# CITY OF BATAVIA

**DATE:** August 6, 2020
**TO:** Committee of The Whole - PU
**FROM:** Rahat Bari, City Engineer
**SUBJECT:** Resolution 20-099-R: Authorizing Task Order #1 with eX² Technology (eX²) for design and bid of a communications building at Paramount substation for an amount not-to-exceed $30,351.31.

**Background**

In recent years, the City of Batavia Electric Department has experienced problems with the outdoor medium voltage switchgear buildings at Paramount Substation. As a result, the City is in the process of building a new distribution substation at Northeast Sub and rebuild the existing switchgear building at paramount substation.

**Discussion**

At the present time, the Paramount Substation Metal Switchgear Structure contains a major fiber optic node. There are seven cables entering and leaving the node. This node also houses active electronic communication equipment. In the early days of the fiber optic system, the majority use of this fiber was the electric department. Hence, it made sense to house the node within the electric facilities. Now that the fiber optic system is maturing, other users and services are being added to the system. Gradually, we have been separating the electric and fiber infrastructure. We have been doing this to take advantage of operational benefits of not have the fiber optic infrastructure installed in medium voltage electrical infrastructure. One example of operational benefits is that we don't always have to use medium voltage personnel to work on the fiber optic communication infrastructure, we can use communication rated personnel. Another benefit is to provide more space for both. Main Sub and Cherry Park Sub have the benefit of the separation of the two sets of infrastructures.

With the reconstruction of the Paramount Substation, it makes sense to provide some separation of the two systems in this location. This will also aid in the staging and scheduling of the reconstruction. We will need to move the fiber optic node first. Then we can demolish and reconstruct the new facilities at the Paramount Substation site. There are many live circuits and services running through the Paramount Sub Fiber Optic Node and the move will have to be over night. The best way to do this and minimize the outage duration will be to have a new building equipped and ready, then have a move of the seven cables, electronics, circuits, and services in an overnight switch. Later, the electric reconstruction can move at its own pace without affecting the fiber optic system. The independence of both systems, after the construction is complete, will aid in the efficient operation of both. Staff should mention that through resolution 19-101-R, the City Council approved Task #12 to Power System Engineering (PSE) for $30,000 to perform the same scope of services. Due to the delay in commissioning Northeast distribution substation, no work has been performed by PSE for Task #12. In the meantime, we have identified that eX² is not only able to do the same task for similar price, but also eX² is capable of bidding on the construction portion of this project. Staff feels that eX² is a better candidate to design the communications building almost for the same price. Staff has notified PSE that we are cancelling Task #12 effective immediately.

**Staff recommendations**

The City has successfully worked with eX² on past fiber relocation projects. Staff finds that eX² is a responsible consultant. Staff has developed a good working relationship with eX² and feels

comfortable recommending Resolution 20-099-R: Authorizing Task Order #1 with eX² Technology to design and bid a fiber/communication building at Paramount substation for an amount not-to-exceed $30,351.31.

***Attachment***- Task Order #1

# CITY OF BATAVIA, ILLINOIS
# RESOLUTION 20-099-R

## AUTHORIZING EXECUTION OF TASK ORDER #1 WITH EX² TECHNOLOGY (EX²) TO DESIGN AND BID A FIBER / COMMUNICATION BUILDING AT PARAMOUNT SUBSTAION FOR AN AMOUNT NOT TO EXCEED $30,351.31

**WHEREAS,** the City of Batavia owns and operates an electric utility whereby it purchases wholesale power and resells same to its citizens; and

**WHEREAS,** the City of Batavia owns and operates an electric transmission and distribution network; and

**WHEREAS,** the City of Batavia has identified the need to make certain improvements to the Paramount Substation; and

**WHEREAS,** the City of Batavia has identified the need to build a separate fiber/communication building at Paramount Substation; and

**WHEREAS,** the City of Batavia has a Master Services Agreement with eX² for Electric Engineering Services; and

**WHEREAS,** eX² has submitted a proposal for professional engineering services related to design, and bid a communications building at Paramount substation, outlined and attached as Task Order #11; and

**NOW, THEREFORE, BE IT RESOLVED,** by the Mayor and City Council of the City of Batavia, Kane and DuPage Counties, Illinois, as follows:

**SECTION 1:** That the Mayor and City Clerk are hereby authorized to execute Task Order #1, attached hereto as Exhibit 1, with eX² Technology, Professional Engineering Services related to design and bid a communications building at Paramount substation not to exceed $30,351.31.

PRESENTED to the City Council of the City of Batavia, Illinois, this 17th day of August 2020**.**

**PASSED** by the City Council of the City of Batavia, Illinois, this 17th day of August 2020.

**APPROVED** by me as Mayor of said City of Batavia, Illinois, this 17th day of August 2020.

_____
Jeffery D. Schielke, Mayor

| Ward | Alderperson | Ayes | Nays | Absent | Abstain | Alderperson | Ayes | Nays | | Absent | Abstain |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | O'Brien | | | | | Baerren | | | | | |
| 2 | Callahan | | | | | Wolff | | | | | |
| 3 | Meitzler | | | | | Chanzit | | | | | |
| 4 | Malay | | | | | Knopp | | | | | |
| 5 | Uher | | | | | Beck | | | | | |
| 6 | Cerone | | | | | Russotto | | | | | |
| 7 | McFadden | | | | | Miller | | | | | |
| Mayor Schielke | | | | | | | | | | | |
| | VOTE: Ayes Nays Absent Abstentions<br>Total holding office: Mayor and 14 aldermen | | | | | | | | | | |

ATTEST:

_____
Ellen Posledni, City Clerk

# Exhibit 1

EXHIBIT "A"

TASK ORDER NO. 1

REGARDING GENERAL AGREEMENT BETWEEN CITY OF BATAVIA

AND

eX² Technology LLC

**Project Description:** Design, engineering and bidding support services for a Fiber/Communications Building at Paramount Substation

**Scope of Services:** Specify and Bid a fiber/communication building at Paramount Substation. For more details see the attached proposal

**Time of Performance:** November 30, 2020

**Estimated Fee for Services:** Not-to-Exceed $30,351.31

**Proposed:** _____ Date

**Approved:**

_____
City of Batavia Date

Robert Rogde
Senior Project Engineer
City of Batavia
200 North Raddant Road
Batavia, Illinois 60510

August 4, 2020

Dear Bob:

Thank you for considering eX² Technology (eX²) for the engineering of a communications shelter at a City of Batavia substation. eX² Technology's scope of work, pricing and assumptions are described in more detail below.

# SCOPE OF WORK

eX² is proposing the design, engineering and bidding support services to develop a site layout plan and specifications for the installation of one (1) pre-manufactured communications shelter and related OSP engineering to extend the City of Batavia's existing fiber to the new facility. eX² services will include:

## 1.0 BASE BID

### 1.1 Site Engineering

#### *1.1.1 Site Design Package*

- Site construction drawings, including:
  - Site elevation, grading, erosion control and drainage plan of the site.
  - Any required easements.
  - Grounding of the existing perimeter chain link security fence and grounding plan for the new shelter, generator pad and H-frame.
  - All drawings in AutoCAD release 13.0 of later in an industry standard format printable in 11"x17". All site drawings will include boundaries, roadways, all known utilities, and any obstacles. All drawings will be delivered per engineering standards and specifications provided by the City of Batavia.
- Foundation design drawings will include:
  - Illinois licensed PE stamp.
  - Design based on the City of Batavia provided geotechnical report and building loads.
  - All drawings in AutoCAD release 13.0 or later in an industry standard format printable in 11"x17". All site drawings will include boundaries, roadways, all known utilities, and any obstacles. All drawings will be delivered per engineering standards.
- Utility construction drawings, stamped by a licensed Illinois PE, will include:
  - Demarcation point of electrical utility service lines.
  - Locations of planned fiber optic outside plant facilities, and electrical service feeds.
  - Identification of utility provided equipment, conductors, conduits, locate tracer wire, supply pipe sizing and specifications.
  - Identification of all customer-provided equipment, conduits, conductors, and electrical and gas metering requirements.

- Electrical and site grounding design.
- All drawings in AutoCAD release 13.0 of later in an industry standard format printable in 11”x17”. All site drawings will include boundaries, roadways, all known utilities, and any obstacles. All drawings will be delivered per engineering.

- eX² will provide the following deliverables:
  - Project overview / cover sheet, including:
    - City of Batavia contacts
    - Engineering firm contacts
    - Jurisdiction contacts
    - Utility contacts
    - Vicinity map
    - Index of all sheets
    - General description of the property with site information, address, parcel number, etc. and a legal description of the parcel
  - Notes sheet with all pertinent construction notes, codes, erosion control requirements, etc.
  - General site plan showing the location of the proposed area and all improvements to be made, including shelter pier foundations, proposed ducts for fiber optic cables, etc. All new infrastructure will be dimensioned on the drawing and will show all existing topographical features such as existing utilities, edge of roads and pavements, any removals necessary to complete the project, etc.
  - Concrete shelter pier foundation drawings providing any information, dimensions, and details for the placement of all reinforcing steel concrete.
  - Construction details for the construction of curb and gutter, manholes, handholes, fencing, underground conduit placement, H-frame construction for underground power.
  - Shelter elevation to show the shelter from all sides.
  - One-line electrical drawing to show the power configuration from utility source to automatic transfer switch and main panel.
  - Grounding plan to show proposed grounding ring and location of test wells, ground rods, etc.

### *1.1.2 Shelter Design Package*

- Review and development of the footprint and floor plan requirements based on the site, required interior equipment layout, codes and service requirements.
- Steel skid base and floor design as required to conform to the requirements of the Pier foundation system, floor loading and shell distribution weights.
- Shell and roof design to include calculations to meet the local requirements
  - seismic requirements
  - roof and floor load local and State requirements
  - Wind speeds, Occupancy classifications
  - Type of construction
  - Exposure type
  - Climate zone
- Development of a set of plans and specifications to include
  - Braced wall methods
  - building size,
  - light and ventilation schedules,
  - Exit requirements,
  - electrical code access requirements,
  - outlet spacing and smoke detectors,
  - locations of required labels and Data plates,

- Use Group,
- Type of Construction and
- total square feet.

- Electrical design and required documentation to meet NEC code requirements.
- Energy design to include COM check Envelope Compliance Certification for the local and State requirements.
- Estimated weight calculations,
- hoisting requirements and
- future maintenance and service requirements.

### 1.1.3 OSP Design Package (Engineering for the OSP work)

- Field verify existing aerial construction, existing duct, and existing handholes
- Field verify conditions from the existing handhole located outside the facility yard to the new shelter
- Provide complete OSP route design drawing set
  - Route drawings for the existing conduit runs
  - Route drawings for the new 4" conduit to be installed form existing handhole to communication shelter
  - Pole riser details
  - Underground duct detail including entrance into existing handhole
  - Duct riser detail to communications shelter entrance

## 1.2 Bid Documents and Support

After the site design packages are complete, eX2 will support the City of Batavia with the bidding effort. This includes

- completing a set of specifications from the site design packages such as:
  - Shelter design
  - Shelter specifications
  - Rack Specifications
  - Equipment specifications
  - Cable Specifications
  - Electrical Specifications
  - Environmental Requirements
  - Prepare Bid Package
- Assist with the bid letting process
  - Participate in the bidder's conference
  - Answering questions during the bid process
  - Evaluating the bid responses

## 2.0 PRICING CLARIFICATIONS

1. The City of Batavia will incur all cost associated with recording of any easements, and any fees or cost associated with obtaining easements from landowners.
2. The City of Batavia will be responsible for all permits and permitting fees.
3. The City of Batavia will be responsible for any special surveys and cost associated with any private easements required.
4. The City of Batavia will provide survey information.
5. The City of Batavia will provide geotechnical investigation information.
6. The City of Batavia will provide utility locating on all private facilities.

7. Pricing is a not to exceed number based on scope of work described in this proposal.
8. No sales tax is included in this quote.
9. Payment terms will be net 30 days.
10. All work will be completed during normal business hours.
11. Quote is valid for 30 days.

## 3.0 SCHEDULE

| Task | Start Date | End Date |
|---|---|---|
| Notice to Proceed | 8/18/20 | 8/18/20 |
| Meet with City of Batavia | 8/19/20 | 8/19/20 |
| Engineering | | |
| Field Engineering | 8/20/20 | 8/21/20 |
| Drawing Package Preparation | 8/21/20 | 9/18/20 |
| City of Batavia Drawing Package Review | 9/21/20 | 9/25/20 |
| Finalize Drawing Package | 9/28/20 | 10/2/20 |
| Bid Document Preparation | | |
| Prepare Draft of Bid Documents | 8/24/20 | 9/18/20 |
| City of Batavia Bid Documents Review | 9/21/20 | 9/25/20 |
| Finalize Bid Documents | 9/28/20 | 10/2/20 |

## 4.0 PRICE

| ITEM | DESCRIPTION | PRICE |
|---|---|---|
| **1.0** | **Base Bid** | |
| 1.1 | Engineering | $24,596.11 |
| 1.2 | Bid Documents and Support | $5,755.20 |
| | **Total** | **$30,351.31** |

If this quote is acceptable, please issue a purchase order via email to the attention of Jay Jorgensen at jjorgensen@ex2technology.com. Thank you again for considering eX² and we look forward to working with the City of Batavia.

Respectfully submitted,

DocuSigned by:
Jay Jorgensen
9D795BCF4573494...

Jay Jorgensen
Vice President Operations
eX$^2$ Technology LLC