CHICAGO TRANSIT AUTHORITY

SCOPE OF WORK

for

Bentley MicroStation-Based Software with Installation, Configuration, and Maintenance Services for a Period of Five Years

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I. BACKGROUND INFORMATION

The Chicago Transit Authority (CTA) operates the nation's second largest public transportation system and covers the City of Chicago and 35 surrounding suburbs. On an average weekday, approximately 1.64 million rides are taken on the CTA.

CTA's Infrastructure Division is responsible for design and construction of the capital improvement program and maintenance of all rail infrastructure. CTA is now undertaking the largest capital improvement project in the agency's history with the Red and Purple Modernization (RPM) Program - a major new initiative to completely rebuild aging infrastructure on the northern portion of the Red and Purple lines.

II. INTRODUCTION

CTA Infrastructure Division is soliciting proposals from qualified Providers for Bentley MicroStation-based software with installation, configuration, and maintenance services to support the RPM Program. The software platforms are to provide CADD and modeling capabilities for a variety of architecture and engineering design, construction, and maintenance tasks.

The software and services will need to provide the following:

- Basic MicroStation-based CADD environment.
- Advanced tools and modeling environments for discipline-specific tasks such as BIM, rail track design, electrical/signal systems design, etc.
- Configuration and installation of the software packages in CTA's computing environment.
- Configuration and installation of the CTA discipline-specific workspaces for each platform.
- Documentation of CTA-specific configurations and standards.
- Training for CTA staff members.
- Various maintenance services as required to maintain and update the software packages and configuration as new software releases and standards updates become available.

III. CTA'S TECHNOLOGY ENVIRONMENT

- Client computers utilize the Windows 7 64-bit operating system (upgrade to Windows 10 64-bit is in planning phase).
- Microsoft Office and Outlook/Office 365-based e-mail.
- Microsoft Internet Explorer 11.
- Microsoft Active Directory domain
- Microsoft SCCM

IV. SCOPE OF SERVICES

A. Objectives

The following are the CTA Infrastructure Division objectives for this project:

- Provide a unified and more capable CADD/modeling platform for the CTA design staff.
- Provide CTA-specific workspaces that more closely meet the needs of the CTA design staff and consultants.
- Provide training for the new environment to enable CTA staff to be more productive.
- Provide various professional services to install and maintain a more robust CADD environment and reduce CADD administration tasks for CTA staff.
- Provide a more robust CTA CADD standard, including CADD Standard Manual and CADD Standard details package, for CTA staff and consultants.

B. System Expectations

The MicroStation platform will replace the following systems:

- AutoCAD
- AutoCAD vertical applications

The MicroStation platform will interface with the following systems and software:

- Engineering Document Management System (EDMS)
- Legacy CADD environment during transition

C. System Features

The MicroStation system provided to and configured for CTA will include the following:

1. MicroStation Platform
    a. MicroStation
    b. OpenBuildings Designer
    c. OpenRail Designer
    d. Promis.e for Signal, Power, and Communications
2. Workspace Configuration
    a. CTA and/or discipline specific workspaces for the above software
    b. Workspace packages for distribution to consultants
3. Documentation
    a. CTA-specific documentation and standards for internal and consultant use
4. Administration
    a. Software packages configured for ease of deployment to CTA's systems
    b. Software package and documentation updates when new software versions and/or features are released

D. Disciplines

The following disciplines within CTA are expected to utilize the system:

1. Architects
2. Mechanical Engineers
3. Electrical Engineers
4. Traction Power Engineers
5. Signal Engineers
6. Structural Engineers
7. Civil/Track Engineers
8. Communications Engineers
9. Railcar Engineers
10. Bus Engineers
11. Traffic Engineer/Planners

E. Professional Services

The Provider will provide the following professional services for the duration of the contract:

- Implementation requirements development
- CADD Standards development, including documentation and CTA standard libraries, styles, templates, etc.
- Software workspace set-up/configuration

- Software deployment
- CADD user training
- Software workspace updates/upgrades
- Software updates/upgrades

F. Inclusion of Legacy Standards and Data

The MicroStation platform must be able to access, utilize, and reproduce data stored in AutoCAD file formats, including verticals such as Civil 3D, Architecture, and MEP. Provider is to provide a workflow, including, at a minimum, configuration settings and templates, to migrate legacy data to the MicroStation environment while retaining important characteristics and content of the legacy data such as presentation styles, text, attributes, and civil data.

G. Project Management

1. General Requirements

The Provider will utilize planned project management processes including, but not limited to, project requirements, schedule, cost, risk management, communication management, quality management, contract management, and administration.

2. Staffing and Positions

The Provider will provide sufficient staff required to accomplish the scope of work described herein.

The Provider will prepare and maintain an organization chart portraying all positions authorized in the Cost & Pricing documents, including the aggregate number of positions. This chart will be updated with changes and forwarded to the CTA whenever changes occur.

The Provider will identify Key Personnel on the organization charts. Positions that are considered Key Personnel are:

- Project Manager
- Implementation Lead
- Technical Lead – MicroStation
- Technical Lead – BIM
- Technical Lead – Electrical
- Technical Lead – Civil/Track/Survey
- Trainer – MicroStation
- Trainer – BIM
- Trainer – Electrical
- Trainer – Civil/Track/Survey

Details on the preferred qualifications of Key Personnel are included in Section VI.A.3.

No changes in staff assignments for Key Personnel may be made by the Provider without the prior written approval of CTA Infrastructure Division. If the Provider proposes to substitute any Key Personnel, the request for substitution must include a reference to the original position description and evaluation criteria in this Scope of Work to confirm that the proposed staff member is qualified to serve in the position. CTA will review and determine if the candidate is qualified for the position prior to taking any action.

3. Schedule

The Provider will be responsible for ensuring all project milestones and dates are met for the Project. The Provider must develop a mutually agreeable schedule, a comprehensive work plan, and a project management and communications approach.

4. Testing

The Provider must create and execute a test plan that verifies all the requirements of the Scope of Work. Success and failure criteria are to be established before the testing occurs. Both the test plan and the success criteria will be subject to CTA approval. Upon test completion, the Provider will submit to the CTA for approval a report of all results. Final decision on test pass/fail rests with the CTA project manager.

Testing will cover:

- System Testing: The Provider must ensure all the components of the systems are working properly and meet business and technical requirements. System testing will be conducted on production systems with artificial data; and
- User Acceptance Test (UAT): CTA users test the usability of the application and its configuration.

5. End User Training

The Provider is required to submit a Training Plan detailing how the requirements for training all end users on the system will be satisfied. The Training Plan will, at minimum, address topics, dates, lengths, sizes, and technology requirements (such as number of computers) for each session that will be provided. The training will be conducted at CTA headquarters or at a location approved by the CTA. The Provider will train CTA staff in groups by discipline and/or level. Classes are to be limited to no more than fifteen (15) students. The Provider will prepare all training materials, as detailed below, and provide them in online formats and classroom format. Instructors are to be vendor-certified to teach the material that they are responsible for.

- Training will be based on vendor approved curriculum and course materials customized for CTA specific environment.
- Training will be designed to allow trainees to become productive in the programs and tasks required by each staff member.
- Ongoing support
    - Provider staff will be available for select CTA staff members to contact for questions and issues not addressed by the training materials or help system.

Following training, the Provider will update training materials to address any questions or issues arising during training. Final approved training materials for each software package and/or discipline will be provided in both written (PDF) and video, including audio, formats. Video must be of a professional quality and must clearly show all screens and visual aids referenced by the instructor. Customized training materials will be provided in an editable format. All materials to be delivered are to be submitted for review and approval prior to final delivery.

6. Deployment

The Provider is responsible for the final implementation and installation of the software and environments and must ensure that the system contains all necessary components, configuration settings/workspaces, and required initial data sets. The Provider is responsible for deployment of the above, following testing and acceptance by CTA. Deployment packages are to be configured to be compatible with SCCM deployment methods.

H. Project Phases and Deliverables

CTA Infrastructure Division requires the phases listed below for the project implementation.

Phase	Major Deliverables	Maximum Duration	Latest Finish Date (after NTP)
Initiation	Initial project schedule	2 weeks	2 weeks
Planning/Customizations	Configuration documentation	4 weeks	4 weeks
Phase 1 Training Plan	Detailed training plan	4 weeks	4 weeks
Testing and Rollout	Customized images for each software collection to be rolled out	4 weeks	8 weeks
Phase 1 Training	Initial training materials	7 weeks	15 weeks
Phase 1 Follow-Up Customization	Configuration documentation, workspaces, and standards packages	4 weeks	19 weeks
Phase 1 Training Materials	Finalized training materials	6 weeks	21 weeks
Phase 2 Training Plan	Detailed training plan	4 weeks	142 weeks
Phase 2 (BIM) Training	Initial training materials	8 weeks	146 weeks
Phase 2 Follow-Up Customization	Configuration documentation, workspaces, and standards packages	4 weeks	154 weeks
Phase 2 Training Materials	Finalized training materials	6 weeks	156 weeks

I. Project Schedule

CTA Infrastructure Division anticipates that all software, configuration, training, standards development, documentation, etc. for Phase 1 will be tested, fully functional and in operation within 21 weeks after Notice to Proceed. Opportunities to condense this timeframe even further should be outlined in the Proposal.

The Provider will develop and submit a detailed project schedule within two weeks of Notice to Proceed. The schedule will include all phases outlined in Part H as well tasks within those phases required for successful implementation. Final approval of the project schedule will be at the sole discretion of the CTA.

J. Project Documentation

The Provider will provide user manuals and configuration documentation which describe the specifics of the implementation of the MicroStation platform at CTA. These documents will be provided in PDF and native editable formats. At minimum, these documents will include:

- Project installation summary, including any configuration settings required to reproduce the provided custom configurations.
- CTA Specific user manuals/training materials

K. Maintenance and Technical Support

The Provider is required to provide ongoing maintenance and technical support to CTA throughout the term of the contract. The Provider's support will consist of a variety of technical and administrative areas including, but not limited to, installing and configuring the product, installing and configuring product updates and upgrades, providing corrections to identified defects, troubleshooting the system, and providing solutions for continuous improvements.

The Service Level Requirements are as follows:

Support Mode: Availability of support staff via email, phone or online to provide technical support and assistance to user concerns in a timely fashion. The availability of support staff and technical support staff will be 24 hours a day, 7 days a week, 365 days a year.

Issue Response Time: Response time in case of **system downtime** will be no longer than 2 hours. A **high priority** issue will be assigned to technical staff within 2 hours with 24 hours turnaround time to identify a solution. A **medium priority** issue will be assigned to technical staff within 24 hours with 72 hours turnaround time to identify a solution. A **low Priority** issue must have a turnaround time of 5 days to identify a solution. CTA will determine the level of priority for each issue and may consider the advice of the Provider in making this determination.

Software Management: Any corrections, fixes, upgrades, or enhancement to the software revision will include, but are not limited to, user training when applicable, accompanied with release documentation – what was changed, what was fixed, test cases, and configuration changes. Provider will provide to CTA configured SCCM-compatible deployment packages for each update and/or upgrade, including modifying customizations as required, within 30 days of general availability of the new software version.

Service Management: A dedicated Service Manager as a single point of contact will be identified as an initial point of contact for support requests.

Configuration Documentation: as configurations are updated, vendor is to update CTA documentation accordingly.

V. PROPOSAL REQUIREMENTS

The Proposal will contain sufficient detail to enable the CTA to evaluate it according to the criteria listed herein. Failure to comply may cause the Proposal to be rejected. The CTA reserves the right to accept or reject any or all Proposals or parts thereof.

The CTA retains the right to require additional information from any Proposer and to determine the veracity of information provided in the Proposal. A Proposal that is found to contain inaccurate or misrepresented information may be dismissed from further consideration.

All Proposals become the property of the CTA and will not be returned. All costs incurred in the preparation and presentation of the Proposal are the responsibility of the Proposer. Issuance of this Scope of Work does not commit CTA to pay any cost incurred in the preparation of this Proposal. Proposers are advised to adhere to the Proposal requirements. Failure to comply may be cause for rejection of the submission. CTA reserves the right to accept or reject any or all Proposals or parts thereof, to extend the time for submission of Proposals, to negotiate with any or all Proposers, and to award a contract to the Proposer whose initial Proposal is most advantageous to CTA, without further discussion or negotiation.

Each Proposal is to consist of three parts, each to be bound separately with removable binding with numbered subparts separated by tabs, as follows:

A. PART 1: TECHNICAL PROPOSAL

This is a technical document of a maximum of thirty (30) pages which details the Proposer's understanding of the project purpose, the scope of work, technical work required, and necessary deliverables that must be submitted. The document will include, but not be limited to, the following:

1. Cover Letter

   A cover letter will be signed by an official of the firm who is authorized to bind the respondent contractually to the extent of the commitment sought by this Scope of Work. The cover letter must contain a commitment to provide the services described with the personnel specified in the proposal and DBE commitment.

   The cover letter will contain a commitment to provide the services described in this Scope of Work. Each Proposal will include the name and address of your company, the requisition number, the project name ("Electronic Document Management System") and the name, title, address and telephone/fax numbers and signature of a representative of the Proposer who is authorized to negotiate a contract with the Authority and/or whom we may contact with questions regarding your response.

   Additional documents describing the firm will be submitted as separate items. The cover letter lists the due date and time when Proposals will be returned.

2. Executive Summary

   The Executive Summary will be limited to a brief narrative highlighting the firm's proposal. This summary will be no more than two pages in length. Please note that the executive summary will identify the primary vendor including contact name, address, phone number and a valid email address. All subcontractors or partners must also be identified.

3. Qualifications of Key Personnel

Section G.2 of the Scope of Services identified Key Personnel. Proposals will include resumes no more than two pages in length which describe each individual's relevant experience and dates related to that experience for all individuals proposed as Key Personnel. Resumes will include at least two projects within the last seven years where the individual has participated in a similar role for which they are being proposed. Experience working with transit agencies, government agencies, infrastructure owners, and the engineering industry is generally preferred, but is not a requirement. Descriptions of the previous projects will include for each project the industry of the client type, the number of users, and the number of files migrated and/or supported.

If selected, each of the individuals whose resumes are submitted as part of the Proposal must be available for the Contract. Key Personnel will be identified in the final Contract. CTA reserves the right to interview candidates for specific roles and request replacement of individual staff during negotiation.

Proposals must include each of the following Key Personnel candidate positions:

a. **Project Manager:** The Project Manager is responsible for managing all services provided by the Provider, as outlined in this document. The Project Manager will be expected to be knowledgeable of all aspects of the MicroStation platform deployment for CTA. The Project Manager will serve as an advisor for the CTA and will provide recommendations on how to effective and efficiently implement the MicroStation platform based on industry best practices.

   Requirements: CTA prefers the Project Manager to possess at least four years of experience working on at least two projects in a similar role. The ideal candidate will also have experience working with transit agencies, government agencies, infrastructure owners, and the engineering industry. The ideal candidate will have had experience working with clients implementing the MicroStation platform for over 150 users.

b. **Implementation Lead:** The Implementation Lead is responsible for directing the overall implementation of the MicroStation platform for CTA, including needs assessment, configuration, standards development, user testing, deployment, training, etc. The Implementation Lead will be expected to be knowledgeable of all aspects of the MicroStation platform being implemented for CTA.

   Requirements: CTA prefers the Implementation Lead to possess at least four years of experience working on at least two projects in a similar role. The ideal candidate will also have experience working with transit agencies, government agencies, infrastructure owners, and the engineering industry. The ideal candidate will have had experience working with clients implementing MicroStation for over 150 users.

c. **Technical Lead - MicroStation:** This person is responsible for developing CTA specific workspace configuration and standard CADD objects, templates, styles, and practices for the base MicroStation platform.

   Requirements: CTA prefers this person to possess at least four years of experience working on at least two projects in a similar role. The ideal candidate will also have experience working with transit agencies, government agencies, infrastructure owners, and the engineering industry. The ideal candidate will have had experience working with clients implementing MicroStation for over 150 users.

d. **Technical Lead - BIM:** This person is responsible for developing CTA specific workspace configuration and standard CADD objects, templates, styles, and practices for the OpenBuildings platform.

   Requirements: CTA prefers this person to possess at least four years of experience working on at least two projects in a similar role. The ideal candidate will have a building design background and also have experience working with transit agencies, government agencies, infrastructure owners, and the architectural and engineering industry. The ideal candidate will have had experience working with clients implementing OpenBuildings for over 25 users.

e. **Technical Lead - Electrical:** This person is responsible for developing CTA specific workspace configuration and standard CADD objects, templates, styles, and practices for the Promis.e platform.

   Requirements: CTA prefers this person to possess at least four years of experience working on at least two projects in a similar role. The ideal candidate will have a signal/systems background and also have experience working with transit agencies, government agencies, infrastructure owners, and engineering industry. The ideal candidate will have had experience working with clients implementing Promis.e for over 25 users.

f. **Technical Lead - Civil/Track/Survey:** This person is responsible for developing CTA specific workspace configuration and standard CADD objects, templates, styles, and practices for the OpenRail platform.

   Requirements: CTA prefers this person to possess at least four years of experience working on at least two projects in a similar role. The ideal candidate will have a railroad design background and also have experience working with transit agencies, government agencies, infrastructure owners, and engineering industry. The ideal candidate will have had experience working with clients implementing OpenRail for over 25 users.

g. **Trainer - MicroStation:** This person is responsible for providing training to all MicroStation platform users at CTA.

   Requirements: CTA prefers this person to possess at least four years of training experience working in a similar role. The ideal candidate will also have experience providing training for transit agencies, government agencies, infrastructure owners, and the engineering industry. The ideal candidate will have had experience training a variety of new MicroStation users.

h. **Trainer - BIM:** This person is responsible for providing training to all OpenBuildings platform users at CTA.

   Requirements: CTA prefers this person to possess at least four years of training experience working in a similar role. The ideal candidate will also have experience providing training for transit agencies, government agencies, infrastructure owners, and the engineering industry. The ideal candidate will have had experience training a variety of new OpenBuildings users.

i. **Trainer - Electrical:** This person is responsible for providing training to all Promis.e platform users at CTA.

Requirements: CTA prefers this person to possess at least four years of training experience working in a similar role. The ideal candidate will also have experience providing training for transit agencies, government agencies, infrastructure owners, and the engineering industry. The ideal candidate will have had experience training a variety of new Promis.e users.

j. **Trainer - OpenRail:** This person is responsible for providing training to all OpenBuildings platform users at CTA.

Requirements: CTA prefers this person to possess at least four years of training experience working in a similar role. The ideal candidate will also have experience providing training for transit agencies, government agencies, infrastructure owners, and the engineering industry. The ideal candidate will have had experience training a variety of new OpenRail users.

4. Project Approach and Schedule

To demonstrate the Proposer's knowledge and experience, Proposals will contain a clear plan of action and approach to accomplish the full range of activities required by the scope. The plan will be no more than ten (10) pages in length and include the following items:

a. Project approach narrative which demonstrates the Proposer's understanding of the scope and its complexity and articulates a clear plan to accomplish the full range of activities required by the scope. The project approach narrative will address the following topics:

- General Requirements: the project management processes planned.
- Communications: how the Proposer plans to work with and update the CTA project manager including what information will be communicated, how often, and in what format.
- Project Management Tools: the tools the Proposer plans to use throughout the project to manage the project effectively.
- Testing: the testing plan the Proposer intends to use to successfully test all aspects of the MicroStation platform, demonstrating compliance with the requirements laid out in the Scope of Work.
- End User Training: a narrative description of the training plan the Proposer intends to utilize the successfully train all end users of the MicroStation platform at CTA.
- Deployment: a narrative describing the recommended plan to deploy the MicroStation platform at CTA.

b. A detailed staffing plan including sub-consultants showing all necessary staff and percentage of time each staff member will be assigned to this Contract. The staffing plan will include a discussion of reporting structures, communication flow, and coordination between prime firms and sub-consultants, as necessary. The staffing plan will include a functional description of all roles and the responsibilities associated with each position.

c. An organizational chart showing the proposed team structure for all positions in the staffing plan. Identify the Project Manager and all other Key Personnel.

d. Description of the services to be performed utilizing the Proposer's own workforce and a detailed description of all services to be subcontracted.

e. A detailed project schedule including all tasks with start/end dates, dependencies, and resources (including CTA resources as applicable) necessary to meet CTA schedule

constraints. An approximation of the project completion in chart form, such as a Gantt chart, displaying the relevant information will be included. The Proposer must provide a milestone deliverables schedule for the system.

f. Identify key challenges that the Proposer perceives in accomplishing the scope and strategies to overcome these challenges. Challenges presented should be relevant to the scope and size of the project and solutions presented should be clear, thoughtful, and applicable to the scope of the project.

5. Response to Technical Requirements

   The Proposer must include recommended minimum system requirements for user workstations based on the proposed solutions/CADD packages and CTA's anticipated needs.

6. Table of Exceptions

The summary must state whether the Proposal does or does not fully comply with the requirements as defined in this Scope of Work and will provide a detailed list of exceptions to the Scope of Work, the Sample Contract or other Scope of Work requirements including all exhibits and appendices. This list must be in table form and must identify the page, section number, provision, and the specific exception, non-conformance and/or substitute language proposed. Failure to identify any specific items of non-compliance will result in CTA assuming compliance. The CTA, at its sole discretion, may reject any exception.