



REQUEST FOR QUALIFICATIONS

Engineering and Landscape Architectural Services

10th Street Realignment/Alley Reconstruction, Parking in the Downtown Certified Technology Park

Release Date:
Friday, September 5, 2014

**Qualifications Due:
Tuesday, September 30, 2014, 5pm EST**

Department of Economic & Sustainable Development
City of Bloomington, Indiana

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REQUEST FOR QUALIFICATIONS

Engineering and Landscape Architectural Services 10th Street Realignment/Alley Reconstruction, Parking Certified Technology Park City of Bloomington, Indiana

Introduction

The City of Bloomington, Indiana is seeking a consultant team to provide Engineering and Landscape Architectural services for an important infrastructure and placemaking project in its innovation district. The project consists of the realignment of 10th Street, alley reconstruction, and parking lot design within the Bloomington Certified Technology Park. This consultant team will work in conjunction with the City's previously selected Utility and Drainage Master Plan consultant to provide construction-ready plans.

Certified Technology Park Summary

In 2011, the City of Bloomington acquired 12 acres of land in the heart of downtown with the goal of leveraging its state-certified Technology Park district status to create a thriving innovation district comprised of mixed use developments and adaptive reuse projects with a primary focus on technology sector employment. A master plan for both the 12 acres and the full 65-acre district was completed in 2013 (available here: <http://bloomington.in.gov/ctp>). The Plan established a series of priorities and general guidelines for CTP infrastructure, namely:

- To be a sought-after model of modern, sustainable urban redevelopment that nurtures creativity and entrepreneurship among its citizens and workforce, helps brand Bloomington as a lively tech sector hub, attracts private investment, employment and visitors, and provides welcoming living options for Bloomingtonians.
- Utilize integrated design strategies to develop an implementation plan to upgrade public and private utilities and infrastructure to serve employment and technological needs innovatively and efficiently, as well as reflect the values of complete streets and green infrastructure.
- Embed integrated, sustainable design from the outset in the master plan for the site, buildings, infrastructure, district development and off-site impacts
- Create a walkable, bikeable well-connected street and trail network and ensure a range of transportation options within the Tech Park and between the Tech Park and other parts of the community
- Analyze opportunities to create civic spaces and uses that encourage walking
- Provide strong placemaking as both a process and a philosophy ensuring that developments are appropriate to the context of Bloomington's vibrant downtown, its cultural district identity and the tech district identity

- Retain and attract employment and investment in both the Tech Park and downtown Bloomington in a live/work/play environment
- Provide strong physical linkages to downtown and adjacent neighborhoods
- Provide a collaborative and inclusive design and planning process that builds consensus support among the community, stakeholders and investment partners

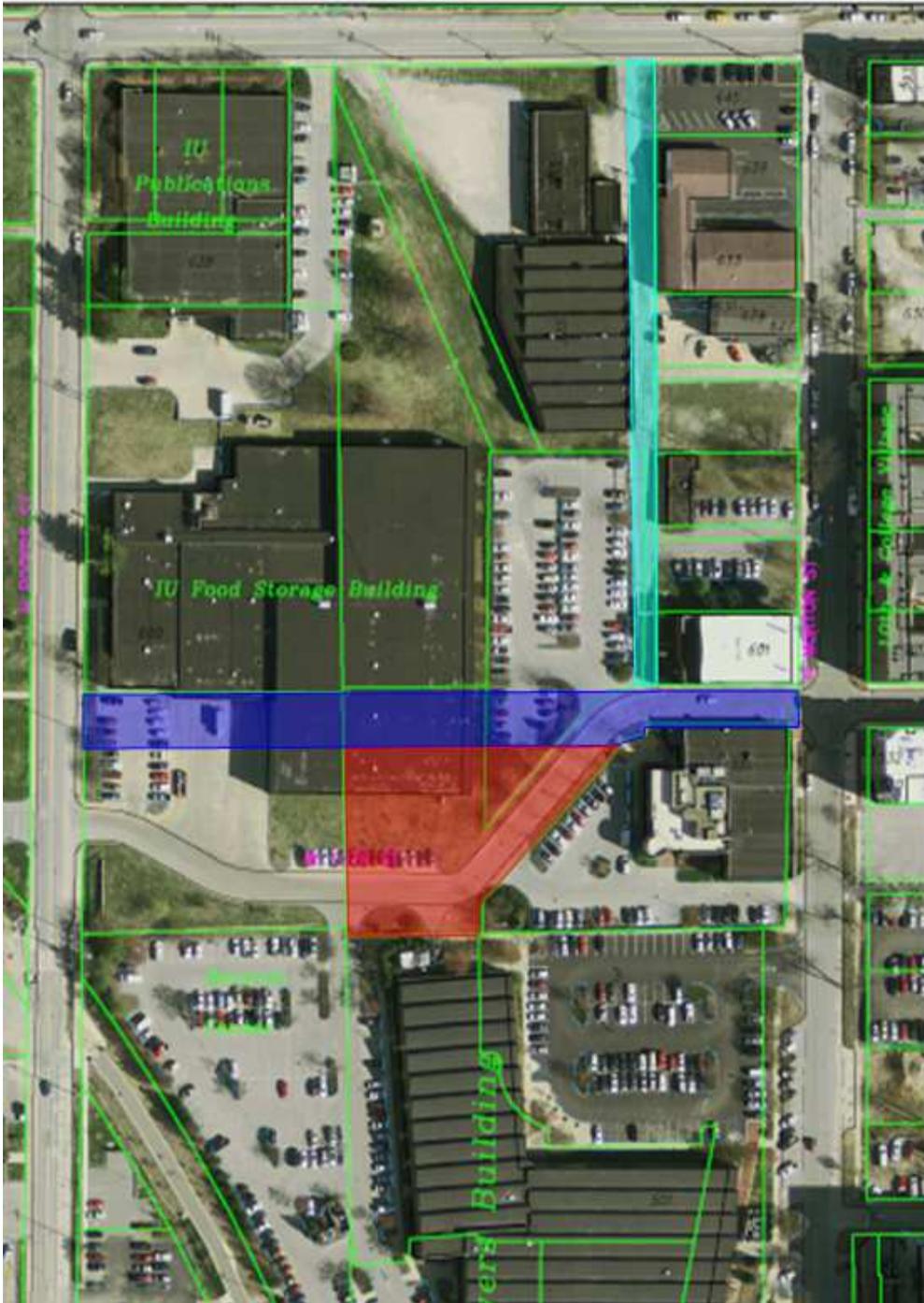
The master plan identified several infrastructure projects to be constructed within the park, with a realignment of 10th Street and reconstruction of a North-South alley being among the highest priorities. Additionally, the City has identified the need to provide additional surface parking within the Master Plan area south of the realigned 10th Street.

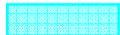
Project Map and Description

10th Street is to be straightened from Morton Street to Rogers Street. To make way for this new alignment, Warehouse B (the former Indiana University Food Services building) was deconstructed earlier this year. Tenth Street will be a public street but is expected to see low volumes of vehicles. Additionally, an existing North-South alley intersects with 10th Street and 11th Street. This alley is in poor condition and needs to be re-constructed. Finally, the City seeks to acquire an existing surface parking lot from an adjacent property owner for future central greenspace development. To ensure adequate employee parking, a replacement surface parking area south of 10th Street and West of an adjacent property owner is to be designed. Please see the Project Map for the location of these improvement areas.

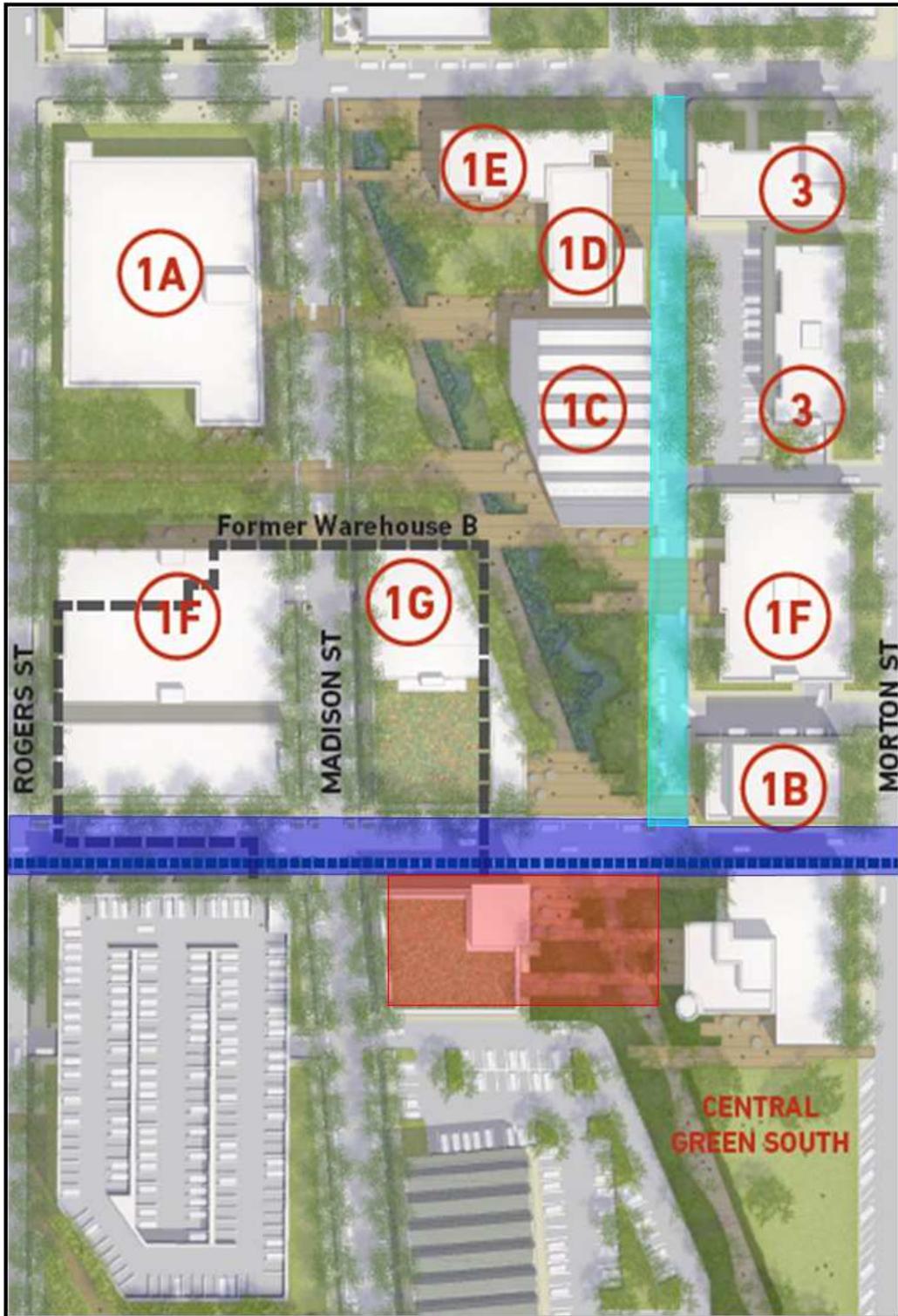
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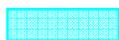
Project Area - (Background: 2012 Aerial Photo)



-  North – South Alley
-  Realign 10th Street
-  Parking

Project Area - (Background: Master Plan & Redevelopment Strategy)



-  North – South Alley
-  Realign 10th Street
-  Parking

Conceptual Streetscape Design

City of Bloomington staff have selected a conceptual design that will serve as the starting point for the consultant's work, although creativity will be encouraged to modify the concept as needed to produce the best product. This concept uses a curbless, multi-modal street design with extensive use of stormwater planters to manage runoff. Open gutter sections located between the traveled way and parking areas would carry stormwater to the planters which would be depressed below grade to store and filter the water. Pavers or other decorative pavement would be used to distinguish the CTP in character from other areas of the city and to differentiate the uses of the street. The section of 10th Street nearest to Morton is constrained by two historic buildings, so parking and stormwater planters will likely not be possible in that section. Sidewalks could be separated from the vehicle traveled way or merged with it. Below are several concept drawings without a separate sidewalk.



2-D Cross-section of Constrained Section Near Morton Street



2-D Cross-section of Unconstrained Sections



3-D view of conceptual design

Preliminary Scope

Final scope and itemized tasks to fulfill scope will be agreed upon after discussion with the selected consultant. What follows is a general outline.

Placemaking and sustainable (both environmentally and economically) design are of paramount importance to this project. The selected Engineering and Landscape Architecture team shall coordinate the design of the project by working closely with the City's Utility and Drainage Master Plan consultant, Eagle Ridge Civil Engineering Services, or if that contract has concluded then by carefully reviewing and incorporating Eagle Ridge's Utility and Drainage Master Plan into plans and designs of the project. The scope of services of the Utility and Drainage Master Plan is also provided here (Appendix I) to inform teams in responding to this RFQ. The final plan is anticipated to be complete in October 2014.

The primary tasks of the Engineering and Landscape Architecture consultant will be:

Site and Plan Review. Explore the project site, its physical conditions, limitations and existing conditions. Review and incorporate the Utility and Drainage Master Plan into project designs and plans (or coordinate with the Utility and Drainage Master Plan consultant if Plan is still in development). Review the Certified Technology Park Master Plan & Redevelopment Strategy to incorporate underlying vision for comprehensive, sustainable redevelopment of the innovation district.

Streetscape Design/Amenities. Identify overall streetscape design themes including, but not limited to: Lighting, Benches, Landscaping, Public Art Installations and gateway/entry features. These features shall be incorporated into construction plans. The theme should reflect the unique character of the CTP and be replicable in future phases of infrastructure implementation, including the Central Green park space. Design should be functional and also highly focused on placemaking - creating "brand identifiers" for the innovation/tech park district. Along with other physical assets in the district, amenities should be organized to stimulate new and higher levels of connectivity, collaboration and innovation among residents, employees and visitors who will ultimately make home and use of this innovation district.

Stormwater Planters. Determine the proper size and design of planters to ensure proper water capacity and ability to provide water quality filtration. Planters should utilize native planting material, require minimal maintenance and be aesthetically pleasing.

Final Design. Develop final designs, construction plans and detailed specifications for the 10th Street reconstruction, alley reconstruction, and parking lot construction to allow the City to bid the project in 2015.

Cost Estimates. Prepare cost estimates for budget review and for bid evaluations.

Project Management and Administration. Meet with City staff and CTP steering team before start of work and periodically through design and plan development phases.

Anticipated Deliverables

Final deliverables will be agreed upon after discussion with the selected consultant. Anticipated outcomes include the following:

- A complete set of signed original drawings and specifications for reproduction, ready for advertisement and bidding;
- An electronic file of the final plans and the project specifications.

Procurement Timeline

Request for Qualifications Issued	September 5 , 2014
Last day to request additional information	September 19 , 2014
Qualifications Due	September 30 , 2014
Firms Selected for Interview	October 7, 2014
Interviews	October 21, 2014
Preferred Firm Announced	November 3 , 2014
Scope & Fee Proposal Due from Preferred Firm	November 17 , 2014
Conclusion of Contract Negotiations	December 5 , 2014
Executed Contract/Project Kick-Off	December 8 , 2014
Final Design Plans	Winter/Spring/Summer 2014-2015
Construction	Fall 2015 - 2016

Qualification Statement Format

All questions and final submittals are to be submitted electronically via email in the format described to ctp@bloomington.in.gov. Questions submitted by other means will be ignored. A full list of questions and answers will be posted immediately after the final day to request information.

Submittals shall be sent in PDF form and shall be limited to the equivalent of twelve (12) single-sided 8.5” x 11” pages (935 in²). Photos of completed projects are strongly encouraged. At a minimum, the submittal should include the following information (in no particular order):

1. Identification and Qualifications of Project Team. Proposed project staffing with descriptions of qualifications, experience and areas of professional expertise, including designation of a Project Manager; and
2. Experience and Technical Competence. Description of Project Manager’s and the team’s

related project experience, including general experience with an integrated design process, sustainable development practices, and green streets infrastructure. Include related projects for local agencies or municipal clients similar to the City of Bloomington.

3. Methods Proposed to Accomplish Work. Outline the basic technical procedures and managerial approach that the project leadership team will adopt. Include assurances of sufficient Project Manager and team availability to provide services efficiently and in a timely manner. Respondents are encouraged to present suggestions that may simplify the project and result in lower costs for design and construction while meeting overall project goals.
4. Client References. Up to five (5) client references with relevant contact information; and

Selection Criteria

The City of Bloomington will select a preferred consultant team for the provision of professional consulting services on the basis of statements of qualifications received and an in-person interview process. The multi-disciplinary interview team will likely include City staff representatives of the Office of the Mayor, Economic & Sustainable Development, Planning and Transportation, Public Works, Utilities, Legal, Parks and the City's Redevelopment Commission. The selected partner will then be asked to jointly prepare a detailed scope of work for presentation to the City. Finally, negotiations will take place between the City of Bloomington and the selected partners to finalize a scope of work and fee for services.

The selection of the partner will be based on the qualifications, relevant experience, and overall understanding of the goals and purpose of the project.

Interviews with some consultants may be scheduled. The City reserves the right to repeat any step in the selection process in order to engage the best partner under contract.

Legal Notifications

1. A submittal of qualifications does not guarantee that the firm will be contracted to perform any services, but only serves as notice to the City of Bloomington that the firm desires to be considered for contractual work.
 2. The City of Bloomington reserves the right to select or not select, in its sole discretion, based on its assessment of each firm's strengths and qualifications and the objective of best meeting the needs of the Certified Technology Park and the City of Bloomington's redevelopment goals.
 3. The City of Bloomington reserves the right to reject any and all statements of qualifications, as well as to modify the Selection Process Timeline at any time.
 4. By submitting a response to the RFQ, each Respondent waives all rights to protest, or seek remedies whatsoever regarding any aspect of this RFQ, the selection of a Respondent or Respondents with whom to negotiate, the rejection of any or all offers to negotiate, or a decision to terminate negotiations.
2. Statements received after the deadline, or those that do not contain complete information, or

those not submitted in the format required, will not be given consideration. The City of Bloomington reserves the right to judge items as being complete, substantially complete, or incomplete.

3. The City of Bloomington will not assume any responsibility or liability for any expenses incurred by a Respondent, or prospective Respondent, in connection with the preparation or delivery of a response, requested interview, or any action related to the process of completing and submitting a response to this RFQ.
4. Any contracts awarded as part of this RFQ will be “lump-sum” contracts, except where otherwise noted. Contract amounts will vary by activity, and will be negotiated with the preferred consultant(s) for each project.
5. Teaming arrangements among more than one firm are welcome, but not in any way required. For team projects, a single statement of qualifications should be submitted, with the understanding that the qualifications reflect those of the entire team.
6. The City of Bloomington shall not discriminate with respect to hire, tenure, terms, training, conditions or privileges of employment, because of race, sex, color, religion, national origin, ancestry, age, handicap, sexual orientation, gender identity or disabled veteran status.

[Appendix Follows this Page]

Appendix 1: Utility and Drainage Master Plan Scope of Work

The City has contracted Eagle Ridge Civil Engineering to complete the following scope of work, the final plans and specifications of which shall be referenced and incorporated into the selected consultant's 10th Street, Alley and Parking design.

GENERAL

The following scope of services describes the tasks and assumptions that apply to the work of Eagle Ridge Civil Engineering Services, LLC (Eagle Ridge) to assist the City of Bloomington (City) in the implementation of developing its Certified Technology Park (CTP).

Tasks by Eagle Ridge or the consultant team are preceded by (●) bullets, and tasks by City representatives are preceded by the word "CITY". Assumptions or limitations on the scope are generally written in *italics*. This work involves a variety of general Program Management tasks and Masterplanning Tasks generally described as follows:

Program Management Tasks:

- **Develop a Program Workplan** that includes the scope of work, assumptions, schedule, and key team member identification to serve as the guide for completing the agreed goals for the CTP masterplanning tasks.
- **Coordinate with the Program Team**, including subconsultants and City-assigned firms, in the completion of services including utility and drainage masterplanning, environmental and geotechnical investigations.
- **Act as a representative for the City and a resource** as the City continues coordination of the redevelopment of properties and roadways in the CTP area during the time in which the Utility and Drainage Masterplanning are underway. Attend meetings and assist in coordinating property development goals with ongoing masterplanning of utilities, drainage and related issues.
- **Work closely with the City's CTP Steering Committee**, as led by the Director of Economic & Sustainable Development.
- **Lead, participate, or present information in meetings with CTP stakeholders** including other City departments, commissions, boards, business owner groups, or the public as directed by the CTP Steering committee.

CTP Masterplanning Tasks:

- **Prepare a utility masterplan** that includes a review of previous CTP Masterplanning documents, an analysis of existing facilities, estimates of current capacity, and a projection of capacity necessary to provide for the future build out of the core area of the CTP. Utilities to include sanitary, water,

Appendix 1: Utility and Drainage Master Plan Scope of Work

electric, gas, and public and private telecommunications. Public utilities would include close consultation with CBU representatives, while private utilities would include coordination with the entities currently serving in the area.

- **Prepare a drainage masterplan** to include an analysis of present facilities and an identification of needed facilities to serve the future build out of the core area of the CTP. Coordinate the drainage plan with utility masterplanning and landscaping concept development.
- **Conduct a geotechnical investigation** to support design tasks and to provide data to the planning of utilities, property use and drainage facilities.
- **Coordinate with the City's property consultant** to identify intended development parcel boundaries, access needs for logistics and people, utility service needs, and parking needs. Apply this information to other planning and design tasks. Provide the City's Real Estate Consultant with information related to needs for permanent easements.
- **Participate in discussions** related to possible implementation of a **District Heating and Cooling** facility/utility or other **Energy Innovation** projects as part of CTP development. *Eagle Ridge's involvement in this activity is limited to up to 10 hours of activity in correspondence, meetings or coordination.*

ASSUMPTIONS:

Environmental Hazards

The scope of work assumes that the City's environmental consultant will perform any work relating to the identification of environmental hazards including the completion of Phase 1 or Phase 2 investigations; or the development of mitigation guidance. This work will be performed under a separate agreement.

Survey

The survey area of this scope of work is generally considered to be the area bordered by 10th, 11th, Rogers and Morton Streets, including those roadways. The CITY already has developed an agreement with Bledsoe Riggert & Guerrettaz, Inc. that includes most of this area. It is the intent to capture within this Agreement the cost of survey that is in excess of this other agreement. Eagle Ridge will review the work of the surveyor and establish their general scope of work, but shall only invoice for the portion of their fee in excess of BRG's existing agreement.

Land Rights / Rights of Entry

It is assumed that the exterior portions of the study area will be accessible to Eagle Ridge given a reasonable effort to notify property owners of the nature and timing of the work. City assistance may be requested in the event of any access problems.

Right of Way Engineering

It is assumed the City or its property consultant will conduct its own right-of-way engineering or acquisition activities, including right of way management, and selling/acquisition related

Appendix 1: Utility and Drainage Master Plan Scope of Work

services. The City or its property consultant may direct the preparation of any plat exhibits and legal descriptions needed for parcels or easements. If these documents are requested to be prepared by the consultant team, such services will be provided on a unit cost basis as an additional fee to this agreement.

DETAILED SCOPE OF SERVICES

PROGRAM MANAGEMENT TASKS:

Develop a Program Workplan

- Develop detailed work plan that includes scope of work and task list.
- Identify assumptions and work by City or City's other consultants.
- Assemble a preliminary schedule of intended milestones; track progress and modify schedule as appropriate.
- Set up project in accounting software, maintain cost records, set invoicing and status reporting formats.
- Conduct and maintain administration of the project in accordance with the Agreement.

Coordinate the Program Team

- Prepare subconsultant contracts. Negotiate their scope of work and fees. Process invoices and other administrative needs. Subconsultants to Eagle Ridge are to include:
 - MEP Engineer for Utility Masterplanning and Design
 - Geotechnical Engineer to perform soil borings, rock probes, laboratory analysis and pavement designs.
 - Surveyor to perform survey and mapping for that portion of their fee that exceeds an existing agreement.
- Coordinate with other City staff and City appointed consultants that are performing work needed for the CTP implementation.

Work with the City's CTP Steering Committee

- Attend meetings on schedule requested by the Steering Committee. *For the purpose of fee estimation, an assumption of 12 meetings with the CTP Steering committee was used to quantify and estimated number of hours that might be devoted to meetings and miscellaneous coordination.*
- Prepare meeting records to document key decisions and the assignment of follow-up tasks.
- Report on the status of each primary project task, including Utility Masterplanning and Drainage Masterplanning.

Appendix 1: Utility and Drainage Master Plan Scope of Work

- Notify Steering Committee when support from other City consultants is needed such as the conduct of environmental assessments, additional services by surveyor, etc.

Additional Stakeholder Meetings

- At the request of the CTP Steering Committee, participate or lead meetings or present information to CTP stakeholders including other City departments, City administration, commissions, boards, business owner groups, or the public.

CTP CORE AREA MASTERPLANNING TASKS:

UTILITY MASTERPLAN DEVELOPMENT

Utility Coordination

- Assemble an initial list of utilities that may be present in the CTP area; ask City to review list and add contacts if known.
- In early coordination, request the following:
 - Is the utility company currently present within the boundaries of the Core Area.
 - Information about existing facilities including utility mapping, sizes, and materials.
 - Information on any documented property interests (e.g. easements) that they possess in the Core Area.
 - Information about their current capacity to serve areas of the Core Area; known deficiencies or areas operating near current capacity.
 - Information about any utility upgrades that might be desirable or are currently planned.
 - Interest in cooperating with other public and private utilities to provide additional or upgraded service in the Core Area.
 - Invitation to be on the Utility Masterplanning Subcommittee
- Update the study area mapping (or survey) to reflect additional utility information that is obtained.
- Identify utility representatives including public and private utilities:
 - CBU, represented by Mike Bengtson and Phil Peden
 - Bloomington Digital Underground, representative to be determined
 - By invitation, AT&T represented by Brent McCabe
 - By invitation, Vectren, representative to be determined
 - By invitation, Comcast, representative to be determined
 - By invitation, Duke Energy, representative to be determined.
 - Other utilities if found to currently be operating in the area during utility coordination
- Meet with utility representatives at a Kickoff meeting to discuss:
 - The goals of the masterplanning effort
 - The need to manage the implementation of upgrades into tight

Appendix 1: Utility and Drainage Master Plan Scope of Work

roadway and utility corridors in conjunction with/prior to roadway construction.

- The intent to provide managed/planned routes in corridors, and the need to merge compatible pathways (e.g. telecommunications)
- The intent to bury utilities in reconstructed areas and the Central Green.

Utility Service Forecasting

CITY Through its real estate / property consultant, provide map of proposed land uses in the Core Area. Provide updates when/if applicable, especially any that are departures from the CTP Masterplan.

CITY Provide any information available on potential timing or phasing of development within the Core Area.

- Obtain copy of current CTP Masterplan and be familiar with the planned future build out of the Core Area. Identify any utility service needs that are projected in that document.
- Forecast the utility loads for planned building and land use types for each utility service.
- Identify shortcomings in the existing utility service coverage. Identify areas not served and those underserved.
- Prepare short description of each utility that describes its estimated current capacity compared to its forecasted load.

Central Heating and Cooling Study, Energy Innovation

- Participate in up to 10 hours each for Eagle Ridge and the MEP Subconsultant, for meetings, coordination or correspondence related to the City's review of the feasibility of a District Heating and Cooling facility or other energy innovation project as part of the Core Area Planning. *This work expected to be led by the City or other City Consultant.*

Coordinate with Separate Utilities

It is anticipated that each utility present will have the need to discuss their specific needs and interests and for the project team to need to ask them detailed questions about their facilities.

- Meet with utilities currently present in the Core Area.
- Discuss the Utility Service Forecasting findings with the utilities and revise the list of needs for the Core Area where appropriate.
- Discuss, with the intent of reaching a common understanding, the replacement or upgraded service projects that are needed.
- With respect to Phase 1 improvements to be designed, identify the specific projects needed to be incorporated into Phase 1 Utility work.
- Request each utilities specific project needs:
 - Scope of work, facilities, materials and sizes
 - Special Structures, e.g. vaults, manholes

Appendix 1: Utility and Drainage Master Plan Scope of Work

- Facilities to be installed empty
- Regulatory requirements, spacing, proximity restrictions
- Design responsibility
- Ownership requirements
- Scheduling of the work
- Who will do the construction?
- Construction as part of or prior to road project
- Coordination with other utilities,
- Presence of, or need for, documented property interests/easements
- Long-term maintenance needs and access
- Cost implications, not only related to construction costs but also property interests.
- Meet with CBU for information about existing city-owned utilities in the area. Discuss the same list as noted above, but with respect to CBU facilities we anticipate that the project team will be designing sanitary sewers, watermains and related appurtenances, and that these will be constructed integral to the roadway reconstruction.
- Meet with Bloomington Digital Underground for information about existing city-owned utilities in the area. Discuss the same list as noted above, but with respect to BDU facilities we anticipate that the project team will be designing conduit runs and related appurtenances, and that these will be constructed integral to the roadway reconstruction.

Alternatives and Phasing

- Identify alternatives for providing needed utility services to the Core Area.
- Consider the potential phasing of developments within the Core Area. Incorporate strategy to provide utilities where they seem most likely to be needed first, but with consideration for eventual full build-out need.
- Assemble a composite list of needs for areas to be reconstructed as part of Phase 1.

Preliminary Report

- Prepare brief narrative of each utility service highlighting the key issues of the existing condition and the apparent needs and challenges that may apply to each. Include capacity concerns, conflict issues, and timing constraints that may result.
- Prepare graphics to depict conceptual utility service to the planned Park. Depict general improvements in sufficient detail to note likely resolution of key service capacity or routing issues. Graphics will be prepared on an 11x17 format suitable for inclusion in the future bound report.
- Prepare cost opinions for each utility system. Costs will be provided on an aggregate basis without concern for potential responsibility for the cost of the improvements (i.e. City, developer or utility cost).
- Compile the preliminary analyses and recommendations in a draft report form.
- Provide a copy of the draft report to each utility and CTP Steering Committee for review and comments.

Appendix 1: Utility and Drainage Master Plan Scope of Work

Secondary Coordination

- Coordinate with utilities where needed to address specific feedback or comments received.
- Meet with the CTP Steering Committee to discuss coordination of the Utility Masterplan and the needs identified therein, with the overall CTP effort.
- Address comments from Secondary Coordination as appropriate.

FINAL RECOMMENDATIONS & CTP UTILITY MASTERPLAN

- Prepare final Utility Masterplan report. Report will include:
 - Background, Purpose
 - Review of Each Utility that includes description of existing capacity, forecasted load, and needed upgrades. Graphics for each Utility
 - Recommendations with phasing in overall CTP.
 - Description of needs for permanent property interests in the area and identification of agreements or documents that are needed for City or private utilities.
 - Specific Needs to be incorporated into Phase 1 improvements
 - Cost Estimates
 - Appendix for documentation of meetings
 - Appendices for gathered data
- Provide PDF and DOC files of report to CTP Steering Committee.

DRAINAGE MASTERPLAN

Initial CBU Coordination and Data Collection

- Obtain GIS Mapping including contours and existing storm sewer infrastructure.
- Meet with CBU prior to work to solicit data and discuss Masterplanning goals.
- Request system capacity data from CBU including past modeling, if available.
- Through CBU, request information on known drainage problems, sewer backups, age/condition concerns or other existing system deficiencies.
- Solicit CBU's thoughts on the need to provide detention or stormwater quality enhancement in the CTP area to reduce downstream concerns.
- Request CBU's current drainage goals within the CTP area including planned upgrades.
- Coordinate with CBU for acceptable expected impervious area values to provide per parcel for ease of future design approvals.
- Request design storm goals from CBU from proposed redevelopment (currently assumed to be the 10-year storm).
- Request desired rainfall distribution from CBU.

Existing Condition Modeling

- Review drainage watershed for capacity and coverage area.
- Develop a model of the existing storm system network(s) in the CTP area in

Appendix 1: Utility and Drainage Master Plan Scope of Work

CivilStorm by Bentley (modeling software). Note that this includes the analysis of areas upstream of, and flowing into, the CTP area.

- Review and model the existing drainage infrastructure to the point where the two primary outfalls from the CTP area come together.
- Calibrate and adjust the model where appropriate including consideration of past modeling that CBU was able to provide.
- Analyze the model for apparent/likely problem areas.
- Assemble a list of the apparent deficiencies in the existing system.
- Meet with CBU to obtain data/clarifications/and to resolve modeling related issues.
- Assemble the findings in an informal report and provide to CBU and CTP Steering Committee for review, and comment.

Proposed Condition Modeling

- Using property planning data from the CTP Masterplan document and updates from the City's property consultant, prepare a model of proposed conditions in the CTP area.
- Identify deficiencies in the existing network to support the proposed condition.
- Identify needs for system improvements.
- Consider the need for detention within the system, whether as site detention or on a partial watershed/full watershed level to keep runoff at or below existing levels as it exits the CTP area.
- Consider the need to implement stormwater quality enhancement in the CTP area, and whether this should be addressed on a site/partial watershed/watershed level.
- Determine where ponds need to be located within the system to create the needed detention.
- Assemble the findings in an informal report and provide to CBU and CTP Steering Committee for review, and comment.

Coordinate with Utility Masterplanning

- Coordinate drainage infrastructure needs with needs identified in Utility Masterplanning.
- Consider spacing and proximity constraints with other facilities.
- Identify roadway drainage features to be used in conjunction with landscaping and streetscaping.
- Determine an assumed amount of impervious area that will be built in the Central Green for the purpose of estimating drainage needs to support that future buildout.

Drainage Masterplan Report

- Assemble a Drainage Masterplan for the CTP area that includes:
 - Review of existing infrastructure and identification of needs
 - Impacts of the future CTP build out and apparent upgrade needs
 - Needs for detention including possible regional approach to detention

Appendix 1: Utility and Drainage Master Plan Scope of Work

- Needs for stormwater quality enhancement and strategies to provide it, including the use of stormwater planters and other features.
- Coordination with Utility masterplanning
- Coordination with Landscaping/Streetscaping
- List of project needs throughout the CTP
- Specific drainage needs to be incorporated into areas to be reconstructed as part of Phase 1.
- Provide Draft Proposed Drainage Masterplan to CBU and CTP Steering Committee for review and comment.
- Meet with the CTP Steering Committee to discuss coordination of the Drainage Masterplan and the needs identified therein, with the overall CTP effort.
- Revise drainage plan as appropriate.
- Provide Final Drainage Masterplan for the CTP to CBU and Steering Committee for review and approval.

GEOTECHNICAL AND ENVIRONMENTAL INVESTIGATIONS

Environmental Assessment Coordination

- Request environmental assessments and mitigation planning from the City's Environmental Consultant when needed to support other planning and design activities.

Geotechnical Investigations

- Conduct geotechnical investigations to support design tasks and to provide data to the planning of utility, drainage, landscaping, property, and roadways.
- Conduct a brief geotechnical investigation for the purpose of determining soil characteristics for full-depth pavement design, and to determine approximate depth of rock.
- Conduct coordination and permitting activities as necessary to gain City approval to conduct geotechnical investigations. Provide traffic control as needed.
- Coordinate with utility locator services prior to operations. Determine the locations for borings based on utility markings and a review of site conditions.
- Conduct geotechnical investigations to identify potential problems with in-situ soils.
- Restore site to previous condition including grouting holes and reseeding or patching pavements as appropriate per City requirements.
- Prepare boring logs and coring records and a summary report of results. Prepare a site sketch showing locations of borings and cores. Provide distances to fixed features for each. Mark these locations and provide them to the surveyor so that they also appear in the survey.
- Prepare Soils Report based off results of geotechnical investigations.

COORDINATION WITH CITY'S PROPERTY CONSULTANT

Appendix 1: Utility and Drainage Master Plan Scope of Work

- Coordinate with the City's property consultant to identify intended development parcel boundaries.
- Request guidance on access needs for logistics and people.
- Request verify of utility service needs.
- Request bordering area parking needs.
- Apply this information to other planning and design areas.
- Participate in coordination meetings – *assumes 2*.
- Provide information to City's consultant on the need for property to accommodate drainage easements, utility easements, access easements and the like which are identified in utility and drainage masterplanning.

SURVEY REVIEW AND SITE RECONNAISSANCE

- Conduct site walkthrough of the project.
- Review the mapping provided by the surveyor.
- Review the mapping against field conditions and utility data. Coordinate with surveyor as needed to request completion of utility mapping or to resolve missing or inaccurate items.

[End Appendix 1]