate the practices, solutions, and potential implementation locations, to generate more refined preliminary estimates of potential benefits, while also identifying less effective or less feasible options. Overall watershed-level benefits will be evaluated to understand the cumulative benefits to existing and potential future flooding, bank stability, and other related issues.

SUBTASK 3: Preliminary Opinion of Probable Cost. Planning-level opinion of probable cost s will be developed for the conceptual alternatives based on prior projects of a similar nature and scale, published data sources, unit costs, and best professional judgment, as applicable and appropriate. A preliminary cost/benefit analysis will be performed to rank and prioritize preliminary solutions and alternatives based on their costs and potential benefits. The analysis will use a watershed approach that evaluates overall watershed benefits and costs, as well as site-specific conditions.

SUBTASK 4: Alternatives Analysis and Prioritization. A more detailed cost/benefit analysis will be performed to rank and prioritize preliminary alternatives and scenarios based on their costs and potential benefits. The analysis will use a watershed approach that evaluates overall watershed benefits and costs, as well as site-specific conditions. Multiple benefits including environmental and community benefits will be factored in through a qualitative analysis, and the preliminary ranking and prioritization will be updated accordingly. Preliminary results will be discussed with stakeholders and the public through a series of public workshops, targeted meetings, presentations, and online platforms as described below.

Public Workshop #2. See Task 5, Subtask 3 for details.

Association Meetings and Events. See Task 5, Subtask 4 for details.

Targeted Stakeholder Meetings. See Task 5, Subtask 5 for details.

SUBTASK 5: Revise Partner and Funding Opportunities. ENGINEER will work with the CITY to refine the list of potential partners and funding opportunities to those agencies or organizations that have the best fit for assisting with implementation of this project both in the short- and long-term.

SUBTASK 6: Watershed Plan Review Meeting. ENGINEER will meet with the CITY to present and discuss the Solutions Phase results and recommendations to be carried forward into the Design Phase. ENGINEER will present graphics, tables, and memoranda as appropriate to document the evaluation and prioritization, public workshops, event and stakeholder meeting feedback and other public comments on the proposed alternatives. Final Solutions results and CITY feedback and direction will be documented in the Watershed Plan Report.

SUBTASK 7: Watershed Plan Report. The final plan will be presented to the City Staff and City Council in a highly graphical and accessible format, presenting the recommended alternatives, benefits and planning-level costs, and implementation phasing. The plan will also present an initial program to be carried forward into the Design Phase, as well as potential partners and funding sources for future phases and other multiple-benefit opportunities for environmental enhancement, and recreation and community amenities. The plan will be written for the general public, stakeholders, elected officials, and potential partners, and will use informative graphics and tables to illustrate the opportunities and strategies. Technical information will be provided in an appendix, and will include supporting data, modeling results, cost estimates, and references.

TASK 5: COMMUNITY ENGAGEMENT

SUBTASK 1: Community Engagement Plan. ENGINEER shall prepare a written draft Community Engagement Plan (early draft) at least three days prior to the Project Kick-off Meeting in Task 1. The Community Engagement Plan will describe the major community engagement elements, approach, schedule, and responsibilities among the CITY and ENGINEER. While the details are to be determined, the ENGINEER assumes it will include the following elements:

Discovery Phase:

- Community outreach to identify flooding, drainage, streambank and levee erosion, and sedimentation hot spots.
- Stakeholder/agency coordination to obtain information, plans, and data as appropriate.

Evaluation Phase: Follow-up communications with stakeholders and agencies.

- Community Workshop #1

Solutions Phase:

- Community Workshop #2
- Community Events
- Stakeholder Meetings
- Social media/web-based commentary platforms

The Consultant team will provide the engagement plan to the Client for review and feedback, and will revise the plan, as needed. The work plan will be updated as needed if significant changes are made to the engagement approach or tasks.

SUBTASK 2: Community Outreach on Problem Areas. Community outreach will be conducted during Task 2 to identify flooding, drainage, streambank and levee erosion, and sedimentation hot spots. Details will be determined in the Community Engagement Plan.

SUBTASK 3: Public Workshops (2).

Community Workshop No. 1 - will be conducted during Task 3. The workshop will provide an overview of the project and present information on problems, opportunities and constraints identified during the Evaluation Phase; describe opportunities for information and input and invite citizens, stakeholders, and potential partners to participate in the development of ideas and solutions.

Community Workshop No. 2 – will be conducted during Task 4. ENGINEER will present preliminary opportunities and alternatives; discuss potential community benefits, costs, and impacts; present tentative schedules; and will review potential partners and funding sources. Participants will be invited to present feedback on the options and alternatives for consideration as the plans are finalized.

Information, opportunities and alternatives, and plans may also be provided online with feedback opportunities, as determined in the Community Engagement Plan.

SUBTASK 4: Association Meetings and Events (4). ENGINEER will present, table, or canvas at up to four community events (homeowner or business association meetings, festivals, etc.) during Task 4, to solicit additional community participation and feedback.

SUBTASK 5: Targeted Stakeholder Meetings (10-12). Selected CITY and ENGINEER members will meet one-on-one with key stakeholders including residential and business owners in critical problem or opportunity areas to discuss landowner and CITY concerns and potential solutions. The meetings will be held during Task 4.

TASK 6: DESIGN – Early Release to Creek(s).

The focus for this task is to analyze all past tasks and establish several assumptions to release early the collected storm sewer to any of the creeks that run to both sides of the studied area (Gilleland Creek or Wilberger Creek). If the calculations for this approach make this task feasible to meet *the City of Austin Drainage Criteria Manual (DCM) 1.2.2.D that reads "Stormwater runoff peak flow rates shall not be increased at any point of discharge from a site for the two (2), ten (10), 25 and 100-year storm frequency events" for this particular approach, a waiver to this DCM code will be needed because the code refers to individual sites and not to regional drainage basins that discharge to a particular point(s) to creeks.*

To analyze this early release option, a complete calculation drainage (Q2, Q10, Q 25 and Q 100) analysis for upstream locations on Gilleland Creek or Wilberger Creek drainage basins at the point of analysis will be needed. If after this analysis the results are not the ones looking for a diminish of Q2, Q10, Q25 or Q100, we must continue to Task 7 under this SOW.

TASK 7: DESIGN – Regional Detention Pond (s).

The focus for this task is to provide one or two locations for a regional detention pond. This regional detention pond(s) will mitigate runoff from the studying area and meet the City of Austin Drainage Criteria Manual 1.2.2.D that reads "Stormwater runoff peak flow rates shall not be increased at any point of discharge from a site for the two (2), ten (10), 25 and 100-year storm frequency events" and current City of Manor ordinance.

*One main component for the selection of this **preliminary** drainage infrastructure(s) is the selection of the current existing impervious cover that this drainage study area has at present time and knowing that this impervious cover has not been treated for detention pond purposes in the past. Further discussion on this topic will be recommended or/as to complement this study. A potential waiver process for existing impervious cover at the time or before drainage regulations were established at the City of Manor could be an option for this topic.*

Project Assumptions:

1. Field assessment assumes 2 – 3 days and up to 4-5 team members.

2. Bridge and culvert inputs included in the 2D model will be based on data provided in the effective FEMA models. Within the City limits, survey information will be collected at structures that have been significantly modified since the effective FEMA modeling was completed. Any survey obtained to revise bridges or culverts will be within City limits and limited to no more than 10 structures. It is anticipated that the studied area is completely outside the FEMA floodplain.

3. Survey data collected at bridges and culverts will be limited to the needs of the 2D hydraulic model. This includes pier information, deck elevation, low chord elevation, spill slope information, and channel flowline elevations upstream, downstream, and within the structure. Cross section or bathymetric data will not be collected for the limited detail model.

4. Community engagement tasks will be based on the Community Engagement Plan developed with the CITY. The approach will be highly collaborative, relying on the CITY's personal and social media connections to engage a broader audience within the city and Travis Counties. Outreach efforts should include residents (both homeowners and renters), landowners, businesses, and tourists (recreational and event/historical users).

5. The CITY will be responsible for coordinating all meeting locations and invitations for the community engagement meetings and workshops. ENGINEER assumes that it will provide guidance and content to the CITY's staff for an outreach campaign.

Additional Services:

Any work requested by the CITY that is not specifically stated in one of the Basic Scope of Services listed above shall be classified as Optional Services. Optional Services shall not be performed unless the CITY provides written authorization to ENGINEER that includes the scope of work for each Optional Service to be performed and a maximum billing limit for compensation that has been mutually agreed upon. Optional Services may include, but not be limited to:

A. Analysis of additional flow meters and rainfall gauges for the flow monitoring periods.

B. Survey for identifying easement limits and assisting CITY with appraisal and/or acquisition of easements.

D. This proposal does not include any ROW, Easement acquisition or land acquisition. A separate effort will be needed to secure any of these. Conducting topographic survey or horizontal control survey to establish the base for layout of property and lot lines for properties anticipated to require new easements or additional open-cut replacement of sewers, if required.

E. Additional assistance with easement acquisition, including but not limited to obtaining Ownership Certifications (Ownership and Encumbrance reports) and preparing legal descriptions of easements and easement exhibits, above and beyond what is already in this scope.

F. Any additional topographic survey.

G. Field subsurface investigations, geotechnical investigations, environmental site assessments, or easement or right-of-way selection, preparation, negotiation, or acquisition work, requested or authorized by the CITY beyond those included in the Basic Scope of Services and established allowances.

H. Assistance with bid protests and re-bidding.

I. Changes in the general scope, extent, design, or character of the project, including, but not limited to:
    1. Changes in size or complexity;
    2. CITY's project schedule, design, or character of construction;
    3. Method of financing or availability of funding;

J. This study does not include acquiring any permits necessary for construction of proposed solutions. During the Solution Development phase, ENGINEER will determine what permits may be needed for construction.

K. Any other service not specifically listed.

COMPENSATION:

TASK 1 FEE:	$	10,176
TASK 2 FEE:	$	33,936
TASK 3 FEE:	$	18,586
TASK 4 FEE:	$	$90,528
TASK 5 FEE:	$	$25,600
TASK 6 FEE:	$	$83,563
TASK 7 FEE:	$	$76,597
TOTAL 1 to 7:	***$***	***338,987***
TOTAL 1 to 6:	***$***	***262,390***

TOTAL (Excepting Community Engagement and Regional Detention): ***$ 236,790***

CITY OF MANOR, TEXAS

By:_____

Date: _____

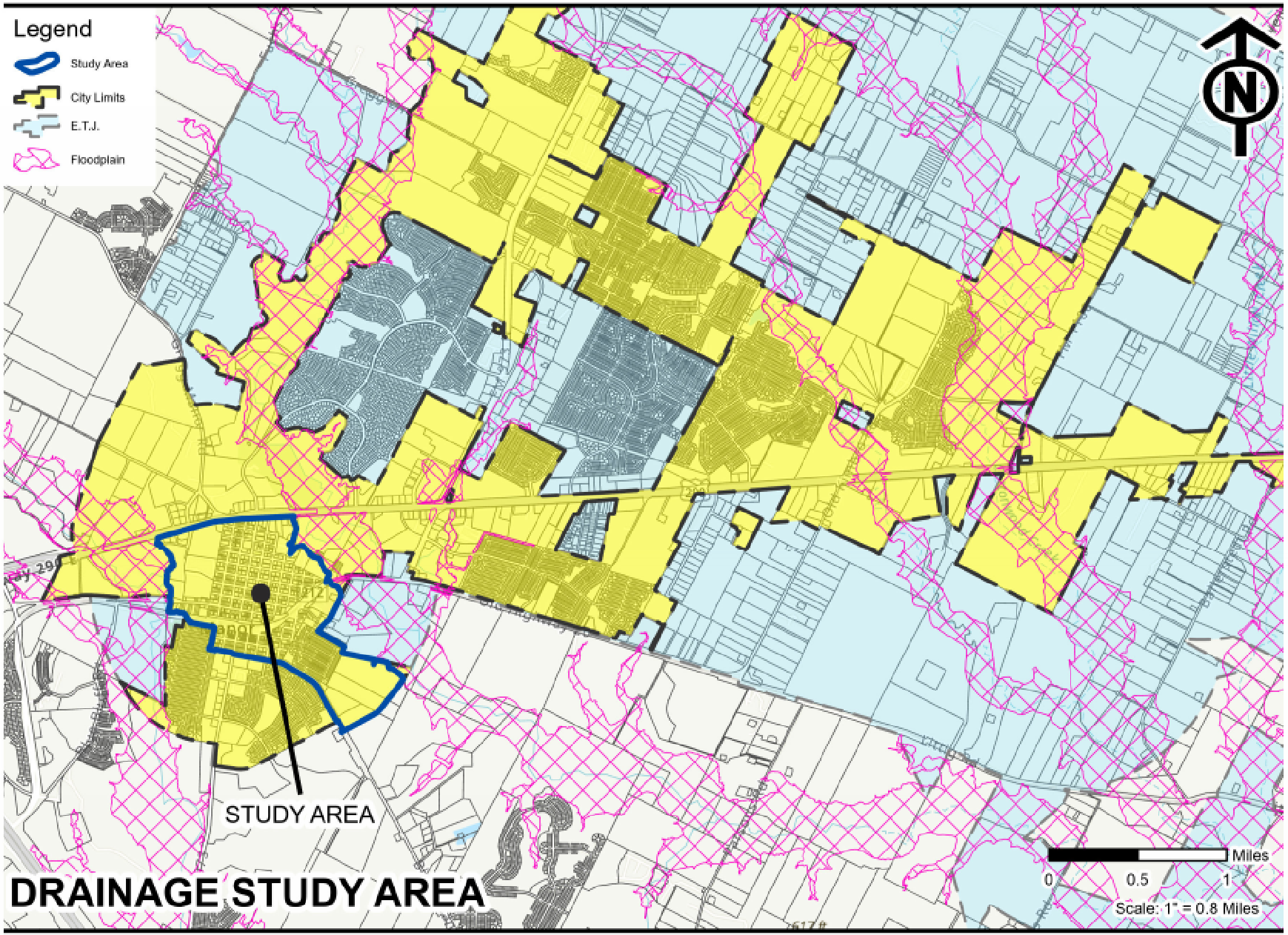
GEORGE BUTLER ASSOCIATES, INC.

By:_____

Date: _____

Exhibit A

Boundary Area for Proposed Study


Legend
Study Area
City Limits
E.T.J.
Floodplain
N
STUDY AREA
DRAINAGE STUDY AREA
Miles
0
0.5
1
Scale: 1" = 0.8 Miles